CHRIS15-6.1A

15th CHRIS MEETING
IHB, Monaco, 10-13 June 2003

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

(by C. Drinkwater, UK)

1. TSMAD held its ninth meeting at the International Hydrographic Bureau in October 2002. Its sub-working group tasked with the development of S-57 Edition 4.0 met at the Canadian Hydrographic Office in May 2003.

2. S-57 Edition 3.1

2.1. Following the decision to freeze Edition 3.1, two former sections of it have been published as separate documents:

The former Appendix A Annex A "IHO Codes for Producing Agencies" is now published as S-62 Edition 1, and

the former Appendix B1 Annex C "Recommended ENC Validation Checks" is now published as S-58 Edition 1.

The contents of S-58 and S-62 are identical to the contents of the previous appendices of S-57.

2.2. Two new services were launched on the IHO web-site during the year.

"Frequently Asked Questions." This provides the opportunity to ask questions relating to the interpretation of S-57 Edition 3.1 regarding the encoding of ENCs.

"S-57 Encoding Bulletins." As more ENCs are produced and used on an increasing number of different manufacturers' ECDIS, unexpected issues that affect how an ENC is displayed or used by an ECDIS have arisen. These issues can often be addressed by changing the way ENCs are encoded. As S-57 is frozen, it cannot be amended to provide this information. It is therefore included in the "S-57 Encoding Bulletins", the use of which, although not compulsory, is highly recommended, to help ensure consistency in ENC display and use.

2.3. Details of the new publications and the new services, plus a résumé of the contents and status of S-57 Edition 3.1, are contained in Circular Letter 60/2002.

2.4. An action still outstanding from last year's TSMAD report relates to the continued availability of ENCs conforming to the ENC Product Specification contained in S-57 Edition 3.0. Because of the difficulty which hydrographic offices had in initially producing ENCs conforming to Edition 3.1, both Edition 3.0 ENCs and Edition 3.1 ENCs are valid. This does not appear to have caused problems, because the differences between Edition 3.0 and 3.1 are minimal. TSMAD believes, however, that it would be convenient if all ENCs became 3.1 ENCs. It is, therefore, recommended that Member States' views be sought on agreeing a date beyond which 3.0 ENCs are no longer produced or used. A proposed draft is attached at Annex A.

3. Future Extensions to S-57 (Edition 4.0).

3.1. The methodology being used by the sub working group chaired by Don Vachon of the CHS to develop Edition 4.0 is explained on the IHO web-site. The justification for this exercise is two fold:

(a) to increase the types of data which S-57 can handle. New requirements include matrix data, raster data, 3-D data and time varying data.

(b) to harmonise the standard with the ISO TC211 geo-spatial standards currently under development, so maximising the probability that in the future S-57 data can be created, read and manipulated by Commercial Off The Shelf (COTS) software.

3.2. Progress prior to the May 2003 meeting was slower than previously predicted. The major reasons for this are a lack of resources in the Work Item teams, the incomplete nature of many of the ISO TC211 standards and the difficult-to-understand style in which the standards are written. As a consequence, no work item has been developed to the stage where it can be placed on the Open ECDIS Forum (OEF) for review by the wider community. However, considerable progress was made at the May meeting.

3.3. The status of the individual Edition 4.0 work items is now as follows:

Work Item 2.1. Registry. (Object Catalogue.) The he registry format has been agreed and a first draft of it, and of the associated registration process, will be available by the next TSMAD meeting (September 2003).

Work Item 2.2. ENC Product Specification. The development of the Product Specification will have to take into account the yet-to-be produced "building blocks", for example the Spatial Profile (WI 2.6) and Meta Data (WI2.5), plus the recently identified Edition 3.1 ENC consistency problems.

Note that it was announced in Circular Letter 60/2002 that even when Edition 4.0 is published, Edition 3.1 will remain valid for those who wish to continue to create, update and use ENCs which conform to the Edition 3.1 ENC Product Specification.

Work Item 2.3. Raster and Matrix Data Model. The work has been delayed by the late delivery of the TC 211 input. A first draft of the model contents will be available by the next TSMAD meeting. A subsequent activity will be the production of a test bed in 2004.

Work Item 2.4. Time varying and 3-D data. A first draft of the model contents will be available by the next TSMAD meeting. A subsequent activity will be the production of a test bed in 2004.

Note that at present S-57 can only accommodate 2½-D data, that is x, y and a single z value. In 3-D data, numerous values can be associated with the z axis, for example water temperature as a function of depth.

Work Item 2.5. Meta Data. A first draft, dealing with vector data only, will be available by the next TSMAD meeting. The requirements of raster data await ISO TC211 developments.

Work Item 2.6. S-57. Base Document. Conversion to TC 211 standards.

a) Spatial Profile. The intention is to review the current draft with DGIWG representatives prior to the next TSMAD meeting. The resultant document will then be placed on the OEF for wider review, particularly by the OEM community.

b) General Feature Model, or Application Schema. The first draft will be available for the next TSMAD meeting.

c) Coordinate Reference System. There are no resources to progress this at present.

Work Item 2.7. Bathymetric Data Product Specification. Note that this activity should more properly be called Hydrographic Data Product Specification. It was decided at the May meeting that this Work Item should concentrate on hydrographic survey content equivalent to the fair sheet level. A content model should be available in approximately one year.

Work Item 2.8. Portrayal. (Data depiction.) The way forward depends on discussions with the Colours & Symbols Maintenance Working Group.

An additional Work Item, Paper Chart Production, was proposed at the last TSMAD meeting. It has yet to be approved by CHRIS. If it is approved, two areas of work were identified at the May meeting:

a) a standard for the exchange of digital raster repromat. The first step would be to ascertain the requirements of, and problems experienced by, hydrographic offices exchanging raster repromat.

b) investigate the changes needed to S-57 to facilitate the production of both paper charts and ENCs from the same database. This may also involve changes to the appearance of the paper chart, and close liaison will be required with the Chart Standardization and Paper Chart Working Group.

Conclusion. At the time of writing this report the best estimate for completing the Edition 4.0 exercise has moved from 2004 to 2006. A more detailed work plan will be available at the CHRIS meeting.

Recommendations

1. Member States' views be sought on agreeing a date beyond which ENCs conforming to the S-57 Edition 3.1 ENC Product Specification will no longer be produced or used. See Annex A.

2. CHRIS is asked to approve the Edition 4.0 Work Item 2.9.

Annex A to CHRIS15-6.1A

S-57 EDITION 3.0. ENC PRODUCT SPECIFICATION.

TERMINATION OF VALIDITY.

Circular Letter 52/2000, dated 14 December 2000, announced the release of S-57 Edition 3.1. It explained that the differences between S-57 Edition 3.0 and Edition 3.1 are very minor. However, it was recognised that because of the need to amend their production software, certain hydrographic offices, would continue to produce ENCs conforming to Edition 3.0 for some time. As a consequence, it was as agreed that both Edition 3.0 ENCs and Edition 3.1 ENCs would be valid until further notice.

The purpose of this Circular Letter is to identify a date after which Edition 3.0 ENCs should no longer be considered valid.

Member States are therefore requested to answer the following questions:

(a) Do you still produce ENCs and ENC updates conforming to Edition 3.0?

(b) If the answer to (a) is yes, are you able to specify a date after which you will no longer produce ENCs and ENC updates conforming to Edition 3.0.

We believe that all ECDIS currently available can now read Edition 3.1 ENCs. However, there may be ECDIS is use at sea which have not been upgraded to read Edition 3.1 ENCs. We would, therefore, request hydrographic offices which have close contacts with ECDIS manufacturers to ask them if the disappearance of Edition 3.0 ENCs would create a problem. If it would create a problem, by what date do they believe that all their ECDIS will have received the necessary upgrade to use Edition 3.1 ENCs and updates?