

**23<sup>rd</sup> TSMAD MEETING**  
**16-20 January 2012. Wellington, New Zealand**

**Paper for Consideration by TSMAD**

**Report to TSMAD23 CSPCWG Activities**

<i>Submitted by:</i>	Australia
<i>Executive Summary:</i>	Report on CSPCWG Activities Since TSMAD22/DIPWG3
<i>Related Documents:</i>	IHO S-4, INT1
<i>Related Projects:</i>	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 TSMAD22/DIPWG3 combined meeting, the annual meeting of CSPCWG (CSPCWG8) was held in Turku, Finland, from 29 November – 02 December 2011. The ongoing review of IHO Publication S-4 has continued through correspondence, and the INT1 Sub-Working Group has continued to address consistency issues between the three official language versions of INT1 by correspondence and face-to-face meeting. The full record of CSPCWG 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 TSMAD22/DIPWG3:

- S-4 – Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO – Edition 4.2.0 (August 2011): Changes from Edition 4.001 include:
  - New listing of retired INT1 references at B-151.2;
  - Revised specifications at B-422.8 for foul area and foul ground, and new symbology for larger areas of foul ground.

There is no impact on ENC encoding resulting from the changes introduced in this revision to S-4. In regard to retired INT1 references, these have been reviewed in relation to Edition 3.0.0 of the Use of the Object Catalogue for ENC, but there may be revisions required in relation to INT1 references included in the Hydro Register. The revised specifications for foul area and foul ground conclude discussions that were initially instigated by TSMAD in relation to encoding Category of Obstruction (CATOBS), and is consistent with the revised guidance in Edition 3.0.0 of the Use of the Object Catalogue for ENC.

#### Items of Interest to TSMAD from CSPCWG8:

- A major Work Item of the CSPCWG is to develop guidelines for the preparation and maintenance of small / medium scale ENC schemes. Due to the heavy work load of CSPCWG in the revision of S-4 over the past few years this Work Item has not been

progressed. HSSC has instructed CSPCWG to make some progress on this Work Item over the next 12 months. TSMAD delegates are encouraged to provide any guidance that they may have, from a national or regional level, to their CSPCWG delegate or the Secretary of CSPCWG in order to assist in progressing this Work Item.

- UK reported that a New Edition of INT3 had been completed and was expected to be published during December 2011. At the date of compilation of this report, the New Edition had yet to be included on the IHO web site.
- A paper was presented suggesting that an indication of the source of power for lights used as aids to navigation may be useful on charts. While the decision of the meeting was that this was not useful information to show on paper charts in respect to adding clutter to the chart, it was suggested that such information may be included in ENC.
- A paper was presented which suggested amended symbology for floating production, storage and offloading facilities (FPSO), and their associated safety zones. During the presentation, it was noted that FPSO, although not being an approved international abbreviation in S-4, is included in S-57. In addition to an action to include FPSO as an international abbreviation in S-4, it was also agreed to include abbreviations for floating storage and offloading vessel (FSO) and floating storage and unloading vessel (FSU (?)) in addition to FPSO. TSMAD may wish to consider whether options should be included in S-101 to encode FSO and FSU.
- New symbology for paper charts was approved to depict the limit of areas that can be considered to be inadequately surveyed as a result of a natural disaster, based on the experiences of Japan in the wake of the 2011 earthquake and Tsunami. While guidance on the use of this symbology is to be included in S-4, it was determined that the symbology would not be included in INT1, so as to discourage the use of the symbol for other purposes. TSMAD will need to consider ENC encoding guidance where this new symbology is implemented. It was suggested at CSPCWG8 that this can be adequately covered through the appropriate use of M\_QUAL.
- A paper was presented suggesting amendments to the definitions for major lights in various IHO publications, and revised guidance for use of light star symbols to depict major lights on paper charts, in the wake of the decisions made at TSMAD22/DIPWG3 to categorise a “major” light as any light having a nominal range of 10M or more in order to improve ECDIS display. It was conceded that these suggestions were not derived through user feedback (compilers or chart users), and it was stated that the decisions made at TSMAD22/DIPWG3 were for the purposes of improving ECDIS display only and not an attempt to re-define a “major light” in general. It was noted that there was a general trend with lights to reduce the nominal range, and an action was taken by the meeting to conduct further enquiries with IALA and Light List Authorities to develop a more formal proposal.
- A decision was made to replace the acronym GPS with the more generic GNSS (Global Navigation Satellite System) in S-4 and INT1 as appropriate in light of more satellite positioning systems being implemented. TSMAD should determine whether there is a requirement to similarly address this issue in S-100 documentation (including S-101).
- A progress report was provided on the progress of the CSPCWG review of S-4 Section B-300 (topography). This is the final major section of S-4 to be covered by the CSPCWG systematic full review of S-4, and it is anticipated that this Section review will be completed by the end of 2012. It is anticipated that there will be some major changes to the S-4 guidance regarding the level of topographic depiction to be shown on charts, and this may impact on the Register, S-101 Feature Catalogue and Data Classification and Encoding Guide.
- A very good presentation was provided by the IHB on the progress made in the development of an “IHO Antarctic GIS”. It was suggested that such development could be used as a prototype for the development of an on-line version of S-11 Part B – Catalogue of International Charts. Such a tool could provide metadata regarding paper charts, ENCs, RNCs, and survey coverage. There is also the potential to add additional information related to geographic names, tide records and oceanographic data collection.
- A demonstration of the IHO Registry and Hydro Register was provided to demonstrate how a Register of INT1 references, and potentially INT1 paper chart symbols, could be developed. This demonstration received a luke warm reception at best, and further work, including the development of a prototype INT1 Register, will be required.
- US provided a progress report on the development of a combined paper chart and ECDIS symbol version of their Chart 1. It was anticipated that this project would be completed

during 2012. UK reported that they are working on a “BA5012” document of ECDIS symbols to supplement their BA5011, with an anticipated completion date during 2012.

- A presentation was given on trials being conducted in implementing “pointers” to navigation lights in harbours where these lights are difficult to recognise amongst concentrated areas of non-navigational lights. There was brief discussions as to how this could be depicted on paper charts, but it was determined that further investigation is required. If such “pointers” are implemented on a wider scale, TSMAD will need to determine how to encode these in S-57 ENC’s and develop encoding for S-101 ENC’s.

#### CSPCWG Activities Progressed by Correspondence since TSMAD20/DIPWG2:

The following additional CSPCWG activities have been progressed by correspondence (CSPCWG Letters) since TSMAD22/DIPWG3:

- Amendment to S-4 – B-100.4 to provide general guidance as to what content, as a minimum, the mariner would expect on charts. Approval of the final draft of this wording was gained by HSSC at HSSC3 for inclusion in the next Revision of S-4.
- Discussions on the development of a generic symbol for lights on multi-coloured charts, particularly for multi-coloured sector lights, has progressed but more discussion is required. Related discussion on this subject is in regard to a paper chart scale “cut-off” for multi-coloured light flares.
- Amendment to S-4 – B-290.6, B-297.4 and B-620.3, and new clause B-294.4 to provide additional guidance for updating source/ZOC diagram information where new survey data is assessed for an existing published Edition of a chart.
- Amendment to S-4 – B-422 and B-449.5 to provide additional guidance on the depiction of historic wrecks and historic wreck restricted areas.
- New clause S-4 – B-410.1 providing guidance for the depiction of depth information alongside berths.
- Amendment to S-4 – B-457.3 and B-470.5 to provide additional guidance for the depiction of disused lighthouses.
- New clause B-424.7 providing new guidance for the depiction of “imprecise” shoal depth areas derived from satellite imagery, satellite photography and gravitational measurements in areas where there is little, if any, reliable survey data.
- New clause B-414.6 providing new guidance for the depiction of development dredging areas.
- Possible amendments to S-4 to indicate that orange and amber lights should be depicted on charts as yellow lights, following CSPCWG feedback from IALA. This may require discussion by TSMAD in relation to the encoding of the colour of these lights on ENC and the allowable enumerate values for COLOUR in regard to lights in S-101.

Next meeting: The next CSPCWG meeting will be held during the week commencing 12 November 2012, at the kind invitation of Republic of Korea.

#### **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.
2. That TSMAD consider the impact of the following CSPCWG activities in regard to S-57 and S-101 ENC Specifications and ENC encoding (S-57 and S-101):
  - Retired INT1 references, and reviewing INT1 and S-4 references in general in the IHO Hydro Register;
  - Development of guidelines for the preparation and maintenance of small / medium scale ENC schemes. TSMAD delegates should provide any information regarding this to their CSPCWG representatives;
  - The merit of providing an indication of the source of power for navigational lights in ENC;
  - Inclusion of abbreviations FSO and FSU as approved international abbreviations;
  - New symbology for the delimitation of areas considered to be inadequately surveyed due to the impact of a natural disaster;
  - Adoption of the more generic abbreviation GNSS instead of GPS where appropriate;

- New guidance for the depiction of “imprecise” shoal areas derived from sources such as satellite imagery;
- Depiction of orange and amber lights on charts as yellow lights.

### **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, including:
  - i. INT1/S-4 references in the IHO Hydro Register;
  - ii. Development of guidelines for the preparation and maintenance of small / medium scale ENC schemes;
  - iii. Power source for navigational lights;
  - iv. New international abbreviations FSO and FSU;
  - v. New specification and symbol for areas considered to be inadequately surveyed due to the impact of a natural disaster;
  - vi. Use of the generic term GNSS;
  - vii. Guidance for the depiction of “imprecise” shoal areas derived from sources such as satellite imagery;
  - viii. Depiction of orange and amber lights on charts as yellow lights.