8th CSPCWG MEETING
Turku, Finland, 29 Nov – 02 Dec 2011
Paper for Consideration by CSPCWG

Report to CSPCWG8 on DIPWG Activities

Submitted by:	Australia
Executive Summary:	Report on DIPWG Activities Since CSPCWG7.
Related Documents:	Minutes DIPWG3
Related Projects:	S-4/INT1 development

Introduction / Background

The IHO Digital Information Portrayal Working Group (DIPWG) is a technical Working Group of the IHO HSSC. Its primary objectives are to maintain IHO technical specifications for colours, symbols and display rules used to show SENC information on ECDIS in a safe and ergonomic manner. This is achieved through the maintenance of the IHO ECDIS Standard S-52 "Specifications for Chart Content and Display Aspects of ECDIS", including its appendices and annexes.

Since CSPCWG7, DIPWG has met once, in conjunction with TSMAD22, in Seoul, Korea 11-15 April 2011.

The main focus of this meeting was the continued development of a Portrayal Model in S-100. The following is a summary of the activities of this meeting, with particular emphasis on activities that may be of relevance to CSPCWG. Minutes of the meetings may be found on the DIPWG page of the IHO web site.

Analysis / Discussion

Documents published since CSPCWG7:
- S-52 Maintenance Document No. 8 (MD8): S-52 Maintenance Documents are produced in order to resolve problems or errors identified in S-52 and its associated Presentation Library, without having to produce New Editions of the documents. MD8 includes the following:
  - Corrections to Presentation Library Look-Up Tables to change display routines for some point features and to correct the portrayal of radio towers (category of landmark);
  - An extension to the Conditional Symbology Procedure for lights to enhance the portrayal of 360° light sectors for major lights;
  - A correction to the Conditional Symbology Procedure for restricted areas to harmonise the portrayal of "entry prohibited" restricted areas with INT1; and
  - An extension to the Presentation Library Colour Tables to provide additional colours for non-charted items.
  It is anticipated that MD8 will be released during November 2011, pending approval from HSSC3.

DIPWG3: The principle agenda items for this meeting were discussion on the continued development of the portrayal model for S-100; and improved ECDIS display for major all-around lights and Pick Reports. The following issues that may be of interest to CSPCWG were discussed:
- S-100 Portrayal Model: Significant progress had been made since DIPWG2 on the development of the S-100 ECDIS Portrayal Model. Issues related to this development discussed at the meeting included:
  - ECDIS display categories, particularly in relation to combinations of encoding and geometric primitive that result in non-display.
  - ECDIS display priorities, in regard to the draw order in the ECDIS of point features within area features.
  - Portrayal Register: A sample "test" Register for ECDIS symbols was demonstrated at the meeting. The question was asked as to whether a similar Register could be established for paper chart symbols, and it was stated that there was no reason that the Hydro Domain

could not be divided into two types – one being an ENC Domain and the other being a paper chart Domain. Further discussion was in relation to the portrayal "rules" to be incorporated in the S-100 Portrayal Model to equate to the rules for feature type portrayal; the ECDIS Look-Up Tables and the Conditional Symbology Procedures as currently exist in S-52.

- o Portrayal documentation: A correspondence group will be established to determine the appropriate parts of S-52 which belong in S-100, and those that belong in S-101.

- DIPWG liaison with CSPCWG: Discussions on new/revised paper charts specifications, abbreviations and symbols implemented by CSPCWG in regard to portrayal in ECDIS were as follows:
    - o Marine Rescue and Coordination Centre: TSMAD determined that this information be encoded using the attribute INFORM on the object class CGUSTA. No ECDIS portrayal action was recommended.
    - o Bridge supports and depth detail under bridges: Current ECDIS display allows for the depiction of information under bridges. No action required.
    - o Revised specification for unsurveyed areas: No action required.
    - o New specification for floating waste bins: TSMAD determined that these be encoded as BOYSPP, with the nature of the feature being encoded in INFORM. As the attribute BOYSHP drives the ECDIS symbology for BOYSPP, it was considered that no further ECDIS portrayal action was required.
    - o Foul area and foul ground: The issue was the interpretation by the compiler as to when to encode an area as foul area or foul ground. This has been addressed in the revised guidance in the New Edition of the Use of the Object catalogue for ENC, and it was considered that there was no impact on the existing ECDIS portrayal.
    - o Disused production platforms: No action required. Information provided by the ECDIS Pick Report was considered to be sufficient.
    - o Wave energy devices and wave farms: For S-57 ENCs it was determined that these features be encoded as OSPARE, OBSTRN, OFSPLF or BCNSPP. It was considered that no ECDIS portrayal action was required in relation to S-52, but new encoding and portrayal options will be discussed in S-101 development.
    - o Shellfish beds: No action required. Information provided by the ECDIS Pick Report was considered to be sufficient
    - o Diving prohibited: No action required. Information provided by the ECDIS Pick Report was considered to be sufficient.
    - o Virtual AIS as aids to navigation: This issue prompted a lot of discussion. The suggestion was made that the object NEWOBJ be used to encode these aids to navigation, but it was determined that this could not be done, as NEWOBJ can only be used where a requirement is identified by IMO. The TSMAD Chair has taken an action to raise this at HSSC3.
    - o Sub-surface ODAS: TSMAD determined that these be encoded as OBSTRN. It was considered that there was no impact on the existing ECDIS portrayal.
    - o ODAS buoys displaying as superbuoy symbols in ECDIS: It was agreed that the Presentation Library be amended to have the symbology for superbuoys driven by the value populated in the attribute BOYSHP. This should be included in S-52 MD8.
    - o Floating offshore wind turbines and wind farms: Further investigation is required on how this information is to be encoded in ENCs (TSMAD), and until this investigation is completed portrayal options cannot be discussed. The encoding and portrayal of these features has been included in the list of issues to be discussed for S-101 ENCs.
- A correspondence group has been established to progress the work of developing specifications for enhanced aid to navigation symbology in which aids to navigation such as buoys will have colour filled "traditional" symbology in the ECDIS. This work is being carried out in conjunction with a related project to have only one standard symbology set available in the ECDIS, i.e. elimination of the option for "traditional" or "simplified" symbology.
- Paper Chart/ECDIS Chart 1 (P/ECDIS Chart 1): Work continues on the compilation of this document, however as the DIPWG Chair, who is overseeing this compilation, was not at the meeting, there was no report provided on the progress of the document. There was discussion on improving the "ECDIS Chart 1" that is currently embedded in the ECDIS Presentation Library, and making it a stand-alone document. The improvements were approved, but it was agreed that the "ECDIS Chart 1" remain in the Presentation Library, but the "mariners navigation symbols" which are now regulated by IMO be removed.

- Significance of the display of all-around lights in ECDIS: A paper was presented (TSMAD22/DIPWG3-08.3A) outlining the display of sectored versus all-around lights in ECDIS, and highlighting that in many cases the ECDIS symbology gives more prominence to minor sectored lights than to major lights with all around visibility. It was determined that a change was required to the Presentation Library to have major all-around lights display more prominently than they are currently. Further discussion centred on what constituted a "major" light, and the meeting determined that the criterion would be that lights having a nominal range of 10nM or greater would be considered to be "major" lights in terms of ECDIS display.
- Cursor enquiries and ECDIS Pick Reports: A draft standard to specify the minimum requirement for ECDIS cursor enquiry and Pick Report content was presented to the meeting. The draft standard introduced several specifications aimed at making the ECDIS Pick Report more readable to the user, and introduced new functionality to make the Reports more interactive in regard to the type and amount of information displayed. The draft was generally well received by the meeting, although some ECDIS manufacturers present cautioned against over-specifying. A correspondence group was formed, which included those ECDIS manufacturers present at the meeting, to review and complete the minimum specification for cursor enquiry and Pick Report display.
- Proposed New Edition of S-52: A paper was presented to the meeting suggesting the a New Edition of S-52, incorporating a New Edition of the Presentation Library, was required in order to resolve many of the operational inconsistencies that had been identified in the use of ECDIS. It was determined that, as this would be a major new Work Item, this should be submitted to HSSC3 for a decision as to whether to proceed.

Next Meeting: It is intended that the next meeting of DIPWG (DIPWG4) be held at the IHB, Monaco from 07-11 May 2012 in conjunction with TSMAD24.

Conclusions

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

Recommendations

None.

Justification and Impacts

No immediate impacts on CSPCWG projects arise from this report.

Action required of CSPCWG

The CSPCWG is invited to:
- a.   endorse this report.
- b.   note issues within the report of interest to CSPCWG.