

17th CHRIS MEETING
Rostock, Germany, 5-9 September 2005

**REPORT OF THE TRANSFER STANDARD MAINTENANCE AND
 APPLICATIONS DEVELOPMENT WORKING GROUP (TSMAD)**

<i>Submitted by:</i>	Michael Brown, USA
<i>Executive summary:</i>	Report on the work undertaken and progress made by the Transfer Standard Maintenance and Applications Development Working Group, since CHRIS16, and future plans.
<i>Actions to be taken:</i>	CHRIS to note the report, and endorse the future plans.
<i>Related documents:</i>	Not applicable
<i>Related Projects:</i>	Not applicable

1. Meetings

1.1 TSMAD held its eleventh meeting in November 2004 at the IHB in Monaco. Its sub-working group tasked with the development of S-57 Edition 4.0 met in the same time frame (TSMADSubWG7) and then again in April 2005 (TSMADSubWG8) at the University of New Hampshire Center for Coastal and Ocean Mapping/Joint Hydrographic Center facilities in Durham, New Hampshire, USA. Minutes for TSMAD11 may be found on the IHO Web site.

1.4 TSMAD12 will be hosted by the Australian Hydrographic Office in Wollongong, Australia, during the week of November 7-11, 2005.

2. S-57 Edition 3.1 Related Issues

2.1 The two Web services, 'Frequently Asked Questions (FAQ)' and 'S-57 Encoding Bulletins' continue to post information for ENC producers. Several questions raised by users during the past few months have been addressed by the TSMAD panel appointed to review them, and the answers posted to the IHO ENC FAQ Web site which now has ten questions addressed on it. Mr. Mike Bissett of UKHO notified the chairman prior to TSMAD11 that he would no longer be able to lead the FAQ correspondence group. Mr. Jeff Wootton of the Australian Hydrographic Service volunteered to take over the position and was unanimously accepted by TSMAD for the position.

2.2 Following approval by CHRIS16, the 'Recommendations for Consistent ENC Data Encoding' were posted on the IHO Web site.

2.3 An e-mail from Mike Bissett on behalf of the IC-ENC and PRIMAR Technical Expert Working Groups outlining an issue with the way some ECDIS validate official ENC data was presented to TSMAD 11. The group requested that IHO inform OEMs not to use the full set of validation tests contained in S-58 as they are intended for use by data producers for checking their data. The message noted that many of the errors that are being reported by these ECDIS are not in fact actual errors. The long list of reported errors is undermining user confidence in official data and is confusing to the mariner. This message was forwarded to the chair of CHRIS as TSMAD felt that it was not the appropriate group for addressing the issue.

2.4 A number of national proposals were submitted to TSMAD11 for consideration. Most were provisionally approved but will have to be re-submitted through the feature registry process being developed for Edition 4.0.

3. S-57 Edition 4.0 Related Issues

3.1 As previously noted, the TSMADSubWG met twice since the last CHRIS meeting. Work on the Edition 4.0 base documents continues to move forward.

3.2 The IHO S-57 Discussion Forum was established on the Web as a facility for stakeholders to discuss topics related to the development of S-57. The forum will also be used to post draft versions of S-57 Edition 4.0 documents for public comment (see 3.3 below). The forum may be accessed at: <http://195.217.61.120/smf/index.php>

3.3 At SubWG8, a set of procedures were developed for the management of draft components of S-57 Edition 4.0. These procedures are based on the ISO approach to standards development and the goal is to allow an opportunity for stakeholders who cannot attend meetings in person to comment on developing documents. Components of the standard will move through three basic stages: Working Draft, Committee Draft and Final Draft. The complete procedures may be found on the Discussion Forum under the topic ‘S-57 Edition 4.0: Component Approval Process.’

3.4 CHRIS 16 directed TSMAD to develop a paper describing the options available for a future ENC Product Specification. This paper has been submitted as CHRIS17-5.1D.

3.5 Status of individual Edition 4.0 work items:

Work Item 2.1 - Registry (Object Catalog): TSMAD have played a significant role during the past year in developing both ISO19135 (feature registries) and ISO19126 (feature data dictionaries and catalogues). A draft data dictionary of IHO maintained features has been prepared which, after review, will be used to populate an IHO register. Similar registers will be available for use by the organizations responsible for ICE, Inland ECDIS and OEF features.

A Web-based register mechanism which includes a database with user and administrative interfaces is being developed by UKHO.

Work Item 2.2 - ENC Product Specification: Options for the future ENC Product Specification (PS) were discussed in detail during the TSMADSubWG8 meeting. The

conclusions of that discussion are included in the previously mentioned paper, CHRIS17-5.1D.

Work Item 2.3 – Imagery and Gridded Data Model: This component is now at Committee Draft and open for general review and comment, it is available at the above mentioned forum. An Editing Committee meeting will take place during SubWG9 in Australia.

Work Item 2.4 – Time Varying and 3-D Data: This work item is currently on hold until other work items are completed. The group responsible for this work item studied requirements for this type of data and recommended that most of the requirements could be included in Work Item 2.3. The remaining ‘3-D vector’ and temporal data elements will be addressed by Work Item 2.6 once the basic 2-D data model is completed.

Work Item 2.5 – Meta Data: An initial mapping of existing S-57 metadata to ISO 19115 metadata elements was completed and a mapping to DIGEST was added as well. The work item group refined this mapping and used it to identify where new ‘ISO style’ metadata elements will have to be created to accommodate S-57 as well as introducing new metadata into S-57 to correct some deficiencies in Edition 3.1 and to accommodate future products. The group produced a draft version of the metadata component at the last SubWG meeting and it is anticipated that this component will advance to Committee Draft at SubWG9.

NOAA is funding Mitre to build a prototype metadata registry for Version 4 of S-57. This web-based registry will be based on existing ISO standards for metadata and include content extensions tailored to the hydrographic community. Prototype development will be completed in time for the TSMAD meeting in November.

Work Item 2.6 – S-57 Base Document: Work on this item is progressing and being coordinated with DGIWG to facilitate future interoperability and take advantage of the similar work going on in that community. Several drafts of the spatial profile and application schema have been submitted and reviewed. A presentation on GML by Ron Lake of the Galdos company, introduced the group to one method of data encoding which will be a significant piece of future work for this item. It was useful in demonstrating the potential wider scope in the use of S-57 Edition 4.0. The 1/2D spatial component is at Committee Draft and will be the subject of an Editing Committee meeting at SubWG9. The 3D component will be presented at SubWG9 as a Working Draft and it is anticipated that it will progress to the Committee Draft stage.

Work Item 2.7 – Bathymetric Data Content Specification: Little work has been done on this item aside from continuing to identify required elements for encoding hydrographic survey data.

Work Item 2.8 – Portrayal: Display of data is included as part of the ISO TC211 suite of standards being implemented for Edition 4.0. ENC display will obviously be an issue for work between TSMAD and C&SMWG. Display for other products may be an issue to be addressed under this work item in the future.

Work Item 2.9 – Paper Chart Product Specification: The work conducted for this work item so far has focused on identifying metadata necessary for producing paper chart products.

Peter Schwartzberg has resigned as the work item leader, therefore work may be stalled until his successor is found.

Work Item 2.10 - Liaison with Non-IHO Constituents: TSMAD continues to coordinate Edition 4.0 development with DIGEST and the Inland ECDIS groups.