

16th CHRIS MEETING
Ottawa, Canada, 28-31 May 2004

**REPORT OF THE CHRIS COLOURS & SYMBOLS
 MAINTENANCE WORKING GROUP (C&SMWG)**

From June 2003 – June 2004

Submitted by:	Mathias Jonas, Germany
Executive summary:	Report on the work undertaken and progress made by the Colours and Symbols Maintenance Working Group, since CHRIS/15, and future plans.
Actions to be taken:	CHRIS to note the report, and endorse the future plans.
Related documents:	CHRIS letter No. 2/2004 (call for reports)
Related Projects:	Not applicable

1. **Chairman:** Dr. Mathias JONAS (Germany)
 - Tech. Coordinator:** Mr. Sven HERBERG (Germany)
 - Secretary:** Mr. Chris ROBERTS (Australia)
 - Rapporteur:** Dr. Lee ALEXANDER (USA)
2. **Membership:**

IHO	Australia, Canada, Finland, France, Germany, Norway, UK, USA
Non-IHO	SevenCs, P&H Marine Associates, ICAN, Q-Mar, NDI, C-Map, CARIS, Offshore Systems Inc., Canadian Coast Guard, CANStar Navigation Ltd., Canadian Navy, DCIEM (Canada), Navintra Ltd. (ASPO), Transas Group, Raytheon Marine, C-Map, Kelvin Hughes, HSA, DERA, USCG, SAM Marine Electronics, CIRM, IEC TC80, DnV Type Approval, Wismar University
3. **Meetings:** No Meetings during the period of this Report
4. **Activities**
 - Actions resulted from the consolidated CHRIS Work plan (see section A)
 - Actions resulting from CHRIS15 minutes (see Section B)
 - Liaison with CSPCWG (see Section C)

**Section A: Actions resulting from the consolidated CHRIS Work plan CHRIS 15-5A.
rev 1 (see numbers)**

<p>3.1.1 (14) Maintain S-52 App.2: develop new editions Colour & Symbol Specs ed. 4.2 and Presentation Library ed. 3.3</p>	<p>New Editions delayed but now finalised and issued in April 2004</p>
<p>3.1.2 (14) Develop colour calibration routines for flat panel displays</p>	<p>Developed with assistance of ECDIS-Industry. Interim procedures added to section 5 and annex B of C&S Specs ed. 4.2</p>
<p>3.1.3 (14) Set S52 App.2 Colour & Symbol Specs ed. 4.2 and Presentation Library ed. 3.3 in force with one year grace period</p>	<p>Administrative issue. To be agreed by IHO member states</p>
<p>3.1.4 (14) Contribute to IEC TC 80 WG 13 symbol harmonizing work and Provide guidance to IEC TC 80 WG 13 on preferable colours and line styles</p>	<p>Ongoing activity. Layout of Navigation symbols will be moved to IEC responsibility. Navigation symbols becoming part of IMO circular letter approved by IMO/NAV50. C&SMWG contributes actively to IEC TC80 WG13 with advice on preferable colours and line styles.</p>
<p>3.1.5 (14) Develop paper based description of symbols for Presentation Library</p>	<p>Done. Part of Presentation Library, Edition 3.3</p>
<p>3.1.6 (14) Investigate feasibility of reduced set of colour tables</p>	<p>Done at Hochschule Wismar, Fachbereich Seefahrt Warnemünde, Germany. Test confirmed effectiveness of reduced set of three colour tables developed by DRDC, Toronto as part of Presentation Library, Edition 3.3</p>

Section B: Actions resulting from CHRIS15 minutes

1.) Improving ENC consistency

Based on input papers from IC-ENC, UK and BSH, Germany a sub-working group comprising members from TSMAD and the C&SMWG drafted a set of recommendations aiming to improve ENC consistency by harmonised application of ENC production methods aiming to harmonised display of ENCs issued by different Hydrographic Offices. The draft recommendations are forwarded by the chairman of TSMAD for adoption by CHRIS16.

2.) Restructuring the S-52 package, to reduce its scope and volume

The C&SMWG chairman was tasked to review S52 to reduce its scope and volume particularly by removing “operational” aspects for updating and by transferring the glossary on ECDIS related terms (Appendix 1) into the Hydrographic Dictionary and to generalise, and simplify, the guidance in S-52 Appendix 2. The resulting draft was developed by email communication with a small ad-hoc group formed by members of the former Harmonization Group on ECDIS (HGE) and the former Chairman of C&SMWG who worked on S52 and its Appendices from the start.

The submitted draft is now reduced to the requirements of the presentation of hydrographic information contained in the ENC, i.e. the chart display. References to the supporting Annexes, Appendixes and Addendums of S52 have been updated as well as references to related documents of liasing organisations such as IMO and IEC.

The operational requirements to be extracted from S-52 are certainly not the responsibility of IHO, however, they cannot be deleted from S52 before IMO and/or IEC have adopted appropriate requirements within their own relevant documents. It is known that IEC TC80 and some IMO member are currently stepping forward to ask IMO for a revision of the ECDIS Performance Standards with regard to AIS matters and to support the planned revision of the IEC 61174 ECDIS test standard. It is therefore suggested that the IHO inform IMO and IEC officially about the existence of the new draft of S52 and propose the adoption of the operational aspects now deleted from S52 into their own relevant documents pertaining to ECDIS. One example of what might be transferred to the IMO Standards is the following section 3.3 of the current edition of S-52:

System ENC (SENC)

- (a) The Transfer Standard, is designed for the distribution of digital chart data. It is recognized that it is not the most efficient means of storing, manipulating or preparing data for display. Each manufacturer of ECDIS systems may design his own storage formats or data structure to allow its system to meet the performance requirements stated in this specification. The resulting database is called the System ENC (SENC).
- (b) It is mandatory that official HO data (ENC) be available and any ECDIS must be capable of accepting and converting the official HO data (ENC) to the internal storage structure of the individual ECDIS (System ENC or SENC). Such data includes both that in the ENC and that delivered in digital format to update the ENC. This conversion process does not imply real-time processing of HO supplied data.
- (c) An official copy of the HO data, distributed as an ENC or contained within an externally generated SENC, is to be kept on board. The SENC generated on board, by ENC to SENC conversion, or ashore is used for actually operating the ECDIS. Through the same conversion process, official updates are added to the System ENC.

The information content of the SENC should include all that of the ENC corrected by official updates .

IMO might consider incorporating this section in a revision of the ECDIS Standards, since it deals with methods of generating the SENC.

S52 Appendix 1 Guidance on updating

Since Appendix 1 was drafted, much practical experience with ECDIS and its updating mechanisms have been gained and advanced requirements to be developed by IMO/IEC for operational behaviour of ECDIS updating mechanisms may supercede the guidance given in Appendix 1 of S52. The guidance given in Appendix 1 remains unchanged.

S52 Appendix 3 Glossary on ECDIS related terms

No particular activities have happened due to the transfer of Appendix 2 into the Hydrographic Dictionary

Section C: Response to CSPSWG Circular letter

Issues of presentation in paper charts raised by CSPCWG in Circular Letters

- **CL 4/2003 ESSA**
- **CL 1/2004 ASLs**
- **CL 2/2004 wind and current turbines**

These have been discussed based on email communication between some C&SMWG members and passed on to the CSPCWG chairman explaining the consequences of the introduction of new paper chart symbology from the ECDIS point of view.
