

6th CSPCWG MEETING
Monaco, 01-03 December 2009

Paper for Consideration by CSPCWG

Report to CSPCWG6 on DIPWG Activities

Submitted by:	Australia (Jeff Wootton)
Executive Summary:	Report on DIPWG Activities Since CSPCWG5.
Related Documents:	Minutes DIPWG1
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 CSPCWG5, DIPWG has met once, in conjunction with TSMAD18, in Ottawa, Canada on 04-08 May 2009.

The main focus of this meeting was the finalisation of a new Maintenance Document (MD7) to the S-52 Presentation Library, preparation of a New Edition of S-52 including re-structuring the Appendices and Annexes, and 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

DIPWG1: The principle agenda item for this meeting was discussion on the development of the portrayal model for S-100. The following issues that may be of interest to CSPCWG were discussed:

- S-100 Portrayal Model: A considerable amount of work has been done under IHB contract since CSMWG18 on developing the S-100 portrayal model. A summary of the work done since CSMWG18 includes:
 - Improvements to the S-100 portrayal model and the relationships between portrayal components (e.g. rules, filters and portrayal instructions);
 - Updated XML in accordance with the S-100 portrayal model;
 - Exported look-up table records in an XML file that conform to the AXL application schema;
 - Investigation of further elements of the portrayal model, including context, portrayal instructions, geometry and the handling of display categories;
 - Creation of digital symbols as described in Edition 3.4 of the S-52 Presentation Library and export of these symbols in XML;
 - Development of a tool to map the Presentation Library look-up tables to S-100 portrayal rules;
 - Parallel to the work done under contract, investigation is underway on how to translate the Conditional Symbology Procedures to XML.

A continuing source of frustration is the continued instability of ISO 19117 – Portrayal. It was decided at the meeting that the portrayal model was to be developed using the existing published ISO 19117, and any changes introduced in the revision of this standard would be addressed once its revision is completed.

- Maintenance of the Presentation Library: A paper was presented identifying some inconsistencies in the portrayal of isolated dangers between ENC and the “ECDIS Chart 1”. This issue will be

investigated but has no relation to paper chart symbol specifications, rather it is an issue with the Conditional Symbology Procedures.

- Maintenance of the Presentation Library – MD7: Maintenance Documents are the mechanism used to update the Presentation Library. The major change to the Presentation Library look-up tables in MD No. 7 is the confirmation (through no new entries being included) that certain objects will not be symbolised in ECDIS. These include:
 - BRIDGE (Bridges) of type point;
 - DAMCON (Dam) of type point – Category of Dam 1 (weir) and 2 (dam);
 - GRIDRN (Gridiron) of type point;
 - PIPSOL (Pipe – Submerged or on Land) of type point;
 - RAPIDS (Rapids) of type point;
 - ROADWY (Road) of type point;
 - RUNWAY (Runway) of type point;
 - TUNNEL (Tunnel) of type point;
 - VEGATN (Vegetation) of type point and area – Category of Vegetation 1 (grass), 10 (mixed crops), 11 (reed) and 12 (moss);
 - WATFAL (Waterfall) of type point; and
 - SLOGRD (Sloping Ground) of type area – all Category of Slope except 6 (cliff) if not radar conspicuous.

All other objects that do not currently symbolise in ECDIS will have new look-up table entries added in MD7. As at HSSC1, MD7 had not yet been published.

- AIS on Aids to Navigation: There was much discussion on AIS at the meeting with little end result. A draft IALA background paper titled “IALA Guideline No. 1062 on the Establishment of AIS as an Aid to Navigation” was presented at the meeting. A further paper compiled by Japan to be presented at IMO MSC-86, suggesting the addition of a new work programme item for the development of new symbols for AIS aids to navigation, was tabled at the meeting. The CSPCWG Secretary had submitted a response to this paper. All the above mentioned papers have been supplied to CSPCWG6 for reference in a zip file as CSPCWG6-INF1. The decision of DIPWG was to wait until AIS is discussed by IMO later in the year, and to raise portrayal of AIS at the next CSPCWG meeting. A paper on this subject has been submitted for CSPCWG discussion. It was further suggested that part of the discussion at the next DIPWG meeting should address the current decision not to depict AIS information in ENCs.
- Mandatory carriage Requirements for ECDIS: It was reported that IMO NAV54 had agreed to the phased implementation of a mandatory carriage requirement for ECDIS (2012-2018) in addition to the existing requirements for High Speed Craft. Draft amendments to SOLAS regulation V/19 to reflect the mandatory carriage requirement were prepared, and these would be considered by the IMO MSC at its 85th session in November 2008 for approval and its 86th session in May 2009 for adoption. [Post-meeting: The amendments to SOLAS V/19 were adopted at IMO MSC86, with the agreement for a phased introduction of mandatory ECDIS carriage requirement between 2012-2014. The relevant part of the MSC86 report is at Annex A to this paper.]
- Development of INT1/ECDIS Symbol combined document: It was reported that the work that was planned to be done by US NGA had been delayed due to re-distribution of resources.
- During the delivery of the report on CSPCWG activities to DIPWG1, it was pointed out that any developments in new symbology for paper charts initiated by CSPCWG must be brought to the attention of DIPWG for implications on ECDIS and possible development of corresponding ECDIS symbol(s). It was considered important that DIPWG be consulted so that some correlation can be incorporated in symbology in paper chart and ENC in order to cause as little confusion to the mariner as possible. **CSPCWG Chair and Secretary to note.**
- S-52 New Edition: At CHRIS20, DIPWG was tasked with undertaking a revision of S-52 including all Annexes. The main document for S-52 had not been reviewed for a number of years, and a review was now required in order to take into account the revised IMO ECDIS Performance Standard and Edition 6 of IEC61174 (Marine Navigation and Radio Communication Equipment and Systems – Electronic Chart Display and Information Systems (ECDIS) – Operational Performance Requirements, Methods of Testing and Required Test Results). Additionally, Appendix 1 (Guidance on Updating the Electronic Navigational Chart) was now the responsibility of the IHO EUWG and was not considered to directly relate to chart content and display aspects of ECDIS; Appendix 3 (Glossary of ECDIS Related Terms) is now published as Appendix 1 to S-32; and Appendix 4 (IHO ENC Test data Set) is now contained in S-64. The former DIPWG Chair, current DIPWG Chair and IHB conducted a full review of the document, which was presented at

DIPWG1 for member endorsement. This was obtained and subsequently IHO CL 34/2009 was issued requesting stakeholder feedback. The resultant final draft of Edition 6 of S-52 has been submitted to HSSC1 for endorsement.

Next Meeting: The next meeting of DIPWG (DIPWG2) is scheduled for May 2010 in Rostock, Germany in conjunction with TSMAD20.

Conclusions

Continued liaison between CSPCWG and DIPWG is a necessity in order to address emerging navigational requirements in a multi-product environment. Any developments in symbology for the paper chart need to be reported to DIPWG as soon as possible in order to consider possible implications on ECDIS symbology. This may include involving DIPWG in discussions when considering options for new or revised paper chart symbols in order to achieve consistent portrayal to the mariner between paper and electronic charts.

Recommendations

All CSPCWG members to communicate any developments in paper chart symbology to their DIPWG delegates as soon as possible once these developments are proposed. CSPCWG Secretary to establish a communication protocol with the DIPWG Chair/Secretary to relay these developments in a similar time-frame. This may include providing CSPCWG papers relating to symbology development to DIPWG for evaluation and comment.

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.

IMO MSC 86 Report

Amendments to SOLAS Reg. V/19 – Carriage requirement of ECDIS

ECDIS (Electronic Chart Display and Information System) is shipborne navigational equipment, which is regarded as an equivalent to paper charts as per the SOLAS regulation V/27 and the regulation V/19.2.1.4. In other words, it is currently optional equipment. By the amendment adopted at this session, ECDIS will be mandatory for new ships 2012 (passenger ships and oil tankers) or 2013/2014 (other ships). Existing ships will be required to retrofit the system.

Implication:

(Shipbuilders and manufacturers)

- Builders will be required to take these requirements into consideration when designing a ship which keel will be laid on or after 1 July 2012/2013/2014 dependant on the ship type and size.
- Manufacturers are to note that ECDIS is required to meet the IMO's performance standard (A.817(19), as amended by the resolution MSC.64 (67), MSC.86 (70) and MSC.232 (82));

(Owner/Ship management companies)

- As ECDIS will be required on the existing ships (at the first survey after the date specified in the table given below), owners will be required to make retrofitting arrangements. Owners are encouraged to take the opportunity to make such arrangements at dry docking, if there is such an opportunity.
- Owners are to ensure to ensure that ships will be provided with Electronic Navigational Charts (ENCs) issued by a Hydrographic Authority or its agents that cover the intended voyages.
- Ship managers are to ensure that appropriate training and familiarisation will be incorporated into the company's SMS for the use of ECDIS in accordance with paragraph 6.5 of the ISM code. Due reference is to be made to SN.1/Circ.276 – Transitioning from paper chart to electronic chart display and information systems (ECDIS) navigation.

(Flag Administration & its recognised organisations)

- Relevant survey guidelines should be prepared, which should include appropriate back up arrangements & the location of ECDIS in case of retrofitting.
- ISM auditors are to be made aware of the new requirements and the need for companies to introduce the corresponding training and familiarisation.

(Application) – to ships engaged on international voyages only

Type of ships	Size limitation (of or over)	New ships (Construction – keel lay date)	Existing ships (Ships not new ships)
Passenger ships	500 gt	1 July 2012	Not later than the 1 st renewal survey on or after 1 July 2014
Oil Tankers	3,000	1 July 2012	Not later than 1 st SE survey on or after 1 st July 2015
Others	50,000	1 July 2013	Not later than 1 st SE survey on or after 1 st July 2016
	20,000	1 July 2013	Not later than 1 st SE survey on or after 1 st July 2017
Others cont	10,000	1 July 2013	Not later than 1 st SE survey on or after 1 st July 2018
	3,000	1 July 2014	No retrofitting requirements to existing ships less than 10,000 gt