

**4th IHO-HSSC Meeting
Taunton, UK, 25-28 September 2012**

Report of the Digital Information Portrayal Working Group (DIPWG)



Submitted by:	Chairman, Colby A. HARMON
Related Documents:	DIPWG4 Meeting Minutes
Related Projects:	

Chair:	Colby A. HARMON, USA		
Vice-Chair:	Thomas MELLOR, UK (Julia POWELL, USA through May 2012)		
Secretary:	Capt. Alberto COSTA NEVES, IHB		
Professional Assistant	Michel Huet, IHB		
* Member States:	Australia Brazil Canada Denmark Finland France	Germany Japan Republic of Korea Netherlands Norway	South Africa Sweden UK USA
* Expert Contributor Organisations:	CARIS (Canada) ECC (Norway) ESRI (USA) Furuno (Finland) GEOMOD (France) IC-ENC (UK) IIC Technologies (Canada) Japan Radio Company (Japan)	Jeppesen Marine (Germany/Norway) KESTI (South Korea) NAVTOR (Norway) NG Maritime Systems (USA) SevenCs (Germany) T-Kartor (Finland) Transas Group (Russia)	
<p>* Attendees of either of the last two DIPWG annual meetings. Bold text indicates those attending in 2012. see <i>Annex A</i> for full details</p>			

Meetings Held During Reporting Period: DIPWG-4, 7-11 May 2012

IHB, Monaco Hosted by IHB

Next Meeting: DIPWG-5, June 2012

Silver Spring, Maryland, USA Hosted by NOAA

Election of Officers

DIPWG filled three working group positions during its annual meeting, held in May 2012 in Monaco. The working group chair and vice chair were elected by the member states present and the secretary was appointed for DIPWG by the IHB.

Chair	Colby A. Harmon	USA (NOAA)
Vice Chair	Thomas Mellor	UK (UKHO)
Secretary	Capt. Alberto Costa Neves	IHB

Work Program

Highlights of DIPWG efforts include activities related to both the routine maintenance of S-52 as well as support for developing the portrayal aspects of S-100 and S-101.

Several S-100/S-101 portrayal related activities are underway in DIPWG.

Portrayal Model - Foremost on the list of DIPWG efforts is the development of the model that will be used to generate the ECDIS machine-readable symbolization instructions to portray S-101 ENC data. The working group has discussed several different XML based approaches and is currently analysing the capabilities offered by each. It is apparent that no structure will be capable of being used "out-of-the-box" and extensions to provide additional functionality will be required.

CSP Analysis - A small group is reviewing the awkward Nassi-Shneiderman diagrams that are used to depict Conditional Symbolization Procedures (CSPs) in S-52. CSPs describe complex symbolization logic that cannot be represented in simple look-up table entries. The goal is to eliminate or simplify as many CSPs as possible for S-101. Part of the portrayal model analysis described above will look at selecting the portrayal model approach that best facilitates the encoding of the CSPs in a machine-readable form.

Single Set of AtoN Symbols for S-101 - DIPWG is engaged in defining a single set of point symbols for Aids to Navigation for S-101 ENCs. The goal is to take the best aspects of the "paper chart" and "simplified" symbol sets that are currently implemented in S-52 to create a single unified symbol set. This should be less confusing for mariners and make ECDIS training easier. The resulting implementation and maintenance of S-101 portrayal will also be simplified as about 300 point symbolization look-up table entries will be eliminated. Once a single set of symbols has been accepted by DIPWG, feedback from mariners regarding the proposed symbology will be sought through a survey.

Narrative "Portrayal" Sections of S-100 & S-101 – The narrative portions of S-100 and S-101 relating to portrayal continue to be distilled from the existing S-52 text or drafted as original text. Some of the content is dependent on the final composition of the portrayal model.

Pick-report Standardization

Two iterations of design concepts for a minimum specification for ECDIS presentation of pick-report data have been presented at recent DIPWG meetings. It is hoped that a final set of guidance can be completed soon and implemented for S-101, as well as in a deferred amendment for S-52.

New S-52 Presentation Library

DIPWG is perusing the development of a new edition of the S-52 Presentation Library. Doing so will provide manufacturers with a single unified portrayal specification without having to account for two additional deferred amendments. It will also provide more consistency among ECDIS implementations, as adopting deferred amendments is optional and some OEMs have implemented changes while others have not yet done so. Having a new "cleaned-up" presentation library will also make preparations for the portrayal in S-101 more straight forward. It is hoped that PresLib version 3.5 may be completed by the end of 2013 and approved in 2014.

After considering a proposal made by the UK, HSSC-3 directed that a new DIPWG work plan item be added for the, "revision of the S-52 Presentation Library including in relation to aspects of S-64, taking into account the comments contained in paper HSSC3-05.3B". DIPWG has reviewed the issues described in the paper and additional issues brought forth in the accompanying slide presentation made by the UKHO at HSSC-3.

No urgent PresLib changes have been identified from HSSC3-05.3B, so modifications are being addressed along with other Presentation Library changes in the queue. The working group is considering the merit of the changes proposed and seeking recommendations from the working group members for ways to resolve issues for which no solution has been proposed. DIPWG will move forward on those issues that the working group

believes have merit and over which it has control. Where appropriate, DIPWG will assist TSMAD in updating and enhancing S-58, “Recommended ENC Validation Checks” and S-64, “IHO Test Data Sets for ECDIS.”

Changes to DIPWG Work Plan

No new DIPWG work items are being proposed.

Progress on HSSC Action Items

HSSC-2 Action No.	Subject	Action
20/22	Pick report	DIPWG to further develop pick report as proposed in CHRIS20-06.3A.

Status: On-Going

The paper, "[Draft Specifications for Implementing the Cursor Enquiry and Pick Report in ECDIS](#)" was presented at the April 2011 joint TSMAD22/DIPWG3 meeting. The ensuing discussion led to an action for an ad hoc committee to write a deferred amendment (for S-52 Maintenance Document 9) to specify the minimum requirements for cursor enquiry and pick reports. This will also be the basis for the specification of pick reports in S-101.

HSSC-3 Action No.	Subject	Action
10	S-52 PresLib 3.5	DIPWG Chair to include in the DIPWG work plan the following new Work Item “Revision of the S-52 Presentation Library including in relation to aspects of S-64, taking into account the comments contained in paper HSSC3-05.3B ”.

Status: Completed

The work item has been added to the DIPWG Work Plan.

Problems Encountered

No significant problems to note.

Any Other Items of Note

ECDIS Anomalies

Recent IHO and IMO activities related to identifying and mitigating “ECDIS Anomalies” are of great interest to DIPWG. This effort has revealed that some deployed ECDIS systems are not displaying import features correctly and DIPWG is eager to clarify any portions of S-52 that may have led to inconsistent implementations from various ECDIS manufacturers. However, it should be noted that most of the anomalies can be resolved by applying the latest ECDIS software upgrades and implementation of the current S-52 Presentation Library. To date, it does not appear that any of the anomalies identified are attributable to errors in S-52 or the Presentation Library.

Contract for Support

A test version of the Hydrographic Portrayal Register was established in the S-100 Geospatial Information Registry about two years ago. The register was initially loaded with descriptions of the S-52 colours and symbols, which will for the most part carry forward into use with S-100/S-101. However, it was recently discovered that many of the IEC colour parameters for the three ECDIS colour tables have been entered incorrectly. Therefore, DIPWG proposes that IHB solicit bids on a small contract paid for with IHO Presentation Library funds to review and correct the content of the Hydrographic Portrayal Register.

The DIPWG effort to update the digital Presentation Library files, namely, pslb03.4.dai, PSYMREFT.txt, LSYMREFS.txt and ASYMREFT.txt, to reflect changes in the new PresLib version3.5 could also be expedited by contract support. Updating these files is required for the release of a new version of the Presentation Library.

The DIPWG Chair has submitted a separate proposal to HSSC for the use of the Presentation Library Fund to pay for contract support for these two efforts (HSSC4-05.3.B).

Additionally, a third effort for the creation of a Portrayal Catalogue Builder capability will need to be undertaken after the S-100 Portrayal Model is defined. This would need a moderate degree of software programming, which would require contract support as well. The magnitude of the effort cannot be easily determined at the present, but DIPWG may want to start work on creating a Portrayal Catalogue Builder prior to the next HSSC meeting.

Conclusions and Recommended Actions

DIPWG continues to chip away at defining portrayal for S-100/S-101, while also maintaining S-52. The success of DIPWG depends on the efforts of many equipment manufacturers and member state representatives, but further development of the portrayal aspects of S-100 and S-101 will also depend on contracted support.

Justification and Impacts

While DIPWG efforts could probably advance without contract support, the time required to accomplish some of the critical tasks needed to further the development of S-100 and S-101 would likely extend beyond the time-frame desired for these efforts.

Action Required of HSSC

The HSSC is invited to:

- a. endorse the DIPWG report,
- b. consider the accompanying DIPWG proposal to fund contract support for analysing and correcting the content of the Hydrographic Portrayal Register and for updating S-52 Presentation Library digital files.
- c. consider establishing a means by which funds for an additional contract for the creation of a Portrayal Catalogue Builder capability could be approved by the HSSC prior to the next HSSC meeting.

List of Participants at DIPWG Meeting (including Joint TSMAD meeting participants)

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DIPWG Proposed Work Plan – October 2012 to October 2013

DIPWG Tasks

- A Maintain S-52 and its associated "Presentation Library" (IHO T3.3.1 refers)
- B Contribute to IEC TC80/WG13 symbol harmonizing work (IHO T3.3.3 refers)
- C Monitor Relevant International Standards (New Task)
- 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
- F Assess the impact of other IHO standards on S-52 C&S regulations
- G Improving ENC Consistency/Loading strategies
- H Harmonisation of pick report presentation
- J Harmonisation with CSPCWG
- K Maintain the DIPWG bulletin and FAQ section on the IHO website
- L Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour.
- M Provide technical assistance on Portrayal for S-10x related product specifications.

Task	Work Item	Priority H-high M-med L-low	Mile- stones	Start Date	End Date	Status P-planned O-ongoing C-completed	Contact Person	Affected Pubs/Stan- dard	Remarks
A.1 (2.4.1)	Resolve any problems or errors identified in S-52 and its Presentation Library as appropriate	H		2009	-	O	Colby Harmon Tom Mellor	S-52	Continuing Work Item This addresses the routine maintenance of S-52.
A.4	Issue Maintenance Document No. 9 of S-52.	M		2011	2013	P	Colby Harmon	S-52	Recommend Deleting this Work Item DIPWG plans on releasing a new PresLib 3.5 in the near future, but would like to use Maintenance Document 9 to promulgate an optional deferred amendment for the standardization of pick reports, which may take manufacturers awhile to develop and implement.
A.5 (2.4.2)	Publication of a new Presentation Library Version 3.5 Revision of the S-52 Presentation Library including in relation to aspects of S-64, taking into account the comments contained in paper HSSC3-05.3B	M		2012	2014	P	Colby Harmon	S-52	Continuing Work Item DIPWG has issued two maintenance documents against the current Presentation Library 3.4. DIPWG continues to develop a new version of the Presentation Library that will incorporate the existing maintenance documents and include any additional new changes as deemed appropriate. This will increase uniformity among ECDIS implementations and ease the transition of the Presentation Library into S-100/S-101.
C.1 (2.4.7)	Monitor Relevant International Standards	L		2011	-	O	Colby Harmon Julia Powell	S-52 S-100 Portrayal Register	Continuing Work Item With the increased inter-dependencies between various International Standards, such as IEC 61174, IEC 62288 and the ISO 19100 series of standards, it is vital that DIPWG monitor the activities of these standards bodies and to advise HSSC if there is a need to update the relevant IHO standards to incorporate changes from external standards bodies.

F.2 (2.4.4)	Maintain S-100 Portrayal	H		2005	-	O	Colby Harmon Tom Mellor Julia Powell	S-52 S-100 Portrayal Register	Continuing Work Item This work item will refine and expand the initial development of Portrayal and Symbol Models by incorporating clarifications, corrections, and extensions as needed for the community of users that have implemented the S-100 data model.
F.3 (2.4.3)	Assist TSMAD in identifying which aspects of S-52 should be incorporated into S-100 and S-101 Specification.	H		2009	2013	O	Colby Harmon Tom Mellor Julia Powell	S-100 S-101	Continuing Work Item Develop the S-100 Portrayal Section, the S-101 Portrayal Section and the associated S-101 Portrayal Catalogue. This includes incorporating relevant portions of S-52.
F.4 (2.4.5)	Maintenance of S-101 Portrayal Component and Portrayal Catalogue	H		2012	-	O	Colby Harmon Tom Mellor Julia Powell	S-101 S-100 Portrayal Register	Continuing Work Item Maintain S-101 Portrayal by incorporating clarifications, corrections, and extensions as needed for the community of users that have implemented S-101.
J.1	Liaise with CSPCWG	M		2009	-	O	Colby Harmon Jeff Wootton	S-52 S-100 Portrayal Register	Continuing Work Item This work item is to review and address, as appropriate, any changes in paper chart portrayal standards, in close coordination with TSMAD.
K.2	Maintain Chart Presentation Bulletins on the DIPWG page of IHO website	M		2008	-	O	Colby Harmon Alberto Costa Neves		Continuing Work Item This work item addresses the routine posting of CPBs on the IHO website.
K.3	Review and revise other informational pages on the DIPWG page of IHO website	L		2008	-	O	Colby Harmon Alberto Costa Neves		Continuing Work Item This work item addresses the continual improvement of the DIPWG page on the IHO website.
L.1	Investigate enhancing the appearance of existing traditional paper chart symbols used in ECDIS by modifying their size, shape and colour.	L		2009	-	O	Colby Harmon	S-52 S-100 Portrayal Register	Continuing Work Item Enhancing existing S-52 symbology to take better advantage of modern ECDIS display capabilities.

M.1 (2.4.6)	Provide technical assistance on Portrayal for S-10x related product specifications.	M		2009	-	O	Colby Harmon	<p>Continuing Work Item Increasing use of S-100 by both IHO and non-IHO working groups has called for DIPWG providing technical assistance to these groups on the development of portrayal catalogues for S-100 based product specifications. Currently, DIPWG is assisting SNPWG in the development of S-10x Marine Protected Area portrayal.</p>
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