

6<sup>th</sup> HSSC Meeting  
Viña del Mar, Chile · 11-14 November 2014

Report and Recommendations of the Digital Information Portrayal Working Group (DIPWG)



<b>Submitted by:</b>	DIPWG Chairman, Colby A. HARMON
<b>Related Documents:</b>	<a href="#">Draft DIPWG6 Meeting Minutes</a> <a href="#">List of Actions from HSSC5</a>
<b>Related Projects:</b>	

<b>Chair:</b>	Colby A. HARMON, USA (NOAA)		
<b>Vice-Chair:</b>	Thomas MELLOR, UKHO		
<b>Secretary:</b>			
<b>* Member States:</b>	Australia Brazil Canada Denmark Finland	France Germany Japan Republic of Korea Netherlands	New Zealand Russian Federation Sweden UK USA
<b>* Expert Contributor Organisations:</b>	CARIS (Canada) ESRI (USA) Furuno (Finland/Japan) IC-ENC (UK)	IIC Technologies (Canada) Jeppesen Marine (Germany/Norway) SevenCs (Germany) Transas (Russia)	

\* Attendees at the last DIPWG annual meeting, see Annex A for full details.

**Meetings Held During Reporting Period:**

**DIPWG-6**

31 March - 4 April 2014      Sydney, Australia      Hosted by the Australian Hydrographic Office

**Next Meeting:**

**"TSMAD-29"**

2 - 6 February 2015      Venue TBD

Given the expected reorganization of the HSSC working groups, DIPWG-6 was probably this working group's final meeting. No future DIPWG meetings have been scheduled. Portrayal related issues will be addressed at a meeting scheduled in February 2015, which is currently called "TSMAD-29," but will more than likely be a solo or joint meeting of other, yet to be established working groups, such as "S-100WG" and "ENCWG." (See the related recommendation in the "Any Other Items of Note" section below.)

**Work Program**

S-52 Specification and Presentation Library

As reported at HSSC5, an extensive revision of the S-52 Presentation Library was completed, as well as some minor changes to the main S-52 document itself, in 2013. Last year saw the successful final review of the draft versions of S-52, Edition 6.1.0 and the S-52 Presentation Library, Edition 4.0.0. by DIPWG and ECDIS OEMs ([DIPWG Letter 01/2013](#)) and the HSSC ([HSSC Letter 01/2014](#)). The review and final approval of the new editions by the IHO member states ([IHO Circular Letter 55/2014](#)) is underway as this report is being written. Only a few minor technical changes were necessary to accommodate comments received from the completed reviews and it is anticipated that the review by the member states will result in only minor changes, if any. If the new editions of S-52 and its presentation library are approved as expected, they will be published in October 2014 and will fully replace the previous editions in September 2016.

An excerpt from [IHO Circular Letter 55/2014](#) is shown below. It describes the planned transition of S-52 and its ECDIS type-approval companion documents, IHO S-64, "IHO Test Data Sets for ECDIS" and IEC 61174, "Maritime navigation and radiocommunication equipment and systems – Electronic chart display and information system (ECDIS) – Operational and performance requirements, methods of testing and required test results."

Subject to the successful completion of the relevant approval processes, the new editions of S-52 and S-64 should be published in October 2014 and the new edition of IEC 61174 should be published in September 2015. The following schedule was agreed with the IEC and the Comité International Radio-Maritime (CIRM) and reported to the International Maritime Organization (IMO):

- a) the date of entry into force of the new editions of the three standards will be aligned with the date of publication of the new edition of IEC 61174. From that date, the new editions will be available for the type approval of new ECDIS.
- b) the previous editions of S-52 and S-64 will remain valid for twelve months beyond the date of entry into force of the new editions. If the date of entry into force of the new edition of IEC-61174 is September 2015, this means that the previous editions of S-52 and S-64 will remain valid until September 2016.

This transition interval will allow manufacturers and national authorities the time necessary to type approve new ECDIS products to the revised standards, and to enable ship owners and operators to update existing systems to conform to IMO circular SN.1/Circ.266 as amended about the maintenance of ECDIS software.

#### S-100 Portrayal Model Builder and S-101 Symbology

The IHO contract with CARIS to create an S-100 Portrayal Catalogue Builder successfully delivered a working web-based application last winter. Some modifications to the catalogue builder may be required to accommodate changes that have been made to the feature model in S-100, Edition 2.0.0. and the S-101 feature catalogue. In anticipation of this need, the contract has not yet been closed and an engineering change proposal will be written for additional work if required. Analysis of the impact of the new S-101 feature catalogue is underway as this report is being written.

SVG formatted symbol graphics of all existing S-52 point symbols were also delivered as part of the contract. These will be used to support the portrayal of S-101 ENC's and some of these symbols have been adapted to create new symbols for virtual aids to navigation and colour-filled traditional symbols for S-101, which will unify and replace the separate "simplified" and "paper-chart" symbols that are currently specified in S-52 for the portrayal of fixed and floating aids to navigation. DIPWG work plan task L.1 to "Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour" will be fulfilled through this effort. DIPWG has decided to evaluate the new symbols during the development of S-101. However, when the new set of symbols for aids to navigation are finalized, they will also be considered for inclusion in the S-52 specification.

#### Initial Content of the Portrayal Sections of S-100 and S-101

The initial base-line of the S-100 portrayal model has been completed and placed into Section 9 of S-100, Edition 2.0.0. Relevant portions of S-52 that should be carried forward and some additional new content have been placed into Section 9 and Annex C-9 of S-101. Thus, DIPWG task F.3 has been completed and it may now be removed from the DIPWG work plan. The portrayal related content of S-100 and S-101 will be refined and expanded as the S-100/S-101 testbed activities progress.

#### Chart Presentation Bulletins

No chart presentation bulletins were issued during this reporting period.

#### Distribution of Tasks in the DIPWG Work Plan

Annex H and Annex I of the "Report of the Correspondence Group on HSSC Working Groups' Restructuring," ([HSSC6-04.2A](#)) provide proposed terms of reference and work plans, respectively, for the proposed new S-100WG and ENCWG working groups.

Under this scheme, efforts related to S-100 and S-101 portrayal, as well as support for the portrayal aspects of other evolving S-100 based product specifications, will be undertaken by the S-100WG. Ongoing maintenance of S-52 and the portrayal of S-57 based ENC data will be undertaken by the ENCWG.

Recommendations for the disposition of individual DIPWG work plan tasks in the event that the restructuring of HSSC working groups is approved are included in Annex B. A recommendation for merging of DIPWG and TSMAD in the event that the restructuring is not approved is in the "Any Other Items of Note" section below.

### Progress on HSSC Action Items

HSSC-5 Action No.	Title	Action
19	Feature catalogue builder	TSMAD, in liaison with DIPWG, to provide the IHB with a statement of requirements for developing a feature catalogue builder.
<b>Status: Action Suspended – Recommend cancelling this action</b> KHOA developed and is refining a feature catalogue builder. No additional action by IHB is needed at this time.		
40	New editions of S-52 and the PresLib	DIPWG Chair to provide the IHB with clean copies of the draft editions 6.1.0 of S-52 and 4.0.0 of the Presentation Library (Annex A to S-52), for posting on the IHO website as a familiarization version.
<b>Status: Completed.</b>		

### Problems Encountered

No significant problems to note.

### Any Other Items of Note

As noted in [DIPWG Letter 01/2014](#), after consultation with the TSMAD Chair, DIPWG will bring portrayal work items to the TSMAD winter meeting. This is a change from the usual routine of DIPWG meeting once per year in a joint spring meeting with TSMAD and TSMAD also holding another "non-DIPWG" meeting on its own in the winter.

If this pattern of all joint meetings is carried forward, this would essentially merge the two working groups. In fact, for all practical purposes this has already occurred as there is nearly 100% overlap between TSMAD and DIPWG membership. Of the fifty or so participants, there are only a few people who attend the joint TSMAD/DIPWG meetings who don't also attend the other non-joint TSMAD meetings. The only thing that has been missing from the complete integration of the two working groups is that DIPWG topics have only been formally brought before the joint TSMAD/DIPWG spring meetings. Although, in actuality DIPWG topics have been discussed and worked on informally at side meetings or break-out sessions during at least the last two winter TSMAD meetings!

Therefore, I recommend that if other proposals to restructure HSSC working groups including DIPWG are not approved, then at least DIPWG and TSMAD should be formally combined. Portrayal work would likely be carried out throughout the year by one or more sub-working groups within TSMAD.

### Conclusions and Recommended Actions

- A newly formatted, easier to use S-52 specification will soon be available to guide ECDIS developers.
- All of the portrayal related activities needed to move forward with the initial testing of S-100 and S-101 performance have been completed, with the exception of creation of a new portrayal catalogue based on the new S-101 feature catalogue using the S-100, Edition 2.0.0 model. The current CARIS contract with IHO can easily be modified to accommodate this.
- S-101 portrayal will be refined and expanded based on experience gained through S-100/S-101 testbed activities and other feedback from ECDIS users, OEMs and other stakeholders.
- The tasks in the DIPWG work plan may easily be allocated to the S-100WG and ENCWG working groups if HSSC decides to establish them.

- If the S-100WG and ENCWG working groups are not established, the work of DIPWG may easily be subsumed by TSMAD, which shares a nearly identical membership and has held joint meetings with DIPWG for several years.

### **Justification and Impacts**

DIPWG and its predecessor, the Colours and Symbols Maintenance Working Group (CSMWG) have done much to establish safe passage through the previously uncharted waters of portrayal for electronic chart display and information systems. To those early explorers who have gone before us, we have much to be thankful for.

We also have much to ask of those who will continue this important work, which must continue regardless of the manner in which HSSC organizes work groups in the future. The continued success of maintaining and improving the display of ENC and other data for safe navigation and for other purposes not yet imagined will depend on the enduring cooperation and collaboration of ECDIS manufacturers and related industry members, ECDIS users, national hydrographic offices and other IHO members, and other stakeholders.

### **Action Required of HSSC**

The HSSC is invited to:

- a. **endorse** the DIPWG report,
- b. **consider** the distribution of the existing DIPWG work plan tasks to S-100WG and ENCWG if establishment of these bodies is approved at HSSC6 or allocation of DIPWG tasks to TSMAD if establishment of these bodies is not approved,
- c. **wish** DIPWG a fond farewell.

**DRAFT LIST OF PARTICIPANTS**  
**Joint TSMAD28/DIPWG6 Meeting**  
**Sydney, Australia (31 March to 4 April 2014)**

**Annex A**

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## Proposed Disposition of DIPWG Work Plan Tasks

### DIPWG Tasks

- A Maintain S-52 and its associated "Presentation Library" (IHO Task 3.3.1 refers)
- B Contribute to IEC TC80/WG13 symbol harmonizing work (IHO Task 3.3.3 refers)
- C Monitor Relevant International Standards (IHO Task 2.3.2 refers)
- D Introduce new website based recommendation service for good application practice of S-52 (IHO T3.3.1 refers)
- E Contribute to harmonised rules for ENC loading strategy, use of SCAMIN and overscale indication (IHO Task 2.3.2 refers)
- F Assess the impact of other IHO standards on S-52 C&S regulations (IHO Task 2.3.2 refers)
- G Improving ENC Consistency/Loading strategies (IHO Task 2.3.2 refers)
- H Harmonisation of pick report presentation (IHO Task 2.3.2 refers)
- J Harmonisation with CSPCWG (IHO Task 2.3.2 refers)
- K Maintain the DIPWG bulletin and FAQ section on the IHO website (IHO Task 2.3.2 refers)
- L Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour (IHO Task 2.3.2 refers)
- M Provide technical assistance on Portrayal for S-10x related product specifications (IHO Task 2.3.2 refers)
- N Conduct the 2014 meeting of DIPWG (IHO Task 2.3.1 refers)

Task	Work Item	Priority	Affected Pubs /Standard	Proposed Transfer to New Working Group
A.1	Resolve any problems or errors identified in S-52 and its Presentation Library as appropriate	H	S-52	ENCWG
C.1	Monitor Relevant International Standards	L	S-52 S-100 Portrayal Register	S-100WG / ENCWG
F.2	Maintain S-100 Portrayal	H	S-52 S-100 Portrayal Register	S-100WG
F.3	Assist TSMAD in identifying which aspects of S-52 should be incorporated into S-100 and S-101 Specification.	H	S-100 S-101	This task has been completed and may be removed.
F.4	Maintenance of S-101 Portrayal Component and Portrayal Catalogue	H	S-101 S-100 Portrayal Register	S-100WG *
J.1	Liaise with CSPCWG	M	S-52 S-100 Portrayal Register	S-100WG / ENCWG
K.2	Maintain Chart Presentation Bulletins on the DIPWG page of IHO website	M		ENCWG
K.3	Review and revise other informational pages on the DIPWG page of IHO website	L		ENCWG
L.1	Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour.	L	S-52 S-100 Portrayal Register	S-100WG * †
M.1 (2.4.6)	Provide technical assistance on Portrayal for S-10x related product specifications.	M		S-100WG

\* If maintenance of S-101 is allocated to ENCWG, then these tasks should follow it.

† DIPWG has decided to focus this effort on changes that would be implemented in S-101. If practical, these new symbols may be considered for inclusion in S-52 as well.