**INTERNATIONAL
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ORGANIZATION**

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4th Digital Information Portrayal Working Group (DIPWG) Meeting
Held at the International Hydrographic Bureau (IHB),
Monaco, 7-11 May 2012,
in conjunction with the 24th TSMAD Meeting

Chairman: Colby HARMON, USA (NOAA)
Vice Chairman: Julia POWELL, USA (NOAA)

Annexes:

Annex A – List of Documents and Agenda
Annex B – List of Participants
Annex C – List of Action Items

1.   Opening and Administrative Arrangements

Colby Harmon thanked members for attending the meeting and asked Director Robert Ward to open the meeting. Captain Robert Ward welcomed members to the meeting and highlighted the importance of the work being undertaken by the combined Working Groups. He highlighted the relevance of the standards produced by the working groups for other international organizations that will use the IHO S-100 standard and the IHO registry for their initiatives such as the e-navigation project.

1.1   Participants and Apologies

Barrie Greenslade welcomed all those new members who were attending the meeting for the first time and noted that apologies had been received from Denise LaDue. A list of participants is provided in Annex B.

2.   Approval of the Agenda

The combined TSMAD24 / DIPWG4 agenda (document 02A rev8) was unanimously approved by the meeting.

3.   TSMAD-23 Related Matters

See TSMAD-24 Minutes

4.   DIPWG-3 Related Matters

4.A   Approval of the DIPWG-3 Minutes

Minutes of the 3rd DIPWG meeting, held in Seoul, Republic of Korea, 18-22 April 2011, were reviewed and approved without comment.

4.B.   Status of Actions from the 3rd DIPWG meeting.

Action No.	Action For	Agenda Item	DIPWG-3 Action Item	Status
1	JP/CH	8.1A	To publish the deferred amendment on Mariners Object Colours	Completed see S-52 MD-9
-	CH	8.2A	Set a correspondence group to consider which simplified or paper chart symbols to keep and bring recommendations to DIPWG4.	Completed see 08.1A
2	RC	8.3A	Write & Issue a deferred amendment to create a 360 degree sector around a major light (10nM or greater). Amend the CSP (LIGHTS05) to create this symbol applying the relevant filtering outlined in the accompanying paper.	Completed see S-52 MD-9
3	UK	8.4A	Set up a correspondence group comprising of SevenCs, Transas, and Furuno to draft a deferred amendment specifying the minimum specification for the cursor enquiry and pick report based on the accompanying paper and comments provided by stakeholders at DIPWG3 meeting.	Not started
4	UK	8.5B	Take into account section 2.2 of the accompanying paper on "Display Categories" in the deferred amendment for the minimum specification for the cursor enquiry and pick report defined in the above	Not started
5	JW/JP	8.5C	Take the agreed assessment by AU of the issues relating to the display priorities and issue as a deferred amendment for review at the next DIPWG meeting.	Completed
6	JP	8.6C	Issue a deferred amendments for the following: 1. Presentation of the Landmark feature object pending a question from SHOM 2. Restricted Area Entry Prohibited 3. Option 1 to check the code of object and in case if it is NOT WRECKS to check the value of EXPSOU. If it is missing or unknown AND if the value of WATLEV = '3' then return to the calling procedure with the value of LEAST_DEPTH calculated in the loop for underlying group 1 objects	1. Completed (MD9) 2. Completed (MD9) 3. Withdrawn
7	TM	8.6D	Contradictions in Presentation of Navigation (Mariners') objects between IHO Presentation Library and IEC 62288. UK to make a proposal to IMO for IHO to take back mariners objects. Liaise with IEC when they reopen IEC62288	Not started
8	TM	8.8	Proposal to Produce a New Version of S-52. UK to submit this as a proposal to HSSC3 for consideration at the next meeting.	Completed See HSSC3-05.3B also see 09.6A
9	US/UK	9.2A	Set up a DIPWG focus group to finish up the S-100 portrayal model and to finalize the portrayal catalogue format. (Furuno, SevenCs, Jeppesen, Transas)	On-going

10	CH	9.3A	Set up a correspondence group to prepare section 9 for S-101	On-going
11	BG	AOB	TSMAD/DIPWG to enter into correspondence with the Swedish and Danish Hydrographic Offices to gather more information relating to the incident between two vessels navigating the TSS roundabout in southern waters of Sound.	Ongoing
12	HB	No Paper	Finalise the outcome of the break out group documenting the agreed way forward	Completed see 09.1A

5. HSSC Related Matters

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.

6. Reports of Activities of Other Working Groups

6.1. SNPWG

EM reported that the SNPWG had its previous meeting in February 2012. Most of the work during this meeting was focused on producing the Marine Protected Areas product specification. The WG has also done some work on how best to portrayal MPA information as an overlay in ECDIS (paper 9.10A) and requests feedback from the TSMAD and DIPWG working groups.

6.2. CSPCWG

JW reported that not much of relevance to report on the activities of this group since the last meeting, other than the ongoing review of S-4 Section 4. The next meeting, which will probably focus on concluding the work on S-4, will take place in November 2012. There may be a need for some ENC encoding as a result of issues arising from the review of B-300.

6.3.   DQWG

EM reported that the DQWG had not met since the last TSMSD meeting. DQWG has concluded a study on survey quality elements and UKHO had provided advice on mapping 19157 elements to hydrographic quality indicators. The next meeting is scheduled to take place in July 2012.

6.4.   TWLWG

TR reported that the WG were meeting in South Africa during the week. They are doing some work on producing a digital tides information product specification, and may need some assistance from TSMAD. The TSMAD Chairman noted that they will need to formally request help.

7.   Activities of Other Organizations

7.1.   IALA

TR reported that the IHO had had two meetings with IALA, since the last TSMAD meeting. A meeting on IALA's policy towards using the IHO registry and the development of a product specification for AIS binary messaging was held at the IHB. A meeting was also held in Singapore at which presentations on the converter and S-100 were provided. Feedback from the first meeting was that the S-99 publication was very confusing and it was recommended that a new edition should be produced.

7.2.   ISO

TP reported that a Memorandum of Understanding concerning strengthening the existing cooperation between the IHO and ISO had been signed. The MoU makes provision for ISO/TC 211 and the IHO to harmonize their respective work programmes and achieve mutual benefit by sharing resources.

The following new standards or existing standards under revision should be noted:

WI 19103	Geographic information - Conceptual Schema Language (Revision of ISO/TS 19103:2005)
WI 19119	Geographic information - Services (Revision of ISO/TS 19119:2005)
WI ISO 19117:2005	Geographic information - Portrayal (Revision of ISO 19117:2005)
WI 19139-2	Geographic information - Metadata - XML Schema Implementation - Part 2: Extensions for imagery and gridded data
WI 19110	Geographic information - Methodology for feature cataloguing (Revision of ISO 19110:2005)
WI 19115-1	Geographic information - Metadata - Part 1: Fundamentals (Revision of ISO 19115:2003)
WI 19109	Geographic information - Rules for application schema (Revision of ISO 19109:2005)
WI 19135-1	Geographic information - Procedures for item registration - Part 1: xxx (Revision of ISO 19135:2005)
WI 19135-2	Geographic information - Procedures for item registration - Part 2: XML Schema Implementation
WI 19157	Geographic information - Data Quality
WI 19158	Geographic information - Quality assurance of data supply

7.3.   IEC

No report

7.4   ETSI

VS provided a presentation on the work carried out by the Expert Team on Sea Ice (ETSI) information and demonstrated how ice data can be presented in ECDIS. He presented the ETSI feature catalogue and presentation library. He reported that there was a need for discussion about integrating ice layers with ENCs and also a requirement for TSMAD members to provide assistance with the development of their product specifications. There is also a requirement to get a better understanding of how MIO will be implemented within ECDIS.   He noted that the performance standards only state that additional supplementary layers can be added.

ACTION 1 for DIPWG: Be prepared to assist ESTI in developing portrayal for ice product when the product reaches an appropriate level of maturity.

8. Continuing Portrayal Topics

08.1   Paper-Chart/Simplified Symbols Consolidation

CH presented an overview of the work of the simplified and paper chart symbols correspondence group including a summary of the review comments offered by the correspondence group regarding the symbol "beauty contest" presented in the TSMAD24/DIPWG4-08.1A paper. Concerns included the following:

The use of yellow symbols for cardinal top marks does not follow the general convention that strives to mimic the nature of real world objects, as cardinal top marks are black.

Not all colour possibilities for aid structures are accounted for. In Australia there are many lateral marks that are compliant with IALA in regard to the topmark, but in order to save some money all the structures are painted grey. Would it be confusing if the colour of the symbol was driven by the lateral designation of the mark (red or green) regardless of the colour of the structure? For example, an IALA-A port-hand lateral buoy might be portrayed with a red filled shape, but the pick report would show the structure as coloured gray. During the discussion, it was suggested that mariners be surveyed to determine if there is a preference for displaying the actual mark structure colour or the colour of the lateral designation.

There was a concern that the "beauty contest winners" were a mix of mostly paper chart symbols for buoys and mostly simplified symbols for beacons and top marks, which may be confusing to some mariners. The group showed general support for the colour filled paper chart symbols. CH offered to create a second round of the symbol beauty contest based on colour filled traditional symbols for all of the aids and top marks.

A position circle should be added to any selected symbol that lacks one so that there is consistency amongst the symbols for all marks.

The group expressed dissatisfaction with the question marks attached to the default buoy and beacon shapes. It was suggested that a prototypical default symbol shape (without "?") be used; one that is not used to portray any other (non-default) mark.

HB suggested that a two stripe red-white design be used instead of the thinner three stripe red-white-red version for the safe water marks.

ACTION 2 for CH: Create another proposed single set of symbols for marks based on colour filled paper chart symbols, including safe water marks with just two stripes and new default symbols without question marks.

ACTION 3 for JP & CH: Prepare survey for mariners to ask if they would want the colour fill for marks based on their purpose or on their actual colour, as well as soliciting feedback of changes proposed by the simplified/paper chart symbol "beauty contest."

08.2   US Chart No. 1 with ECDIS Symbology

CH presented an overview of the U.S. effort to produce a Chart No.1 that shows both paper chart and ECDIS symbols. The document will be in a landscape, 8½" x 11" format. It will generally conform to INT1 conventions and incorporate the latest changes implemented in the recently released French INT1, Ed 5. The new Edition 12 of the U.S. Chart No.1 is scheduled for completion in December 2012.

08.3   Cursor Enquiry & Pick Reports

Unfortunately, the pick-report correspondence group comprising of SevenCs, Transas, and Furuno was not established last year as planned. The group was to draft an S-52 deferred amendment specifying the minimum specification for the cursor enquiry and pick reports, based on the paper and comments provided by stakeholders at DIPWG3 meeting. Those at DIPWG4 still voiced support for moving forward with standardizing the presentation of pick reports as described in TSMAD22/DIPWG3-08.4A rev1, "Draft Specifications for Implementing the Cursor Enquiry and Pick Report in ECDIS," which was presented at the DIPWG3 meeting in Seoul.

ACTION 4 for TM and CH: Adapt and reformat the TSMAD22/DIPWG3-08.4A rev1, "Draft Specifications for Implementing the Cursor Enquiry and Pick Report in ECDIS" paper as a draft S-52 Deferred Amendment or as part of PresLib 3.5.

ACTION 5 for TM: Extract the overarching detail for the Pick Report functionality from the TSMAD22/DIPWG3-08.4A rev1, "Draft Specifications for Implementing the Cursor Enquiry and Pick Report in ECDIS" paper for use in the portrayal section of S-100.

ACTION 6 for TM: Explore specification of a standardized means to intimate highlighting objects described in pick reports, including the use of specific colours, percentage of transparency, etc. for S-52 and S-100

08.4   SNPWG – Marine Protected Area (MPA) Portrayal   [Mong]

EM discussed the SNPWG's growing effort to produce the portrayal section of the MPA product Specification. SNPWG is seeking assistance from DIPWG for two issues described in paragraph's 4.3 and 4.5 of the TSMAD24-DIPWG4-09.10A, "MarineProtectedAreas_Portrayal" paper. These are:

4.3 There should be a centre screen label of "MPA". It is recognised that there are areas where PSSAs and MPAs overlap. Display rules will be needed to prevent centre labels overlapping.

4.5 The colour of all portrayal on the chart display that relate to MPAs should be green. It is recognised that MPA boundaries will follow and cross coastlines so a shade which is distinct from inter tidal green is required. Advice from DIPWG is sought for exactly which shade of green should be used.

TM noted that general guidance could be given for all S-100 product specification builders regarding colours that are "reserved" and are not to be used for portrayal of non-ENC products.

ACTION 7 for CH: Review section 7.4.3, "Area Symbolization by a Centred Symbol," of S-52 and make recommendation to SNIPWG regarding a method to avoid overprinting of centred "MPA" and "PSSA" label symbols.

ACTION 8 for EM and HP: Make recommendation for shade of green to be used to portray MPA that will not conflict with the portrayal of intertidal areas. Recommendation should include CIE values for Day, Dusk, and Night Colour Tables.

ACTION 9 for TM: Provide guidance discussing which colours are reserved for particular purposes in S-52/S-101 that are not to be used in newly specified S-100 based specifications. The home for this guidance will be determined at a later date.

9. New Portrayal Topics & S-100/101 Portrayal   [Harmon]

09.1A   Portrayal Model and XML Scheme   [Bothien]

09.1B   New Direction for S-100 Portrayal   [Mong]

09.1C   Portrayal Proposal Review Discussion   [Astle]

Portrayal Discussion:

CH noted that the modelling effort for S-100 portrayal has been underway for a long time now. Good progress has been made, but it is now important to decide on the approach to take to finalize the structure of the model and the languages used to support the maintenance of the symbolization rules and building of product symbol catalogues.

Items of note from the paper TSMAD24/DIPWG4-09.1.A.0, "S-100 Portrayal Development," written by HB and CH, included a list of things to consider while weighing the pros and cons of the efforts of the DIPWG Portrayal sub-WG (formed at DIPWG 3 in Seoul) and the various alternative approaches to be presented at DIPWG4:

1.   Which portions of the model can be accepted without further debate and which parts require further consideration?

2.   Will the Portrayal Catalogue be 100% machine readable?

3.   Will all requirements of the IMO ECDIS Performance Standards be fulfilled with the approach?

4.   Are there mechanisms to support representing the complex logic in all of the existing Conditional Symbology Procedures (CSPs), including soundings, safety contour, lights, etc?

5. Are there mechanisms to support concepts such as colour tokens, edge replacement and centred symbols?

HB, EM and HA each led a discussion of various approaches that could be employed for S-100 portrayal. Below is a summary of the primary points of the discussion of the approaches in the plenary session. A breakout session followed, which developed actions for moving forward with the S-100 portrayal development.

HB: S-100 describes the general model of the data and must contain a general model for the portrayal of the data as well. The primary goal for the design of the new portrayal model is that the resulting portrayal catalogue for S-101 (and other products) would be machine readable. The approach that we have taken was to make the Conditional Symbology Procedures (CSPs) machine readable. The "Portrayal in S-100" document and associated files, TSMAD24/DIPWG4-09.1A, are the outcome of this effort.

The colour model will be the same as in S-52. We had decided to use the CGM for the symbols.

The result of the portrayal process is a list of portrayal instructions, how it is displayed is up to the end systems. The standard just describes the instructions. The complex types cause the most work in any approach.

The script language is an informative part of the standard. It is in here because of the disadvantage of the XML in that it is hard to read for humans and the script language is easier to read. Having the script language makes it easier for humans to create a rule.

EM: Holger should be commended for all of his efforts. However, we have general concerns that are dealt with when we give our presentation.

HP: Great credit goes to Holger; by doing this work it was possible to see the end result and to see what kind of monster it is and maybe we need to do something else. We should really think if it is a clever idea and if the CSPs are being asked to do so much. Are there attributes that can be added by the HOs that would simplify the CSPs and simplify the portrayal? One example is always encoding the depth of wrecks and obstructions (or the depth of the underlying depth area) so that ECDIS will not have to rely on complicated CSPs to figure this same information.

HB: Agree that the CSPs should be reduced, but not everything can be provided in the ENC data, what about the mariner's values.

HP: It could be easy by setting end user variables and then it would be simple to pass these into a script.

Jeppesen: Gave a presentation (see paper "TSMAD24/DIPWG4-09.1B, "New Direction for S-100 Portrayal"), which highlighted the problems that Jeppesen sees with HB's proposal and advocated a new direction for portrayal, using a declarative approach instead of an imperative approach. Jeppesen proposes to use OGC Symbol Encoding (SE) and Filter Encoding (FE) standards with extensions as needed. As part of the presentation, Jeppesen showed a demo where the S-52 SEABED01 CSP had been implemented in the form of OGC Styled Layer Descriptor (SLD) interpreted by GeoServer (open source software).

HP: Look up table is declarative and the CSPs are imperative. If we get rid of the CSPs we would simplify most of the things. The key point is to get rid of them.

HA: For presentation – use the same model, but use XLST as the script language.

HP: We should define the human machine interface as attributes (HMI attribute catalogue), which is also machine readable, when the machine is reading a new product and is reading the HMI catalogue and getting that information also. Then the ECDIS can look at this for selection information. Passing the HMI variables for the HMI will make everything machine readable. The CSPs are about the user control.

HA: So if the settings can be defined in a catalogue then they can be passed in the catalogue of portrayal rules. Feature Depth> Setting/safety depth (HMI variable) > draw. [A post meeting thought by the Chairman, CH: A portrayal catalogue builder would need access to the HMI variables so that they could be incorporated into portrayal rules. Where in the S-100 GI Registry should the HMI variables be stored? Do we need to create a separate Hydro HMI register or can the HMI variables somehow be incorporated into the Hydro Feature or Hydro Portrayal registers? This is something to consider as we move toward finalizing the S-100 Portrayal Model]

By putting some conditional tests as part of the style, you would have multiple styles for a single feature that would match the criteria at run time to draw the correct approach.

During a meeting break, Jeppesen reviewed the interoperability prospects of OGC and the draft S-100 model.

Jeppesen – We can't accept the proposed model verbatim because the script language proliferates throughout the model, but we could accept a modified version of the graphic model. There should be a gap analysis done.

Several Original Equipment Manufacturers (OEMs) and others met in a break-out session. The session, moderated by CH, addressed how to move the S-100 Portrayal development forward. The group agreed to: 1.) Conduct a review of Conditional Symbology Procedures (CSPs), 2.) Inventory S-100 Portrayal Requirements and 3.) Assess the capabilities of the three proposed approaches for S-100 against the portrayal requirements. These are described in more detail below.

1. CSP Review – Each of the ENC portrayal related CSPs will be reviewed to identify the following:

   a. New S-101 feature objects, attributes or attribute values that could enable eliminating or simplifying the CSP.
   b. Complex portions of a CSP that would better lend itself to being hard coded instead of attempting to encode it in XML. That is, parts of any CSP that would require complicated extensions to any XML scheme used to encode the CSPs in a machine readable form.
   c. Simple functions or extensions to ordinary XML that will likely be needed to encode a particular CSP in machine readable form.
   d. Any additional explanation, simplification of language or other modification that would benefit those currently implementing the CSPs in S-52 that could potentially become part of PresLib3.5.

ACTION 10 for TM: Develop and manage plan for the review of CSPs. In addition to TM, reviewers will include the industry DIPWG members HA, KI, PL, EM and HP, as well as TSMAD Data Classification and Encoding Guide Sub-Working Group members JP, TR and JW. Goal should be to complete the review by the end of June 2012.

2. Portrayal Requirements Inventory – Compile a list of the fundamental portrayal requirements that the S-100 portrayal model and any associated XML or other script language functionality will have to meet. These requirements will be compiled primarily from a review of the "Portrayal in S-100" and other related documents and a high level review of S-52 itself. Requirements collected from the part of the CSP Review described in 1.c. above will also be added to the list of basic Portrayal Requirements.

ACTION 11 for KI: Develop and manage plan for the compilation of an inventory of S-100 Portrayal Requirements. In addition to KI, other DIPWG members participating will include EK, HP and DB. HA assist in reviewing the final set of requirements assembled by KI from the team's input. Goal should be to complete the inventory by the end of June 2012.

3. Capability Assessment against the Portrayal Requirements – This review will assess the relative strengths and weaknesses of the three portrayal strategies presented in agenda items 09.1A, B and C, which are:

   XML (Extensible Markup Language), presented by HB

   Open Geospatial Consortium (OGC) Symbology Encoding (SE) & Filter Encoding (FE), presented by EM

   XSLT (EXtensible Stylesheet Language), presented by HA

It is assumed that none of the three approaches will be able to support all of the S-100 portrayal requirements without customized extensions, even after any simplification of the CSPs takes place. The goal in conducting this assessment is to (once and for all) decide on an approach that can meet most of the S-100 Portrayal Requirements "out-of-the-box" that will not be overly complex and will be relatively easy to maintain over time.

ACTION 12 for CH: Develop and manage plan for the assessment of the three portrayal strategies against the S-100 Portrayal Requirements. Industry DIPWG members participating will include HA, HB, EK and EM. Goal should be to complete the assessment by the end of July 2012.

ACTION 13 for CH: E-mail a DIPWG Letter with the results of the assessment of the three portrayal strategies. The letter will include a recommendation for the selection of one approach based on the results of the assessment. DIPWG members will be asked to affirm the recommendation by replying to the e-mail no later than the end of August.

09.2A   Portrayal Register   [Harmon]

CH informed the group that some of the data loaded into the [S-100 Geospatial Information Hydro Portrayal Register](#) is incorrect. For example, some of the CIE values for the colour tokens do not match the values specified in S-52. There is a need to check and correct the content in preparation for the register's use in building the S-101 Portrayal Catalogue. Starting with data that matches S-52 will make it much easier to modify the content to comply with any changes to portrayal that will be implemented in S-100/S-101.

ACTION 14 for CH and MH: CH will work with IHB to award a small contract to have the S-100 Hydro Portrayal Register data systematically reviewed and corrected.

09.3A   Portrayal Catalogue Builder

Creating the Portrayal Catalogue Builder capability requires a stable portrayal model. As the S-100 Portrayal Model is still being refined (see agenda item 09.1A, B & C above), this activity is being put on hold for now.

09.4A   S-101 Portrayal Documentation - Business Rules   [Powell]

JP led a discussion about a number of specific sections of S-52 and whether or not each section should be incorporated into S-100 or S-101. For the most part, any text adapted for inclusion would be placed in the "Implementation Guidance" (formerly called "Business Rules") annex of S-100 or S-101. Some items were also categorized for inclusion in a yet to be identified "new home," which would be a separate document. DB has some proposed text for some of these items.

Clause 9.1.1	Does S-101 need to make reference to the ECDIS "Display Generator" concept?
Add reference to S-100 model	
Clause 9.6.4 and Clause 9.11.3	Display calibration and verification/ Colour Tables - Can this be removed from S-101? NOTE: IEC 61174 contains the same information and IEC 61174 can remove the reference to S-52.
Needs a new home. Need to create a separate slimmed down version of S-52 (S-52 Lite) to this and other similar content. "S-52 Lite" could take the form of an annex to S-100 or possibly as a separate document.	
Clause 9.6.5.1	Use of Controls - Can S-101 remove reference to CRT and just keep LCD references? If yes, all references to CRT will be removed from the annex.
Needs a new home (S-52 Lite) and to become technology neutral NOTE: This clause was retained due to an IEC 61174 reference that this needs to be in a manual and S-52 was the document that states that the ECDIS manual "should carry a warning that careless use of the display controls may adversely affect the visibility of information on the display."	
Clause 9.8.6 Viewing groups	There is a clause that manufactures may use the viewing group scheme or not. Should this remain optional? NOTE: Most of the viewing group information will be in the Portrayal catalogue
Decision does not need to be made now, but should be part of the test process that tests different products that use different combinations of viewing groups. Also provide guidance to other products using viewing groups.	

Clause 9.8.9	Scale-dependent features - Can this clause be combined with the Data loading and Unloading business rules?
	NOTE: This will need to be updated to reflect the new display scale ranges
Needs to be in a general section of S-100 portrayal and S-101 can refer back to it. Scale information is an association on the feature and no longer an attribute also add SCAMAX. Keep in this location.	
Clause 9.9.2	ENC Scale and Graphical Index
	NOTE: The Graphical Index would have to remain here
Move Graphical Index to S-52 Lite to be used with S-100 ECDIS, move rest to display loading and unloading.	
Clause 9.10.2 (4)	IEC Mariner's Navigational Elements - Can this be removed as it is covered in IEC 62288? NOTE: If agreed, then it will be removed from the entire document.
Remove	
Clause 9.11.4	Other special symbols, National Language Display
	National Language Display is currently optional. Should we make it mandatory that it be displayed in the Pick Report?
	NOTE: TSMAD has come up with a way to make display of names easier.
Make it mandatory	
Clause 9.11.9.2	Light Description Text Strings - Is this necessary, as it is already covered in the CSP or in the Portrayal Catalogue?
Remove reference to C code and clarify the language.	
Clause 9.11.13	Colour Test Diagram - Does this belong in S-101?
Move to new home (S-52 Lite)	
Clause 9.11.14 and 9.11.14.1	Using the Colour test diagram - Does this belong in S-101? Or should it be part of S-64 and the associated test instruction manual.
	NOTE: If this is a test for mariners, I'm not sure they will read S-52 for the test procedures.
Move to new home (S-52 Lite)	
Clause 9.14	- The colour scheme - Is it useful to have this in S-101, even though the values are in the Portrayal Register?
Remove from document	
Clause 9.14.3	Colour Tables - Is it useful to have this in S-101, even though the values are in the Portrayal Register?
Remove from document	
Clause 9.14.4	Alphabetical list of Colour Tokens - Is it useful to have this in S-101, even though the values are in the Portrayal Register?
Remove from document	

09.5A   Display of Isolated Dangers in Shallow Waters   [Ivanov]

KI advocated always displaying isolated dangers, regardless of which side of the safety contour they may fall on. There was no consensus whether or not to accept this approach. Some said it would yield near shore areas that are cluttered with a magenta blob of overlapping isolated danger symbols. Others countered that ships that are compelled to cross the safety contour (which could still be deeper than the safety depth) will not be aware of potential hazards. Another idea shared was to keep the option of

supressing the display of isolated dangers on the shallow side of the safety contour, but have ECDIS automatically display them if the ship crosses the safety contour.

ACTION 15 for HP and KI: Investigate other refinements to the UDWHAZ CSP that could enhance safety without over cluttering the display with isolated danger symbols.

09.6A   New PresLib (v 3.5)   [Harmon]

CH discussed the scope of what should be included in the new edition of Presentation Library. Prior to the discussion, Robert Ward provided an update on the results of the recently distributed IHO ENC/ECDIS Data Presentation and Performance Checks. Over 800 responses were received from users of systems from 18 different manufacturers of ECDIS. Of these, one-third worked acceptably, one-third worked with some minor issues and one-third required "work-around" procedures.

CH noted that in April 2011 the UKHO presented the paper, TSMAD22/DIPWG3-08.8A, "Proposal to Produce a New Version of S-52" and that the working group established and action for the UK to present proposal at HSSC3. At the Nov 2011 HSSC meeting, the UKHO presented the paper, HSSC3-05.3B_rev1, "Proposed Revision of S-52 Presentation Library by UKHO". The paper and the associated briefing that was presented to the HSSC discussed several "ECDIS anomalies," identified the UKHO and several other enhancements based on "significant user feedback."

CH stressed that DIPWG has a lot of work to do to support S-100 portrayal, but at the same time must maintain the ENC portrayal defined by S-52. Some of the proposed changes do not appear to be urgent. Given the limited resources available to do both of these tasks, he suggested that five steps be used to evaluate the UKHO and any other changes proposed for PresLib3.5.

1. Determine which UKHO recommendations are within the purview of DIPWG or TSMAD
2. Prioritize which changes should be part of PresLib3.5 and which can wait for S-101
3. Identify any other urgent changes for PresLib3.5
4. Determine who will analyse each of the issues slated for PresLib3.5 and propose specific changes
5. Identify any non-PresLib3.5 related recommendations that should be supported by DIPWG or TSMAD

HP stated that the IHO test dataset should more accurately reflect what the possible valid results are. When new PresLib is presented new test datasets need to be developed.

DB agreed and stated that industry would prefer a new PresLib as opposed to multiple DAs. When a new PresLib is released, in addition to new test datasets, guidance should be provided to OEMs and mariners that describe the nature of the changes that are being implemented.

CH wondered how often a new PresLib would be called for. Would OEMs really want a new PresLib every year? JP Reminded the group that it took three years or so to get the last PresLib built and approved; it may not be even be feasible to produce a PresLib more often.

A few things that were mentioned as additional candidates for a new PresLib included the ECDIS Chart 1 fixes from the Furuno paper (09.8A, Clarifications and Changes for IHO ECDIS Chart 1) and any changes related to the traffic separation roundabout arrow.

ACTION for 16 TM and CH: Establish DIPWG correspondence sub-working group to prepare proposals for each necessary change for a new Presentation Library by January 2013. Changes may include those identified in the table of UKHO proposed changes shown in paper DIPWG4-09.6A, as well as changes for ECDIS Chart 1, and fixes to the LITDSN C code for the portrayal light characteristics.

ACTION for 17 HE: Determine if there are any changes needed regarding the portrayal or encoding of TSS roundabouts (especially when associated with adjoining ENC cells) and work with CH to prepare a proposal for changes for PresLib3.5.

ACTION for 18 CH: DIPWG chair to distribute draft Presentation Library for wider stakeholder review prior to DIPWG-5.

09.7A   Truncation of Light Period (SIGPER) Values   [Harmon]

CH reported that the LITDSN C source code provided in the S-52 PresLib digital files truncates the fractional portion of the SIGPER light period value. HP offered to review the code and provide a fix.

ACTION for 19 HP: Prepare fix for LITDSN C code to correct the display of SIGPER in light characteristic for incorporation into PresLib3.5.

09.8A   Clarifications and Changes for IHO ECDIS Chart 1   [Peiponen]

The paper from HP discussed changes that need to be made to the paper ECDIS Chart 1 in S-52 to make it match the digital ECDIS Chart 1 files. Some of the changes have already been addressed in existing S-52 deferred amendments.

ACTION for 20 HP: Prepare an amendment to S-52 PresLib to fix any remaining differences between the portrayal of the ECDIS Chart 1 digital files and the paper ECDIS chart 1 graphics in S-52 (that are not addressed by existing deferred amendments). The amendment may be incorporated into the new 3.5 version of the PresLib.

09.9A   Safety Depth Contour & Safety Depth   [Harmon]

09.9B   Setting Safety Depth and Safety Contours in ECDIS   [Ivanov]

CH presented a set of slides that described the different displays presented by ECDIS under various conditions on mariners setting the safety depth equal to, shoaler than, or deeper than the safety contour depth. The consensus of the group was that allowing these two parameters to be set to different values can be confusing to mariners and sometimes lead to ambiguous and potentially dangerous ECDIS displays.

ACTION 21 for KI and HP: Write guidance that will explicitly link the safety depth and safety contour to be treated as one value in S-52 in the next edition of the presentation library. This could include a proposal that will change CSPs and narrative text within S-52 to specify that the safety depth and safety contour depth set by the mariner will be treated as one value in ECDIS.

10. S-101 Development Topics

See TSMAD-24 Minutes

11. General TSMAD Topics

Selected TSMAD topics of particular interest to DIPWG are described below. For the details of other topics in section 11 of the agenda see TSMAD-24 Minutes.

11.1A   See TSMAD-24 Minutes

11.2.A   S-64 – Additional Tests

TR reported that following the IHO creation of a check dataset to identify anomalies in ECDIS displays, HSSC 3 endorsed a TSMAD proposal to expand S-64 to improve its usefulness for both OEMs and type approval authorities. GB reported that the test from the check data set should be included in the new S-64 test dataset.

TM noted that following discussions with OEMs and stakeholders concerning ECDIS anomalies, it is clear that a better set of ENC test data (S-64) is required. Issues identified by OEMs included comments about difficulties relating to its use i.e., it is necessary to switch between different datasets and graphic plots and this makes their use cumbersome. There is also a need for additional tests to improved checks for display and alarm functionality. S-64 is also constrained by the specific checks listed in IEC 61174 and any revision should expand S-64 in order to support a wider range of tests.

HP noted that he strongly support the proposal. It was decided to form a sub-working group of relevant stakeholders to undertake the production of a new edition of S-64. TSMAD Action #3 is, "TSMAD chair to organize a meeting and invite relevant stakeholders to develop a new version of S-64 as identified in TSMAD24-DIPWG4-11.2A."

ACTION 22 for DIPWG: Be prepared to support portrayal related improvements to S-64.

11.3A through 11.6A   See TSMAD-24 Minutes

11.7.A ENC Encoding Bulletins

JW noted that there were a number of discussions and actions recorded from TSMAD-23 (January 2012) that required the development of new or revised Encoding Bulletins and Frequently Asked Questions. These were included at Annex A of the paper, 11.7A, "ENC Encoding Bulletins.

- EBXX - UOC Clause 9.2.1 Anchorage Areas – Approved. **(See DIPWG Action 23)**
- EBXX - UOC Clauses 6.1.2 Rocks which may cover; 6.2.1 Wrecks; and 6.2.2 Obstructions, foul areas and foul ground – Approved.
- EBXX - UOC Clause 3.1.1 Magnetic variation – Approved the wording, but the reference to obtaining magnetic variation data must be added before it can be published.
- EBXX - UOC Clause 5.8 Areas with inadequate depth information – Approved.
- EBXX - UOC Section 2 Cartographic framework. Approved, however it was decided that this needs further investigation. DIPWIG will get feedback from mariners concerning offsetting features for clarity of presentation. **(See DIPWG Action 24)**
- EBXX - UOC Clause 4.7.11 Vegetation – Approved, but also consider an update to fix this in the presentation library so that mangroves are displayed in standard mode. **(See DIPWG Action 25)**
- EBXX - UOC Clause 2.8.1 Wide blank area - Approved.

TSMAD Action for IHB: Include all approved new Encoding Bulletins and FAQs (presented in paper TSMAD24-DIPWG4-11.7A), in the EB section on the IHO web site.

TSMAD ACTION for JW: Prepare a new draft version of the Use of the Object Catalogue for approval at HSSC-4. TSMAD is to review and approve changes by correspondence.

Action 23 for JP: Investigate adding OBJNAM display for ACHARE in S-52 DA or in PreLib3.5 so that new encoding bulletins guidance to double encode SEAARE with ACHARE will not be necessary.

Action for 24 JP: Add a question to the next Mariner Feedback Survey to ask users which symbol they would prefer to be displayed on top when a buoy and a danger (such as a wreck or underwater rock) are co-located. Also ask if the alternative of offsetting the buoy would be preferable.

Action for 25 CH: Investigate means to have Mangrove displayed in standard mode.

11.7B through 11.8A   See TSMAD-24 Minutes

11.9A   Sea Ice Information

AE proposed that future ECDIS systems should be able to include and display multiple product layers and should also be able to include sea ice information. The sea ice community has developed a comprehensive catalogue of sea ice objects, which have been included in the IHO FCD. It was proposed that all sea ice related objects should be removed from S-101 as it is anticipated that comprehensive sea ice information will be made available as an MIO. The possibility of the portrayal of multiple product layers conflicting with each other was also discussed.

Action for 26 TSMAD & DIPWG: Develop guidance that can be used to standardize the loading (display priority) strategy and portrayal for all S-100 based products that will be displayed concurrently with ENC.

12. Any Other Business

Modelling Dates and Time for S-101

TR reported that current S-57 uses ISO 8601-1988 for encoding Date and Time. This system does not include leap years and it's not possible to encode the week number. He noted that this is an old version of the standard and proposed that TSMAD should consider adopting the ISO TC211 19108 standard. HB noted that S-100 dates are in accordance with the Gregorian calendar and it may be necessary to reference the latest version of the ISO 8601 standard which is 2000. He questions whether there is a need for a structured attribute for encoding Time and Date. It was agreed that this needs to be investigated further.

Items for possible IHB funding

BG identified the following items for possible funding:

- S-52 Presentation review – for CSPs
- S-64 – build additional test to better ensure that ECDIS systems portray/behave correctly
- Portrayal Register Review
- S-100 Portrayal
- Portrayal Catalogue Builder
- S-58
- S-101 Test Plan
- S-101 Test Bed
- S-101 Viewer
- Executing the S-101 test plan
- Catalogue builder – dependent of the completion on the catalogue and other work

Robert Ward noted that there is a small amount of contractor support funding available from the IHB. In order for these funds to be used, they will need to be approved by the IHB Directing Committee, followed by the approval of the HSSC. Any proposal will have to be well documented and justified before it will be considered. RW expressed concerns about going out to open tender as the bidding process could be more expensive than the cost of the contract. With this in mind it is recommended that TSMAD / DIPWG should consider projects that need funding very carefully.

ECDIS Anomalies Clarifications, Changes and Test Material Needed

HP provided a presentation and background paper on the work done by an ad hoc group established by the IHO stakeholders' workshop for ECDIS anomalies in Jan 2012. The paper, TSMAD24/DIPWG4-09.6C, "ECDIS Anomalies Clarifications, Changes and Test Material Needed," highlighted some errors and inconsistencies in the Check Data Set (CDS) that was distributed to mariners by IHO along with a questionnaire. Mariners were asked to report back on how their systems portrayed the CDS.

HP pointed out that the TESARE feature with RESTRN = 14, was not a valid encoding and this was reflecting negatively on the ECDIS systems. He noted that there was also an issue relating to the portrayal of the safety contour, which he had reported on in paper TSMAD24/DIPWG4-09.6B, "Observations about Deferred A."

HP requested that an EB be produced to provide additional guidance on the use of RESARE and RESTRN, however JW noted that clear guidance had been included in the Use of the Object Catalogue and thus a new EB was not needed.

HP introduced the issue of safety contour alarms from soundings which are shallower than the surrounding depth area. Meeting informed HP that 2 years ago IHO published an encoding bulletin about the subject. Based on the rules set by the bulletin no soundings remain as reason for safety contour alarm. Australia, USA and Canada indicated that they still have a few soundings that are shallower than surrounding depth area, but that all such cases are in deep water so that they are not dangerous for navigation.

The paper TSMAD24/DIPWG4-09.6C included two questions from the ad hoc ECDSI anomalies group for DIPWG and TSMAD to consider:

1. Which object/attribute combination shall trigger the IMO special condition "areas to be avoided"?

   The group indicated that only the RESARE object with RESTRN = 14 (area to be avoided) should trigger an alarm.

2. Should soundings also be included as part of the safety contour alarm? There are many ENCs in which a sounding is the only available object to warn of a possible hazard for navigation. Based on a study made by the ad hoc ECDIS anomalies group there are about 3000 examples of soundings with an EXPSOU as shallower than the surrounding depth area on existing ENC charts.

   As a result of the EB related to EXPSOU, soundings should not be part of safety contour alarm.

13. Review of Meeting Actions

The action items listed at Annex C were reviewed and approved by the meeting.

14. Date and Venue of Next Meeting

Meeting	Dates	Host	City
TSMAD25	14-18 Jan 2013	JHA	Tokyo, Japan
TSMAD26 / DIPWG5	June 2013	NOAA	Silver Spring, Maryland, USA

15. Elections for Chairs and Vice-Chairs of DIPWG and TSMAD

TSMAD24/DIPWG4   15.1.A   Elections

As this was the first meeting following an International Hydrographic Conference, the Working Groups held elections for chairs and vice-chairs.

Barrie Greenslade (UKHO) and Julia Powell (USA NOAA) were re-elected as Chair and Vice Chair of the TSMADWG. Colby Harman (USA NOAA) was re-elected as Chair of the DIPWG while Mr. Thomas Mellor (UKHO) was elected as Vice Chair.

IHB also arranged for a member of the IHB staff to take on the role of DIPWG Secretary.

16. Close of Meeting

Agenda

Document No Prefix	Agenda Item	Document Title
TSMAD24/DIPWG4	01A	List of Documents
TSMAD24/DIPWG4	01B	List of Participants
TSMAD24/DIPWG4	02A rev8	Joint Agenda for TSMAD-24 and DIPWG-4
Matters Arising from TSMAD-23 (Wellington)		
TSMAD24/DIPWG4	03A	Minutes of the 23rd TSMAD Meeting (Wellington, NZ, January 2012)
TSMAD24/DIPWG4	03B	Status of Actions from TSMAD-23
Matters Arising from DIPWG-3 (Seoul)		
TSMAD24/**DIPWG4**	04A	Minutes of the 3rd DIPWG Meeting (Seoul, RoK, April 2011)
TSMAD24/**DIPWG4**	04B	Status of Actions from DIPWG-3
Matters Arising from HSSC-3 (Monaco)		
TSMAD24/DIPWG4	05A	HSSC Actions for TSMAD
TSMAD24/**DIPWG4**	05B	HSSC Actions for DIPWG
Reports of Activities of Other Working Groups		
TSMAD24/DIPWG4	06.1A	SNPWG (See also document 09.10A MPA Portrayal)
TSMAD24/DIPWG4	06.2A	CSPCWG
TSMAD24/DIPWG4	06.3A	DQWG
TSMAD24/DIPWG4	06.4A	TWLWG
Activities of Other Organizations		
TSMAD24/DIPWG4	07.1A	IALA
TSMAD24/DIPWG4	07.2A	ISO
TSMAD24/DIPWG4	07.3A	IEC
TSMAD24/DIPWG4	07.4A	ETSI (See paper 11.9A - Sea Ice Information)
Continuing Portrayal Topics		
TSMAD24/**DIPWG4**	08.1A	Paper-Chart / Simplified Symbology Consolidation
TSMAD24/**DIPWG4**	08.2A	U.S. Chart No. 1 - Symbols, Abbreviations and Terms used on Paper and Electronic Navigational Charts (ZIP)
TSMAD24/**DIPWG4**	08.2B	
TSMAD24/**DIPWG4**	08.3A	Cursor Enquiry & Pick Reports
TSMAD24/**DIPWG4**	08.4A rev1	SNPWG – Marine Protected Area (MPA) Portrayal
New Portrayal Topics & S-100/101 Portrayal		
TSMAD24/**DIPWG4**	09.1A.0	S-100 Portrayal Development
TSMAD24/**DIPWG4**	09.1A	Portrayal Model and XML Scheme (ZIP)

TSMAD24/**DIPWG4**	09.1B	Proposed new Direction for S-100 Portrayal (See also comments by HB and OW)
TSMAD24/**DIPWG4**	09.1C	Portrayal Proposal Review Discussion (by HA)
TSMAD24/**DIPWG4**	09.2A	Portrayal Register
TSMAD24/**DIPWG4**	09.3A	Portrayal Catalogue Builder
TSMAD24/**DIPWG4**	09.4A	S-101 Portrayal Documentation - Business Rules
TSMAD24/**DIPWG4**	09.5A	Display of isolated dangers in shallow waters
TSMAD24/**DIPWG4**	09.6A	S-52 Presentation Library v3.5 Development Issues
TSMAD24/**DIPWG4**	09.6B	Observations about deferred amendments - A study based on DIPWG 9.8A Clarifications and changes for IHO ECDIS Chart 1
TSMAD24/**DIPWG4**	09.6B	ECDIS anomalies Clarifications, changes and test material needed
TSMAD24/**DIPWG4**	09.7A	Truncation of Light Period (SIGPER) Values
TSMAD24/**DIPWG4**	09.8A	Clarifications and changes for IHO ECDIS Chart 1
TSMAD24/**DIPWG4**	09.9A	Safety Depth Contour & Safety Depth
TSMAD24/**DIPWG4**	09.9B	Setting Safety Depth and Safety Contours in ECDIS
TSMAD24/**DIPWG4**	09.10A	MPA Portrayal
S-101 Development Topics		
TSMAD24/DIPWG4	10.1A	S-101 Comments Phase 3
TSMAD24/DIPWG4	10.1B	S-101 Draft Product Specification Phase 3
TSMAD24/DIPWG4	10.2A rev1	S-101 SI and SD Content paper
TSMAD24/DIPWG4	10.3A	S-101 Impact Study Survey
TSMAD24/DIPWG4	10.3B	S-101 Impact Questions (9 May 2012)
TSMAD24/DIPWG4	10.3C	S-101_Information Paper JLP
TSMAD24/DIPWG4	10.4A	S-101 Test Plan and Requirements
TSMAD24/DIPWG4	10.5A	S-101 – Timelines and Project Plan
TSMAD24/DIPWG4	10.6A	S-101 Impacts to IEC 61174 and IMO PS
TSMAD24/DIPWG4	10.7A	S-101 DCEG Report and S101 Appendix A Draft May 2012
TSMAD24/DIPWG4	10.8A	Attributes to Simplify Portrayal in S-101
TSMAD24/DIPWG4	10.9A	Lights in S-101
TSMAD24/DIPWG4	10.10A	Text Placement in S-101
General TSMAD Topics		
TSMAD24/DIPWG4	11.1A	S-58 Rewrite
TSMAD24/DIPWG4	11.1B	Doc A Reclassified Checks
TSMAD24/DIPWG4	11.1C	Doc B Restructure Syntax
TSMAD24/DIPWG4	11.1D	Doc C Reworded Section 2.2
TSMAD24/DIPWG4	11.2A	S-64 – Additional Tests

TSMAD24/DIPWG4	11.3A	S-102 Comments for Next Edition
TSMAD24/DIPWG4	11.4A	GML Encoding in S-100
TSMAD24/DIPWG4	11.5A	Encoding Features in their True Position
TSMAD24/DIPWG4	11.6A	Change Proposal for S-100 GI Registry and S-99
TSMAD24/DIPWG4	11.7A	ENC Encoding Bulletins
TSMAD24/DIPWG4	11.7B	ENC EB and FAQ Web Pages Revisions
TSMAD24/DIPWG4	11.8A	Proposal to Establish S-10y Product Spec. for Navigationally Significant Surface Currents
TSMAD24/DIPWG4	11.9A	Sea Ice Information
TSMAD24/DIPWG4	AOB 1	Note on Modelling Dates and Times
Elections for Chairs and Vice-Chairs of DIPWG and TSMAD		
TSMAD24/DIPWG4	15.1A	Election Process
TSMAD24/DIPWG4	15.1B rev2	List of Candidates

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List of DIPWG-4 Action Items

Action	Agenda Item	Action For	Action
1	07.4.A	DIPWG	Be prepared to assist ESTI in developing portrayal for ice product when the product reaches an appropriate level of maturity.
2	08.1.A	CH	Create another proposed single set of symbols for marks based on colour filled paper chart symbols, including safe water marks with just two stripes and new default symbols without question marks.
3	08.1.A	JP CH	Prepare survey for mariners to ask if they would want the colour fill for marks based on their purpose or on their actual colour, as well as soliciting feedback of changes proposed by the simplified/paper chart symbol "beauty contest."
4	08.3.A	TM CH	Adapt and reformat the TSMAD22/DIPWG3-08.4A rev1, "Draft Specifications for Implementing the Cursor Enquiry and Pick Report in ECDIS" paper as a draft S-52 Deferred Amendment or as part of PresLib 3.5.
5	08.3.A	TM	Extract the overarching detail for the Pick Report functionality from the TSMAD22/DIPWG3-08.4A rev1, "Draft Specifications for Implementing the Cursor Enquiry and Pick Report in ECDIS" paper for use in the portrayal section of S-100.
6	08.3.A	TM	Explore specification of a standardized means to intimate highlighting objects described in pick reports, including the use of specific colours, percentage of transparency, etc. for S-52 and S-100
7	08.4.A	CH	Review section 7.4.3, "Area Symbolization by a Centred Symbol," of S-52 and make recommendation to SNIPWG regarding a method to avoid overprinting of centred "MPA" and "PSSA" label symbols.
8	08.4.A	EM HP	Make recommendation for shade of green to be used to portray MPA that will not conflict with the portrayal of intertidal areas. Recommendation should include CIE values for Day, Dusk, and Night Colour Tables.
9	08.4.A	TM	Provide guidance discussing which colours are reserved for particular purposes in S-52/S-101 that are not to be used in newly specified S-100 based specifications. The home for this guidance will be determined at a later date.
10	09.1	TM	ACTION for TM: Develop and manage plan for the review of CSPs. In addition to TM, reviewers will include the industry DIPWG members HA, KI, PL, EM and HP, as well as TSMAD Data Classification and Encoding Guide Sub-Working Group members JP, TR and JW. Goal should be to complete the review by the end of June 2012.
11	09.1	KI	ACTION for KI: Develop and manage plan for the compilation of an inventory of S-100 Portrayal Requirements. In addition to KI, other DIPWG members participating will include EK, HP and DB. HA assist in reviewing the final set of requirements assembled by KI from the team's input. Goal should be to complete the inventory by the end of June 2012.

12	09.1	CH	Develop and manage plan for the assessment of the three portrayal strategies against the S-100 Portrayal Requirements. Industry DIPWG members participating will include HA, HB, EK and EM. Goal should be to complete the assessment by the end of July 2012.
13	09.1	CH	E-mail a DIPWG Letter with the results of the assessment of the three portrayal strategies. The letter will include a recommendation for the selection of one approach based on the results of the assessment. DIPWG members will be asked to affirm the recommendation by replying to the e-mail no later than the end of August.
14	09.2A	CH MH	CH will work with IHB to award a small contract to have the S-100 Hydro Portrayal Register data systematically reviewed and corrected.
15	09.5A	HP KI	Investigate other refinements to the UDWHAZ CSP that could enhance safety without over cluttering the display with isolated danger symbols.
16	09.6A	TM CH	Establish DIPWG correspondence sub-working group to prepare proposals for each necessary change for a new Presentation Library by January 2013. Changes may include those identified in the table of UKHO proposed changes shown in paper DIPWG4-09.6A, as well as changes for ECDIS Chart 1, and fixes to the LITDSN C code for the portrayal light characteristics.
17	09.6A	HE CH	Determine if there are any changes needed regarding the portrayal or encoding of TSS roundabouts (especially when associated with adjoining ENC cells) and work with CH to prepare a proposal for changes for PresLib3.5.
18	09.6A	CH	DIPWG chair to distribute draft Presentation Library for wider stakeholder review prior to DIPWG-5.
19	09.7.A	HP	Prepare fix for LITDSN C code to correct the display of SIGPER in light characteristic for incorporation into PresLib3.5.
20	09.8A	HP	Prepare an amendment to S-52 PresLib to fix any remaining differences between the portrayal of the ECDIS Chart 1 digital files and the paper ECDIS chart 1 graphics in S-52 (that are not addressed by existing deferred amendments). The amendment may be incorporated into the new 3.5 version of the PresLib
21	09.9A	KI HP	KI and HP: Write guidance that will explicitly link the safety depth and safety contour to be treated as one value in S-52 in the next edition of the presentation library. This could include a proposal that will change CSPs and narrative text within S-52 to specify that the safety depth and safety contour depth set by the mariner will be treated as one value in ECDIS.
22	11.2.A	DIPWG	DIPWG be prepared to support portrayal related improvements to S-64
23	11.7A	JP	Investigate adding OBJNAM display for ACHARE in DA or in PreLib3.5 so that new EB guidance to double encode SEAARE with ACHARE will not be necessary.
24	11.7A	JP	Add a question to the next Mariner Feedback Survey to ask users which symbol they prefer to be displayed on top when a buoy and a danger (such as a wreck or underwater rock) are co-located. Also ask if the alternative of offsetting the buoy would be preferable.
25	11.7A	CH	Investigate means to have Mangrove displayed in standard mode.

| 26 | 11.9A | DIPWG TSMAD | Develop guidance that can be used to standardize the loading (display priority) strategy and portrayal for all S-100 based products that will be displayed concurrently with ENC. |