25th TSMAD MEETING
15-18 January 2013. Tokyo, Japan

Paper for Consideration by TSMAD

Report to TSMAD25 on CSPCWG Activities

Submitted by:	Australia
Executive Summary:	Report on CSPCWG Activities Since TSMAD24/DIPWG4
Related Documents:	IHO S-4, INT1
Related Projects:	S-57 Maintenance; S-52 Maintenance; S-100; S-101 Development

Introduction / Background

The IHO Chart Standardisation and Paper Chart Working Group (CSPCWG) is a Working Group of the IHO HSSC. Its primary objectives are to:

- Revise, develop and maintain IHO Publication S-4 – Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO;
- Revise, develop and maintain Part A of IHO Publication S-11 – Guidance for the Preparation and Maintenance of INT Chart Schemes;
- Maintain INT1, INT2 and INT3 (with national Hydrographic Offices' assistance);
- Develop new paper chart symbology.

Since the TSMAD24/DIPWG4 combined meeting, the annual meeting of CSPCWG (CSPCWG9) was held in Seoul, South Korea, from 12-15 November 2012, and the ongoing review of IHO Publication S-4 has continued through correspondence. The full record of the CSPCWG9 can be found on the CSPCWG page of the IHO web-site. CSPCWG Letters relating to activities being progressed via correspondence can also be found on the CSPCWG page of the IHO web-site. All substantive CSPCWG Letters are distributed to the Chairs of TSMAD and DIPWG for information.

Analysis / Discussion

New documents published since TSMAD24/DIPWG4:

- S-4 – Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO – Edition 4.3.0 (August 2012): Changes from Edition 4.2.0 include, but are not limited to:
  - A clarification on the primary purpose of nautical charts has been included at B-100.4;
  - New guidance on updating source/ZOC information/diagrams by Update/NtM has been included at B-290.6, B-294.4 and B-297.4;
  - New specification for charting depths alongside berths has been included at B-410.1;
  - New specification for indication on charts of areas being dredged has been included at B-414.6;
  - New specification for charting "imprecise" should areas (e.g. as derived from satellite imagery) has been included at B-424.7;
  - New symbols for "diving prohibited" have been included at B-439.3 and B-439.4;
  - Clarification regarding IALA advice that orange and amber lights should be charted as yellow on nautical charts has been included at B-450.2
  - Revised guidance to distinguish between the charting of operational and disused lighthouses has been included at B-457.3.

- S-11 Part A – Guidance for the Preparation and maintenance of International Chart Schemes – Edition 2.0.5 (May 2012): Changes from Edition 2.003 are based on IHO Member State feedback in regard to the extent of their chart portfolio and the size of chart

they are able to print (i.e. paper size) – IHO CL 22/2012 refers. There is no impact on TSMAD resulting from this new edition.

Items of Interest to TSMAD from CSPCWG9 or Progressed by Correspondence:

- Lights: Several issues relating to navigational lights have been discussed, including the inclusion of criteria in S-4 for defining a "major" light; specification of the maximum width of the sector arc for a light sector having a directional function; and the interpretation of the terms "group" and "interrupted" for quick and very quick flashing lights. Further work is required by CSPCWG in consultation with IALA in terms of "major" lights and directional lights. It was agreed at CSPCWG9 that the term "interrupted" should be used only for ultra-quick lights, with the term "group" used for quick and very quick lights.
- Restricted areas: A paper was submitted to CSPCWG9 encouraging discussion of the depiction of "entry prohibited" restricted areas on paper charts where the restriction is associated with an environmentally sensitive area, such as a nature reserve. Should the "entry prohibited" indication be in magenta or green (there is currently no example of a green "entry prohibited" symbol in INT1)? This discussion is related to similar discussions that are occurring at TSMAD and the S-101 DCEG Sub-WG, and it was agreed that further work on this issue should be conducted as a joint effort between CSPCWG and TSMAD.
- Discontinuity between surveys: It has been agreed that revised specifications regarding the indication of a discontinuity between survey data on paper charts is to be included in S-4. The revised specification is to include a "demarcation" line highlighting the discontinuity, with a legend depicted on either side of the line indicating the respective dates of the source survey data in order to provide the mariner with an indication of the data which is more reliable. From an ENC perspective, this is currently an issue being discussed by the S-101 DCEG Sub-WG, and will need to take into account the work being done by the DQWG in terms of improved indication of data quality in ECDIS.
- Radio activated fog signals: A paper presented at CSPCWG9 by the US indicated that there were a number of radio activated fog signals in operation in US waters. There is currently no method for indication of this information on nautical charts. The recommendation of the meeting was that full information regarding these signals, including the method by which a vessel can activate the signal, should be included in a chart Note. CSPCWG will conduct further investigation as to whether such signals are being implemented by other nations, so as to determine whether specification is required in S-4.
- Teroidal buoys: The term "teroidal" means "doughnut shaped", and refers to the floatation device used for a variety of buoys. Examples provided at the meeting included tsunami detection buoys which, in addition to the teroidal floatation device, comprise a lattice-type structure equating to a pillar buoy shape. The CSPCWG agreed that the description of the shape of a buoy should be indicative of the entire structure of the buoy, including the floatation device, and as such there was no requirement to specify a new beacon shape of teroidal.
- Maximum authorised draught in dredged areas: New specification will be added to S-4 to allow a maximum authorised draught to be depicted for dredged areas in addition to , or instead of (for areas with no appreciable tide range), the dredged depth.
- "Maintained" dredged areas: Discussions are continuing in regards to the use of the word "maintained" to describe a dredged area that is monitored by regular control surveys and re-dredged as required. The current status of the discussion is that the word "maintained" may be made obsolete.
- Register of INT1 references in the IHO Geospatial Registry: CSPCWG9 approved the development of a prototype Register for the IHO Geospatial Registry for INT1 reference management (similar to the Producer Agency Code Register), to be managed by the CSPCWG.
- The future of the paper chart and the future direction of the CSPCWG: Given the commencement of phased IMO mandatory ECDIS carriage requirement this year, it was considered timely that CSPCWG commence discussions on the possible future of the paper chart, given the likely shift in producer focus on ENC as the primary product. This could possibly impact HO's in terms their decision making in regard to the future make-up of their paper chart portfolios, and the IHO in terms of the future look of the paper chart given that it will likely be a derivative of the ENC. A small correspondence group was formed to develop a discussion paper for presentation to the HSSC to promote IHO taking the lead in developing international recommendations for HO's regarding the requirements for future paper chart portfolios to support modern navigation. The discussion paper will also raise

the possible issues to be faced by HO's in producing paper charts as a derivative of the ENC in a climate of increasing workforce pressure and expectation of faster response tomes to satisfy mariner requirements. The CSPCWG Chair is also considering re-naming the Working Group, given the misconception that the CSPCWG is focussed only on the principles of nautical cartography in regard to paper charts resulting from the "PC" in the Working Group acronym.

Next meeting: The next CSPCWG meeting will be held during the week commencing 20 January 2014, at the kind invitation of New Zealand.

Recommendations

1. That TSMAD continue to generally monitor the activities of CSPCWG, particularly the ongoing revision of S-4, with regards to impacts on the IHO Hydrographic Register, S-100/S-101 and ECDIS display, and liaise with CSPCWG as required. In terms of changes made at S-4 Edition 4.3.0, it is recommended that:
   - No action is required regarding clarification of the primary purpose of nautical charts;
   - TSMAD consideration be given to adding guidance at UOC clause 2.2.3.1 to amend M_QUAL as required where new survey data is incorporated in an existing ENC cell;
   - No action is required regarding new specification for charting depths alongside berths (encoding options already exist through population of DRVAL1 (for minimum depth at the berth) and INFORM (for maximum draft permitted at the berth) on the BERTHS object);
   - No action is required regarding new specification for charting areas being dredged (considered adequately covered by UOC clause 2.6.2.3);
   - No action is required regarding new specification for charting "imprecise" shoal areas (considered adequately covered by new clause 5.8.1.1 in UOC Edition 3.1.0);
   - No action is required regarding new symbols for "diving prohibited" (is already a valid enumerate value for attribute RESTRN);
   - TSMAD discuss the implications of the IALA recommendation that orange and amber lights be shown as yellow lights on nautical charts for possible new guidance at UOC clause 12.8.1, and possible impact on S-101 binding of enumerate values for the attribute COLOUR on light features;
   - No action is required regarding clarification the depiction of operational and disused lighthouses (considered adequately covered by UOC clause 12.3.2).
2. That TSMAD consider the impact of the revised specifications regarding "group" quick and very quick; and "interrupted" ultra-quick flashing lights in terms of S-101 modelling.
3. TSMAD to monitor and contribute to discussions of CSPCWG regarding the charting of restricted areas, in conjunction with discussions being held by the DCEG Sub-WG.
4. TSMAD (through the S-101 DCEG Sub-WG) to take into account revised S-4 guidance for the depiction of discontinuity between surveys on paper charts, in addition to the work currently being done by DQWG in regard to ECDIS data quality indicators, for possible amendments to S-101 feature modelling. TSMAD to consider any additional encoding guidance that may be required for S-57.
5. TSMAD to monitor investigations by CSPCWG in regard to the implementation of radio activated fog signals, and develop encoding guidance for S-57, and consider new modelling for S-101, as required.
6. TSMAD to note that there is no requirement to define or model a new beacon shape of "teroidal" in the IHO Registry and S-101, or provide additional guidance in S-57 for encoding buoys having a teroidal floatation device.
7. TSMAD to discuss the implications for S-57 and S-101 of the inclusion of the maximum authorised draught in addition to, or instead of, the dredged depth in dredged areas.
8. TSMAD to monitor CSPCWG discussions regarding the use of the word "maintained" in dredged areas for possible implications for S-57 and S-101.
9. TSMAD to note the decision by CSPCWG to develop a prototype Register of INT1 symbols, and provide assistance as required.

Justification and Impacts

CSPCWG activities impact on the content of the S-100 Hydrographic Register; the rules and guidelines for ENCs compiled in both S-57 and S-101; and developments in portrayal of navigation information in ECDIS.

Action required of TSMAD

TSMAD is invited to:

a. Endorse this report;
b. Discuss and address items of note raised in this Report, as included in the Recommendations above.