

Minutes of DIPWG-1, Ottawa, Canada, 4-8 May 2009

(Including the combined TSMAD/DIPWG meeting issues)

Chairman: Colby Harmon (NOAA)
Vice Chairman: Julia Powell (NOAA)
Secretary (Acting): Richard Coombes (UKHO)

Annexes:

- A – List of Documents
- B – Agenda
- C – List of Participants
- D – Actions and Status arising from CSMWG18
- E – Actions arising from DIPWG-1
- F - AU Comments on DIPWG-1 Papers
- G – Incorrect display of Isolated Danger Symbols in the S-57 data file, AA5C1JKL.000
- H – Outcome of the IMO MSC 86 Meeting – Carriage requirement of ECDIS
- J - Slides presented at the AIS on Aids to Navigation Presentation

Note that references to individuals throughout these Minutes are abbreviated to their initials as listed in **Annex C**.

1. Opening and Administrative Arrangements

*Docs: TSMAD18-01A, List of Documents
TSMAD18-01B, List of Participants
DIPWG1-01A, List of Documents
DIPWG1-01B, List of Participants*

BG opened the meeting by welcoming everyone and then passed the floor over to Dr Savithri Narayanan, CHS Dominion Hydrographer to say a few words. Dr Narayanan welcomed the delegates to Ottawa and continued to say she saw a full attendance representing nations from around the world. She hoped it would be a good and productive meeting and was looking forward to the outcome.

BG then asked DG to provide information on logistics. DG gave a brief overview of the administrative arrangements for the duration of the meeting. He went on to say that there would be an evening organised at the Baton Rouge on Wednesday.

Apologies were received from the following:

Industry	Name	E-mail
Jeppesen Marine	Michael BERGMAN (MB)	Michael.bergmann@jeppesen.com
Furuno, France	Hannu PEIPONEN (HP)	Hannu.peiponen@furuno.fi
SevenCs, Germany	Holger BOTHIEN (HB) Olaf WENTZE (OW)	bo@sevencs.com wz@sevencs.com

A full list of attendees is provided at **Annex C**.

2. Approval of Agenda

Docs: TSMAD18/DIPWG1-02A, Agenda

BG welcomed the nominated DIPWG chairman, Colby Harmon of NOAA. This was the first meeting of the former CSMWG under its new name: Digital Information Portrayal Working Group (DIPWG). The new name reflects the enhanced scope of the future

IHO S-100 standard series in terms of the portrayal of hydrographic information for applications beyond nautical purposes.

The agenda was commonly (TSMAD/DIPWG Chairs) prepared with the help of the former CSMWG chairman, Mathias Jonas (BSH). BG stated this would be a joint meeting but with a different format to last years in South Africa. The agenda will be shared between the two Chairmen and it was hoped that this would work OK. BG said he was impressed with the contributions that have been submitted and went on to say that he hoped that there would be a full day at the end of the week to discuss S-101.

It was agreed that Agenda Item 14 would be moved up to before Agenda Item 8.

It was agreed to add a late submission from BSH relating to the Presentation Library Look-up Table for Obstructions. TSMAD chair suggested that this topic be discussed under AOB. The agenda was approved and a copy of this is provided at **Annex B**.

BG then suggested that everyone around the floor should introduce themselves.

3. DIPWG - Matters arising from minutes of 18th CSMWG [Agenda Item 6]

Docs: DIPWG1-06A, Minutes of CSMWG-18

DIPWG1-06B, Status of actions from CSMWG-18

DIPWG1-06.1A, C&S Maintenance Document No. 7 – May 2009

3.1 Minutes of CSMWG-18

Australia (JW) had noted some discrepancies in the CSMWG18 minutes. This relates to object classes not symbolised in ECDIS more specifically PRDARE [CATPRA]. The attribute values had been incorrectly identified and recorded in the minutes. JW's observations and recommendations are documented in **Annex F**.

Action: RC to amend CSMWG 18 minutes, item 8, for attributes wrongly identified as not capable of being displayed on ECDIS. PRDARE should have the attribute with CATPRA = 2, 3, 4, 7 & 10. SLOGRD should be symbolised when radar conspicuous.

3.2 Actions outstanding from CSMWG-18

Action Items 1, 3 & 4

These actions referred to Encoding Bulletins (EB) that JW was asked to produce. JW advised that he would be providing an update on these during agenda item 10 (TSMAD18-10.1 refers). For the purposes of these minutes a brief report on their status is provided below:

A1. Craft some wording which clarifies a better method of encoding areas of minimal depiction to include pictorial examples. [Create an EB]

The ENC Encoding Bulletin Sub-Working Group was unable to reach consensus on this issue. It was decided at this meeting that a FAQ should be produced that explains the effects these area have on the ECDIS. [Action closed]

Action: JW to develop a FAQ explaining the ramifications of encoding "Areas of Minimal Depiction" for use in ECDIS.

A3. To produce Encoding Bulletins (EB) for DAMCON, GRIDRN, etc.

Encoding Bulletin produced, agreed and published as EB29. [Action closed]

A4. Provide an EB for Strip Lights when encoded by HOs as a navigational aid.

Encoding Bulletin produced, agreed and published as EB30. [Action closed]

Action Item 5

A5. SLOGRD/SMCFAC and point symbols – The look up table entries will be developed to include this feature and issued as a deferred amendment.

This is reference later in section 8.2 of these minutes. [Action closed]

Action Item 7

A7. HP will prepare a paper that proposes possible alternative colours (other than orange) for Mariner Objects.

HP was not present at the meeting to comment. [Action ongoing]

Action Item 8 & 9

A8. MJ to supply JP with a digital version of INT 1 with text explanations to PL mechanisms, e.g. CSPs via FTP. [Action closed]

A9. US are to enhance CHART 1 to include the additional column containing additional references to ENC symbols.

CH reported that he had met with NGA to discuss Chart 1. Unfortunately, the next edition of the US Chart 1, which is hoped to be available by December 2009, will not include references to ENC symbology. However, this work was still ongoing and it was still the US intention to change the format from portrait to landscape and add a couple of extra columns for ENC symbols in the near future. [Action ongoing]

Action Item 12

A12. Colour Palettes - EM will follow up with a colleague who is carrying out similar research in the Aeronautical world.

EM said there was nothing to report as work was still ongoing with the FAA. He was still waiting to hear back from them. [Action ongoing]

Action: EM to monitor ongoing FAA and Light Marine Studies regarding use of additional colours and provide results when they are complete.

Action Item 20

A20. Provide previous documentation relating to rotated text.

It was reported that this was done and that the review of the mechanisms for rotating text would be discussed later in the meeting. [Action closed]

All other Actions

All other action items are annotated in the table at **Annex D** and have been closed with the possible exception of A2 which BG said he would revisit.

4. DIPWG - Report of S-100 activities [Agenda Item 9]

4.1 Creation of "xml application schemas" to support the S-100 portrayal model.

Doc: DIPWG1-09.1A, Portrayal Model

PLB gave a presentation of the work he has carried out since the last meeting in South Africa. He stated that his intention was to attempt to define a Portrayal Model keeping in mind the following points:

- Define the Portrayal Model as a candidate for the IHO Portrayal Register
- Define a Portrayal Model as a profile of the abstract standard ISO 19117
- Define the portrayal of S-101 datasets in the context of ECDIS and IMO Regulations.
- Take the opportunity to improve on some portrayal elements bearing in mind any issues with backward compatibility.

PLB informed the meeting that his main focus had been on consolidating on the S-100 Symbol and Portrayal Model¹.

S-100 Symbol Model (work since CSMWG18)

- Improved the S-100 Symbol Model and relationships between symbol components, e.g. colours, line styles, etc.
- Updated XML schemas in accordance with the S-100 Symbol Model
- Complete the digitising of the S-52 Symbol Library that conforms to the S-100 symbol model using a graphics tool.
- Exported symbols to an XML file that conforms to the XML application schema.
- Find tools that will allow you to search the content of the symbol library, define new symbols, etc.
- Documentation

S-100 Portrayal Model (work since CSMWG18)

- Made improvements to the S-100 portrayal model and the relationships between portrayal components, e.g. rules, filters and portrayal instructions.
- Updated the XML in accordance with the S-100 portrayal model.
- Exported the look-up table records in an XML file that conforms to the AXL application schema.
- Investigated further elements of the portrayal model, e.g. context, portrayal instructions, geometry, etc. and the handling of the display categories.
- Documentation

4.2 Creation of digital symbols described in Addendum 3.4 and export of symbols in XML.

Doc; DIPWG1-09.2A, Portrayal Schemes

PLB followed up his presentation by giving a practical demonstration of a software tool² that can produce and export symbols in XML in support of the Portrayal Model. This included defining and organising feature portrayal rules and symbols.

During the demonstration DV asked if this was based on the current or previous version of ISO 19117. PLB replied that it was based on the earlier version but it was his intention to revisit this. He would amend the S-100 Portrayal Model to fit the new/published version. PLB continued by saying that this would involve a lot of work as the two versions are not similar. DV said that we should go with what we have got. DOB said that he would be interested to know what the actual differences were between the two versions. He added that we cannot wait until all the problems are solved and that maybe we go with what we have.

4.3 Mapping of PL 3.4 look-up tables to "S100 portrayal rules"

PLB also demonstrated the direct mapping of the current S-52 Presentation Library to the S-100 Portrayal Model.

This demonstration focused on the following:

- Creating and adding new symbols
- Creating portrayal rules
- Creating a display catalogue
- Assign to a product specification
- How to overwrite existing mapping rules

¹ The following notes are provided for information and were taken from PLB's PowerPoint presentation; these were not presented as papers at the meeting.

² XML files generated and exported using Altova XmlSpy and U Model.

Comments after the presentation and demonstration:

MJ reflected that we have suffered in the past from inflexible standards and now we are faced with the dilemma of whether we turn to new technology. We are now on the cutting edge with this new technology. PLB has described a Portrayal Model (PM) that is generic and could be applied to ENCs as well as other product specifications. PLB is using this technology to produce the next generation Presentation Library (PL). MJ remarked that PLB's contract expires at the end of the year and for him to finish this work he will need some assistance.

Work Item:

Give PLB assistance from a native English speaker to write the profile for S-100.

MJ said that we could use what we have in S-57 and use this new technology to display it. We could use the portrayal part of S-100 and seek an industry partner playing with both components to produce an S-101 portrayal dataset. MJ continued to say we should not postpone or delay this work because of ISO 19117. We cannot impose too much flexibility on our model and go with the model presented here.

BG congratulated PLB on his work and commented that the demonstration was very interesting and informative. The interfaces produced showed, at a high level, how a symbol can be defined. This is good because this is what the user will see. PLB development has got to the point where it is suitable for our requirements and BG can see no point in waiting for ISO 19117 to be completed. BG commented that there was not much work done on this standard at the last ISO meeting but it may be worth waiting until after the next meeting later this month (June 2009).

DV asked how we finish S-100 without the portrayal model?

BG supported MJ's earlier assertion that PLB needs some assistance from industry. Most of his work will go into S-100 but we need the ability to produce some data.

BG asked if PLB could come up with a rough draft of what is still required? BG remarked that 90% of S-100 was finished and could be updated later to include any additions due to the fact that it is extensible.

The meeting wondered how this fits in with ISO 19117? PLB's work is based on the original version of the standard and tailored for S-100.

BG said that we can only satisfy ourselves it is correct against the standard is when we get some data and test it.

JP: PLB has built the portrayal model registers these now need harmonising with the existing Presentation Library.

BG stated that the Feature Concept Dictionary is far simpler. People should be allowed to experiment ahead of the development of a proposal and submission to DIPWG for consideration. However people should not be too radical as it may not be acceptable to the ECDIS (Performance Standard), BG gave the use of "Pink" as an example.

DV said the register is feeding the S-101 Product Specification via the Portrayal Catalogue.

BG: The whole idea of the registry system is to make the standards flexible. BG asked PLB if there were any basic rules that form the foundation of others and should the rules be registered or should they just be built?

PLB replied that there were two solutions, register the portrayal rules or register the portrayal catalogue

BG said that in that case there may be other products where these rules apply. Sooner or later there will be sufficient rules to create any product.

PLB replied that the intention of his model was to register the rules.

BG commented that we could then make a choice from both registers.

DV: This does not bind S-100 explicitly?

JP stated that there are two types of portrayal registers, one for symbols and one for portrayal rules. These are the storage places from which you can build a portrayal catalogue for different product specifications. JP asked whether the portrayal registers will be hosted by the IHB in which case who will manage it?

DOB said he thought the issue here was where to draw the line between what goes into S-100 and what goes into S-101. The register describes the content, we do not have to be exact, and we just have to describe the registration process.

Work Item:

Establish Portrayal Register Management based on S-101

BG: Keep the words in S-101 to a minimum so that generic references can be made to the registers. These can be stored away for future use or saved for posterity.

Action: CH to make recommendations as to what portion of S-52 should be incorporated into S-101

4.4 Creation of CSPs in XML

Doc: DIPWG1-09.4A, which includes a report from Envitia on XML Encoding of S-52 Conditional Symbology Procedures and some sample CSPs in XML supplied with the report.

JP introduced this agenda item by explaining that the OEMs wanted the Conditional Symbology Procedures (CSPs) in a machine readable format suitable for the S-100/101 environment. It was hoped that sometime in the future the "Nassi-Shneiderman" (NS) diagrams could be retired along with S-52.

JP presented the results of a report produced by Envitia Ltd. This company was contracted to translate existing S-52 CSPs into XML in preparation for the migration from S-52 to S-100. JP reported that this work was only an initial study to see what could or could not be done in XML. It is provided as a straw man to elicit comment and feedback.

JP also mentioned that there were three CSPs that Envitia could not translate to XML or were unclear how the NS diagrams were meant to work. These CSPs were DATCOV02, LITDSN and SLCONS03.

JP respectfully asked if the OEMs could have a look at this and see if the document can be tweaked before the contract expires?

Action: OEMs to review and comment on CSP to XML translation. Review the lookup table to XML translation with special attention to the utility and compatibility of the XML schema used by each.

There was some discussion relating to terminology. Envitia were unclear as to the difference between undefined and unknown. The consensus of the meeting was as follows:

- Unknown = The objects attribute value is not physically known
- Undefined = The value has not been attributed by omission

EK commented that the original reason for using the NS diagrams was because of the complexity of CSPs. We could look at Web Services Execution Language and/or Open Geospatial Consortium, Inc (OGC) which both allow users to put expressions and constraints which are both used in the execution of CSPs.

JP suggested we ask PLB to review Envitia's work as this feeds into his, to see if it works or not. Also ask OEMs to have a critical look too. Before we move forward we have to make sure that we have identified all the issues then review them. Once we have all the answers we can take another look at this.

KI stated that these procedures are OEM specific for which they have their own loading algorithms. The procedure for loading XML data is closely linked to ENC cell loading.

JP: Perhaps there should be guidelines and let the OEMs implement as they want; after all they have the experience.

KI asked how the user will define the safety depth and contour and how will these be managed in XML?

EK asked if we (TSMAD) are going to take the responsibility of telling OEMs how cells will be loaded?

KI stated that he would very much prefer guidance in the standards.

Action: PLB to look at the CSP translations to XML to see how compatible these are with his Portrayal Model. OEMs are kindly invited to look at these as well.

5 DIPWG - Maintenance of Presentation Library [Agenda Item 13]

5.1 Isolated danger problem

Doc: DIPWG1-13.1A

EM presented a report which identified some inconsistencies with the display of isolated dangers in ECDIS Chart 1 symbol plots. This was backed up by some annotated Nassi-Shneiderman diagrams to illustrate the fact.

See **Annex G**, this shows the incorrect display of Isolated Danger Symbols in the S-57 data file, AA5C1JKL.000 against the intended symbolisation in ECDIS Chart 1.

5.2 Failure correction to ECDIS Chart 1

EM informed the meeting that the work carried out above was borne out of a problem identified by Jeppesen relating to PL3.4, Part I, Section 15.2 (ECDIS Chart 1). This more specifically relates to the encoding of ECDIS Chart 1, S-57 file, AA5C1JKL.000. The characteristics (attribution) of the underlying depth area leads to the presentation of some point objects as an isolated danger and therefore their intended symbology is not displayed correctly, i.e. it is displayed by the isolated danger symbol. Furthermore there is an obstruction point object of 0.9m depth which is symbolised in the same way.

MJ said this highlight a piece of work given to an industry partner and relating to INT1. This work has been well received and shows all the ENC symbols, creating an image on the screen corresponding to INT1. MJ confirmed that BSH will amend the cell to remove these effects and send it to Jeppesen for testing before putting it up on the IHO-website.

Action: MJ to arrange for the modification of depth area attribution in ECDIS Chart 1 ENC files to resolve isolated depth area problems.

Action: EM/Jeppesen to review modified ECDIS Chart 1 and files to confirm they display correctly.

5.3 AIS on Aids to Navigation

Doc: DIPWG1-13.4A, IALA Guideline No.XXXX on the establishment of AIS as an AtoN, Ed 1.3

DIPWG1-13.4B, New symbols for AIS-AtoN submitted by Japan

DIPWG1-13.4C, Comment made by Secretary Chart Standardization and Paper Chart Working Group (CSPCWG)

MJ presented the current situation with respect to AIS as an AtoN to the meeting with the comment that it bore little or no relation to "Aids to Navigation".

MJ then went through the various types of AIS AtoN proposed by IALA as referenced in DIPWG1-13.4A. These were presented in a series of slides which also contained the Japanese proposal which was discussed later under this agenda item. The slides are provided at **ANNEX J** for reference.

1. A **"Real (Physical) AIS AtoN"**, is one that is physically located on the AtoN and transmits one or more different types of messages.

MJ commented that IALA had come up with the idea of giving an AtoN an AIS transponder. MJ said that we have a presentation for this and therefore it is possible to display these on an ECDIS. If the crosshair on the AIS symbol representing the real position coincides with the charted position of the buoy, this indicates that the buoy is at the intended place. MJ said he had not come across an ECDIS that displays these features. He continued to say that Denmark had fitted buoys with AIS but no ship could see them on the ECDIS display.

2. A **"Synthetic AIS AtoN"**, of which there are two types:

- A **Monitored Synthetic AIS AtoN** is one that is transmitted as a "Message 21³" from an AIS base station located in the vicinity of the AtoN.

MJ stated that a message is transmitted close by from land to create the same symbol combination as 1 above. Even though the physical arrangement differs from option 1, the provided symbology would give satisfactory information.

- A **Predicted Synthetic AIS AtoN** is one that is transmitted as a "Message 21" from an AIS station located remotely from the AtoN.

MJ said that in these instances it is not known exactly where the actual AtoN is so the "Message 21" only contains the charted position. MJ qualified this by saying he could not see the sense in this.

3. A **"Virtual AIS AtoN"** is transmitted as a "Message 21" for an AtoN that does not physically exist. There are three main types of "Virtual AIS AtoN" as follows:

- Permanent Marking of Obstacles
- Permanent Marking for Navigational Limits
- Temporary Marking

MJ said in the instances of "Permanent Marking" there was only one symbol available for use, a dot circle annotated with AIS. MJ commented that in these cases the ECDIS user would not be able to "pick" the real world object and interrogate it.

MJ stated that a new symbol would be required for "Temporary Marked" virtual AtoNs. However he remarked that these may not be in service for very long so no action may be required.

4. A **"Chained AIS AtoN"** allows for a chain of AIS AtoN stations to communicate from an AIS base station to AIS AtoN stations that are remotely located and unable to communicate directly with the base station.

No comments on this type of AIS AtoN (included for completeness)

MJ stated that the proposal as set out in the IALA document will be coming the way of the IHB/IHO to action/comment.

Attention then turned to a Japanese proposal. MJ said that the Japanese had submitted a proposal to the Maritime Safety Committee (MSC) for a new work programme item on the development of new symbols for AIS AtoN. Their proposal also contained a draft of proposed symbols for Real and Virtual AIS AtoN that they had come up with.

³ Message 21 – identification of AtoN and current geographical position status

MJ said that there was a need to come up with something and not just accept the IALA and Japanese proposals. He continued to say that perhaps we could use overlays to display these types of symbols. He continued to say that the Japanese intended to adopt the IALA proposal and that the purpose of this presentation was to alert the DIPWG that there may be some work ahead for us.

BG observed that these types of symbols are not practical for route planning purposes where you cannot receive the signal. How do we cater for route planning?

JP asked about IEC 62288 (Presentation of navigation-related information on ship borne navigational displays)

MJ stated that he was basing his presentation on IEC 62288.

BG/JP both said that this is turning out to be "Can of Worms".

MJ said it looked as though we need to form another working group.

HE said that the DIPWG would have to await guidance from the IMO.

JW enquired why there is a proposal to depict a buoy symbol for virtual AIS-AtoN when there is no physical feature at the position, as mariners that see this symbol may expect to see a physical feature from their vessel? After all "*Message 21, binary message – transmit type and position of AtoN*" carries the information.

MJ reported that he had received a comprehensive report from Denmark which identified that some systems with either an AIS Station, Radar with AIS input, and/or ECDIS/ECS do not display AIS AtoN. Also leisure craft will not have a clue what is out there. On the other hand Denmark considered AIS AtoNs a good idea as it is expensive to put buoys in the water.

JP thought this was a "wait and see" situation.

MH informed the meeting that the usefulness of these are going to be discussed at the next NAV meeting in July. This will be referred to the IHO in response to the proposal by Japan.

This is intended for charting. MH asked BG why TSMAD didn't consider it appropriate to create a symbol for AIS? If it is on the paper chart shouldn't we have it on digital charts? Should it not be in S-57?

BG replied that the thought at the time was that the symbol would be displayed in the message. Maybe a re-think is in order. In the paper chart world a symbol can be invented and implemented relatively quickly. This is not the case in the digital world. They may invent something else by the time we get anything in place.

SR asked if it were possible to have a symbol that is suppressed during route monitoring but available at the route planning stage?

MJ re-iterated MH comments that NAV in July will pass this to the IHO. There are many ships not wired into AIS AtoN and we need to reconsider our position and put something in our data.

DOB considered you could include a rule in portrayal to transmit to the ship as quickly as the paper chart. He went on to say that the downside to this is what will the mariner think when a new symbol suddenly pops up on the screen.

JP replied that S-100/101 is not scheduled for implementation until 2012 so we will have to address this in S-52 initially.

HA added that maybe we should suppress the AtoN when the AIS symbol is displayed to avoid clutter.

KI: The ECDIS links any references to messages. It is a problem to encode them in an ENC however it is not a problem for the ECDIS. He continued by saying the ideal solution would be a registry in S-101.

RF remarked that buoyed channels move on a regular basis in which case a virtual buoyed area could be used.

JW replied that this option was discussed at the last TEWG.

At this point CH remarked that DIPWG should monitor developments and we should move on.

6. DIPWG - Liaison matters, other than TSMAD [Agenda Item 14]

6.1 ISO – status of ISO 19117

Docs: DIPWG1-14.1A, DIPWG1-14.1B, DIPWG1-14.1C

This agenda item, 14.1 was moved at the beginning of the meeting to ahead of agenda item 8 (TSMAD - S-100 – Final acceptance - post Technical Writer editing task).

The documents, DIPWG1-14.1B and DIPWG1-14.1C, contain meeting reports supplied by HB on the two ISO 19117 project team meetings held since CSMWG18. These contain information relating to the current status of ISO 19117. See also TSMAD18 minutes.

The following is an update provided by BG who attended the subsequent ISO 19117 meeting held in Molde, Norway at the end of May 2009 (after DIPWG-1). His report and recommendations are as follows: ISO is still revisiting the definition of portrayal and so the models will be changing yet again. BG's recommendation is to continue with the programme of work based on PLB Presentation without attempting to map any deviation which may have occurred since we started working with ISO 19117. Work should continue on evaluating XML interpretation of the conditional rules. In reality, this will build a portrayal package which is totally acceptable for use in our domain. BG will continue to liaise with PLB and investigate what content is required in S-100 to support the portrayal register. IHO should continue to monitor the progress of ISO 19117, but should think carefully before any attempt is made to align the two.

7. DIPWG - Strategic Issues [Agenda Item 15]

7.1 IHO - Revision process of S-52 Main document

Doc: DIPWG1-15.1A [Draft S-52 Edition 6]

DIPWG1-15.1B [S-52 revision process]

CH gave a brief background on the reasons surrounding the revision of S-52. He explained that this followed the IMO adoption of the revised ECDIS Performance Standard [MSC.232 (82)] in Dec 2006. With the result that IEC published a new version (edition 3) of IEC61174. This relates to the operational and performance requirements for ECDIS. The publication of the revised versions of the ECDIS PS and IEC61174 meant that it was necessary to update S-52 to take account of changes in the requirement and update document references.

CH informed the meeting that CHRIS20 (Nov 2008) tasked DIPWG to "*Undertake a revision of S-52 including all annexes*". This followed a review of the CSMWG report by the CHRIS committee. The committee endorsed the 3 work items referenced in the report. This work was subsequently carried out by CH, MJ & MH and is described in full in *DIPWG1-15.1B*.

CH pointed out that, for the most part, the numbered references in the new S-52 document directly map to those used in Appendix 2.

CH stated that the other appendices, formerly incorporated as part of S-52, were not related to portrayal and as such were no longer the responsibility of DIPWG. CH provided details of their status as follows:

- Appendix 1 (Guidance on Updating the Electronic Navigational Chart) is now the responsibility of the EUWG (see EUWG TOR A2)
- Appendix 3 (Glossary of ECDIS Related Terms) was already published as Appendix 1 to S-32
- Appendix 4 (IHO ENC Test Data Set) is contained in S-64

CH informed the meeting that the DIPWG Terms of Reference (TOR) have been amended to remove the reference to Appendix 2. This also included bringing the TOR up to date for the working groups and acronyms, i.e. CHRIS/HSSC & CSMWG/DIPWG.

MJ asked that the meeting endorse the revised version of S-52. This was met with full agreement from the floor.

It was pointed out that S-52 comes with a full historic reference (6 pages) dating back to 1986. It was considered that this was the only standard that provides such a detailed history.

For information the IHO issued a circular letter (CL34/2009) dated 19 May 2009 to Member States, this letter invited feedback from stakeholders. Subject to satisfactory feedback from stakeholders, HSSC will consider S-52 Edition 6 for endorsement at its inaugural meeting in October 2009 (HSSC-1).

7.2 IMO - Decision on ECDIS Carriage Requirements (CR)

Doc: CHRIS20 Minutes

The secretary sought clarification on this agenda item from CH, MJ and JP as he did not have any notes on the subject. Neither CH nor MJ could recollect this item being discussed.

MJ seemed to think that this agenda item was included to remind the meeting of the growing importance of ECDIS, with the formal adoption of the ECDIS CR, which was pending at the time of this meeting. The following paragraph is taken from the IMO report to CHRIS20 [CHRIS20-04.2A] and is provided below for information.

Mandatory Carriage Requirements for ECDIS

NAV54 agreed to a phased implementation of a mandatory carriage requirement for ECDIS in addition to the existing requirements for High speed Craft (HSC). The proposed dates for implementation are 2012 – 2018 depending on class of ship and tonnage. NAV54 prepared draft amendments to SOLAS regulation V/19 to reflect the mandatory carriage requirement. The proposed amendments to SOLAS regulation V/19 will now be considered by the IMO Maritime Safety Committee's (MSC) 85th session in November 2008 for approval and then to MSC 86 in May 2009 for adoption.

*For information the outcome of MSC 86 with regard to ECDIS CR is provided at **Annex H**.*

8. AOB [Agenda Item 18]

8.1 Presentation Library Look-up Table Modifications for Obstructions

Doc: DIPWG1-18.1A PL Look-up Table Modifications for Obstructions

MJ presented a paper on behalf of BSH which described two instances in which entries in the look up tables for obstructions and wrecks need to be deleted, modified or added to the Presentation Library to bring S-52 into alignment with accepted conventions for portrayal in INT1.

MJ reported that there were inconsistencies in INT1 symbols K2, K27 & K42 in respect of swept depths carried out by divers. It was proposed to modify CSP SNDFRM03 to accept TECSOU = 4 (found by diver). MJ commented that if this can be tested and found to work it could become a deferred amendment.

MJ further proposed to modify the CSP OBSTRN06 to call up obstruction symbology instead of foul ground (INT1 - K31). Subject to detailed investigation this could also become a deferred amendment.

JP stated that the CSPCWG are looking into the issues and definitions relating to obstructions, foul ground, foul bottom, etc.

EM observed that there was a clear difference between foul ground (safe to navigate) and obstructions (unsafe to navigate).

CH explained that "swept by wire drag" is inaccurate but "swept by diver" is very accurate.

MJ stated that the symbolisation for wire (swept) was the same as for diver (found by). MJ asked JP if we should wait for the CSPCWG to come up with something?

JP said it was more an issue for M4 than S-57.

CH said the reference in INT1 was poorly crafted and could do with improved definitions.

MJ suggested that we should perhaps separate the two issues of wrecks and obstructions. MJ asked if we could agree on the wrecks proposal but wait and see what the CSPCWG come up with for obstructions?

JLD said he was surprised to see the same symbol for swept by wire as for found by diver as these have very different meanings.

CH informed the meeting that the CSPCWG were meeting in December 2009 and recommended that we wait for the outcome.

JP suggested that it might be good idea to submit a paper on the subject to the CSPCWG.

MJ said it was never their intention to give a measure of the depth accuracy. This was more to do with the display and give the same appearance as the paper chart. BSH just wants the paper chart and ECDIS display to have an identical appearance.

JW reported some actions taken at the last CSPCWG in Sydney 2008 as follows:

- Amend term for K31 to 'Foul ground, not dangerous to surface navigation, but to be avoided by vessels anchoring, trawling, etc (e.g. remains of wreck, cleared platform)'.
• Raise the issue of the definitions of a foul in S-57 and S-32 with appropriate WGs.

JW continued by saying that CSPCWG were waiting to see what TSMAD are doing. His report on "fouls/foul ground" began the process to define the term "foul". JW informed the group that it is their intention to move some features from section K to L and this work was ongoing.

BG said that from a TSMAD perspective foul is an attribute of Obstruction and that, perhaps, it should be an object in its own right. BG asked JW if M4 had been ratified.

JW responded by saying it was currently under review.

CH agreed an action to craft a deferred amendment for Wrecks but hold off on creating one for Obstructions. Furthermore we should check with CSPCWG. CH went on to say that JW should write a report outlining our discussions for the CSPCWG.

Action: MJ to create a deferred amendment for Wrecks

Action: JW to draft a report on discussions and present it to CSPCWG for their next meeting in Monaco in December 2009.

8.2 Presentation Library Lookup Tables

An opportunity was taken to amend the PL Look Up tables to reflect discussions at CSMWG18 and this meeting. This includes entries for GRIDRN, PRDARE, SMCFAC and SLOGRD (see **Annex F** for details). Also an amendment was made for a CSP to include the attribute "4" found by diver in respect of wrecks (not obstructions). The document was amended and endorsed by the meeting.

8.3 DIPWG Terms of Reference (TOR)

It was suggested that the TOR be changed to reflect DIPWG's responsibilities for Portrayal in respect of S-101. The new terms should include references to the Portrayal Catalogue and Portrayal Register.

Action: MJ to modify the TOR for DIPWG to also handle the management of the portrayal registers and portrayal sections of S-101. (Submit to HSSC-1 for approval).

9. Date and venue of next meeting

MJ offered to host the next meeting around the same time next year at the BSH in Rostock around May. This was gratefully accepted and it was agreed that the meeting would run consecutively with TSMAD.

10. Close of meeting

BG thanked everyone for their attendance and contributions, commenting that he thought the level of discussions were very good. BG continued by thanking our hosts, CHS, Canada, for organising and hosting the meeting and their kind hospitality.

DV thanked DG for the organisation and Stacy for all her assistance. DV went on to say that he hoped everyone enjoyed their stay and wished everyone a safe journey home.

Meeting closed

**1st DIPWG Meeting
Ottawa, Canada (4-8 May 2009)
[combined with 18th TSMAD Meeting]**

List of Documents

Document No	Document Title
DIPWG1-01A rev.4	List of Documents
TSMAD18_DIPWG1-01B rev.4	List of Participants
TSMAD18_DIPWG1-02A rev.12	Joint Agenda for TSMAD-18 and DIPWG-1
DIPWG1-06A	Minutes of CSMWG-18
DIPWG1-06B	Status of Actions from CSMWG-18
DIPWG1-06.A	C&S Maintenance Document No. 7 ? May 2009
DIPWG1-09.1A	Portrayal Model
DIPWG1-09.2A	Portrayal Schemes
DIPWG1-09.4A	Translation of CSPs to XML [Report] [XML files]
DIPWG1-11.3A	S-101 User Outreach
DIPWG1-13.1A	Isolated danger symbol
DIPWG1-13.4A	AIS as an aid to navigation
DIPWG1-13.4B	AIS AtoN: Paper MSC 86-23-7 from Japan
DIPWG1-13.4C	AIS AtoN: Comment from UKHO
DIPWG1_14.1A	ISO 19117
DIPWG1_14.1B	Report on ISO TC211 Meeting in Copenhagen
DIPWG1_14.1C	Report on ISO TC211 Meeting in Rome, NY
DIPWG1_15.1A	Draft S-52 Edition 6
DIPWG1_15.1B	Revision Process for S-52 Main Document
DIPWG1_18.1A	PL Look-up Table Modifications for Obstructions

DIPWG-1 - AGENDA⁴

1. Opening and Administrative Arrangements

*Docs: DIPWG1-01A List of Documents
DIPWG1-01B List of Participants*

2. Approval of Agenda (*Docs: TSMAD18/DIPWG1-02A Agenda*)

3. DIPWG - Chairman, Vice-chairman and Secretary

6. DIPWG - Matters arising from minutes of 18th CSMWG (*Docs: DIPWG1-06A Minutes of CSMWG-18, DIPWG1-06B Status of actions from CSMWG-18, DIPWG1-06.1A C&S Maintenance Document No. 7 – May 2009*)

9. DIPWG - Report of S-100 activities

9.1. Creation of "xml application schemas" to support the S-100 portrayal model. (*Doc: DIPWG1-09.1A*)

9.2. Creation of digital symbols described in Addendum 3.4 and export of symbols in XML. (*Doc: DIPWG1-09.2A*)

9.3. Mapping of PL 3.4 look up tables to "S100 portrayal rules"

9.4. Creation of CSPs in XML (*Docs: DIPWG1-09.4A Translation of CSPs to XML*)

13. DIPWG - Maintenance of Presentation Library

13.1. Isolated danger problem (*Doc: DIPWG1-13.1A*)

13.2. Failure correction to ECDIS Chart 1

13.3. AIS on Aids to Navigation (*Doc: DIPWG1-13.3A, DIPWG1-13.3B & DIPWG1-13.3C*)

14. DIPWG - Liaison matters other when TSMAD

14.1. ISO – status of ISO 19117 (*Docs: DIPWG1-14.1A, DIPWG1-14.1B, & DIPWG1-14.1C*)

This was moved ahead of agenda item 8 (TSMAD - S-100 – Final acceptance - post Technical Writer editing task)

15. DIPWG - Strategic Issues

15.1. IHO - Revision process of S-52 Main document (*Docs: DIPWG1-15.1A Draft S-52 Edition 6 & DIPWG1-15.1B S-52 revision process*)

15.2. IMO - Decision on ECDIS carriage requirements (*Doc: CHRIS20 Minutes*)

18. AOB

18.1 Presentation Library Look-up Table Modifications for Obstructions (*Doc: DIPWG1-18.1A PL Look-up Table Modifications for Obstructions*)

19. Date and venue of next meeting

20. Close of meeting

⁴ NOTE: TSMAD18 Agenda Items have been removed from this list

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Status of Actions from CSMWG18 (Cape Town 2008)

Action No.	Item No.	Description	Who	Status
1		Craft some wording which clarifies a better method of encoding areas of minimal depiction to include pictorial examples. [Create an EB]	BG/JW	JW to cover this in the Agenda item relating to encoding bulletins.
2		Talk to the UKHO Bathymetric section and try to obtain some high density surveys for trial KI's digital bathymetry proposal.	BG	BG apologised for overlooking this action stating he does not tend to look at DIPWG action lists.
3	18-05.3B	To produce Encoding Bulletins (EB) for DAMCON, GRIDRN, etc.	JW	JW to cover this in the Agenda item relating to encoding bulletins.
4		Provide an EB for Strip Lights when encoded by HOs as a navigational aid.	JW	
5	18-05.1A	SLOGRD/SMCFAC and point symbols – The look up table entries will be developed to include this feature and issued as a deferred amendment.	OW/MJ	MJ to cover this as part of Maintenance Document 7.
6	18-05.6B	Presentation by OW for the Tidal adjustment of depth information – It was agreed to present this as a proposal at CHRIS20.	MJ/OW	Completed
7	18.05.6A	HP will prepare a paper that proposes possible alternative colours (other than orange) for Mariner Objects.	HP	Hannu (Furuno) not present to comment on this.
8	S-52 Symbols	MJ to supply JP with a digital version of INT 1 with text explanations to PL mechanisms, e.g. CSPs via FTP	MJ	Ongoing
9		US to enhance CHART 1 to include the additional column containing additional references to ENC symbols.	NGA & NOAA	
10	Pick Report	RC to collate and provide examples of various ECS/ECDIS pick reports to MJ/JP/EM (copy to OW)	RC	Completed
11	Pick Report	MJ/JP to present a joint proposal at CHRIS20 with recommendations on the minimum display requirements of Pick Reports.	MJ/JP	Completed
12	Colour Palettes	Colour Palettes - EM will follow up with a colleague who is carrying out similar research in the Aeronautical world.	EM	Ongoing
13	S-52 Revision	JP to coordinate the requirements necessary for a revision of the PL in preparation of S-101 portrayal and provide a paper on the subject.	JP/MJ	Completed

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Action No.	Item No.	Description	Who	Status
14		Provide a translation of the report Furuno have conducted on how CSPs can be removed from the PL in XML.	HP	See DIPWG1-09.4A
15	18-04.3A	HP to provide an update of the ENC TDS Plots to reflect some visualisation errors.	HP	Completed
16		CSMWG to provide a Chart Presentation Bulletin (CPB) relating to KI's proposal regarding Contour Labelling.	MJ	Completed – Portrayal Bulletin 8 (PB8)
17		Amend entries 5 & 6 of the CPBs to reflect recent changes.	AP	Completed
18		Review the test instruction manual for S-64 and provide feedback to EK/JP	All	Completed
19		Provide a CPB relating to IEC 62288	MJ	Completed – Portrayal Bulletin 9 (PB9) To be discussed later in the meeting
20		Provide previous documentation relating to rotated text.	OW	Completed
21		Prepare the minutes of the 18 th CSMWG	RC/MJ	Completed
22		Provide a report on the meeting to CHRIS20 to include a proposal that PLB and SevenCs continue their work on portrayal modelling in support of the IHO.	MJ/JP	Completed

TSMAD/DIPWG Actions – Ottawa 2009

Action No.	TSMAD	DIPWG	Agenda Item	Action Item	Status
1	TM		4.1	CHRIS action 16/6.1. Include missing definitions in the FCD.	
2	RF		4.1	CHRIS Action 20/18 - BSHC study on ENC consistency and CHS report are to be reviewed and included in the Annex 1 S-65.	
3	BG/AP		5.1	Cooperate with TWLWG & SNPWG to develop tidal prediction data exchange format.	
4	JP			Open dynamic tides discussions on WIKI	
5	BG		5.8	Change TSMAD terms of reference (TOR) to S-10X standards in general and complete item 3a (iii). Resolved during the meeting. Submit the new TORs to HSSC-1 for approval.	
6		CH/RC	6	Amend CSMWG 18 minutes, item 8 for attributes wrongly identified as no capable of being displayed on ECDIS (See JW notes). PRDARE should have the attribute with CATPRA = 2, 3, 4, 7 & 10. SLOGRD should be symbolised when radar conspicuous.	
7		EM	6.3 CSMWG18 Action 12	Monitor ongoing FAA and light marine studies regarding use of additional colours and provide results when they are complete.	
8	All		7.1	All members are asked to circulate the draft S-102 Bathymetric Product Specification document within their offices and ask for feedback, and for hydrographic experts to contribute to this work. All feedback to be sent to Wade Landers.	
9	BG		7.1	Hold a separate 2 or 3 day S-102 meeting.	
10		CH	7.3	Consider the need for S-52 symbolisation of new pipeline through tunnel and offshore renewable energy installations objects created by CSPCWG (paper charts standardisation).	
11		RC	7.4	Draft a paper to HSSC with EUWG Chairman regarding the future maintenance of S-52, Appendix 1. (Recommendations relating to the extension of this appendix to contain guidance on encoding to supplement the update delivery mechanism. Perhaps under a different S number).	
12	BG		8	Send final technical edit on S-100 out through TSMAD letter for approval by TSMAD. Completed, amalgamated document to be circulated via TSMAD letter as soon as the review is completed. S-100 to be submitted to HSSC-1 for final approval after which it should be sent out to MS via CL for final approval. (BG)	
13			8	Evaluate the status of 19117 at Molde meeting and decide whether to include a profile of 19117 – if yes – include and distribute via another TSMAD letter.	

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14	BG/IHB		8	S-100 to be submitted to HSSC-1 for final approval after which it will be sent out to MS via CL for final approval.
15	BG		8	Clarify/Validate who approves different levels of changes to S-100
16		PLB/ OEMs	9	Review and comment on CSP to XML translation. Lookup table to XML translation with special attention to the utility and compatibility of the XML schema used by each.
17		OEMs	9	Review and comment on the S-100 and S-101 portrayal model.
18			9	Meet with TSMAD chair and others at the UKHO to refine the mechanics and how the portrayal model and CSP translations will be implemented in S-100 and S-101.
19		CH	9	Make recommendations as to what portion of S-52 should be incorporated into S-101
20	JW		10	Forward the EBs and FAQs on new attribute values in S-57 edition 3.1; Objects permitted for Use in ENC; Strip Lights and Update File Sizes, to the IHB for publication on the IHO web site. Co-ordinate further discussion on the EB/FAQ relating to duplicate FOIDs with the intention to publish as soon as possible. Forward the EB on the encoding of wrecks to the IHB for publication on the IHO web site.
21	TP		11.2	Collate all papers from past TSMAD meetings and send to Chairman.
22	BG		11.2	Send out TSMAD letter asking if items on the deferred amendments action list are still valid.
23	BG		11.2	Send paper TSMAD18-11.2C (from Jeppesen) to the chart specifications working group for review and comment. Based on their response, it should be decided which classes / attributes to include in the register.
29	JP		11.2	USA (NOAA) will work with Jeppesen to enter new features and attributes into the Hydro register. Coordinate with CSPCWG regarding additional topmark attribution
30		JP	11.3	Consider nominating a DIPWG member to the hydro register control body
31	KF/BG		11.3	Create S-100 "Help" webpage prototype.
32	BG		11.3	Review David Enabnit's offer to physically host the registry. It may be more appropriate for NOAA to administer the registry, which is currently hosted at the IHB
33		JP	11.3	Share the results of the NOAA Chart/ECDIS user survey outreach.
34	JP		11.3	Establish ad-hoc sub group (including RF, TM, and BG) to develop outreach survey questions, including clear instructions and explanation of the intent of the survey. Compile and distribute the questionnaire.
35	BG/JP	CH	11.3	Refine and Clarify the governance for each component (Standards, Specifications & Registers) of S-100 & S-101 in white paper for HSSC.
36		MJ	13.1/2	Modify depth area attribution in ECDIS Chart 1 ENC files to resolve isolated depth area problems.
37		EM	13.1/2	Jeppesen to review modified ECDIS Chart 1 and files to confirm they display correctly.
38	BG	CH		Establish protocol for the coordination among CSPCWG, TSMAD and DIPWG when feature, attributes, symbols and portrayal rules are created or modified.

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39		MJ	16.2	Modify the TOR for DIPWG to also handle the management of the portrayal registers and portrayal sections of S-101. (Submit to HSSC-1 for approval).
40	BG		16.1	Need to seek the guidance of the Tides and Water level WG concerning the inclusion of tides in S-101.
41	BG			TSMAD to formally request DIPWG to review S-52 to see what parts should be moved into the S-101 product specification.
42	S-101 WG			Define and document the mechanism required for having portrayal developed (by DIPWG), for newly accepted features. (This process needs to be documented somewhere by the S-101 WG).
43	AP		16.2	Create Webpage for information about registries.
44	JW			Need to rewrite rules to have multiple M_NSYS with different ORIENTS and need to figure out where it goes in S-101, the Feature Catalogue and encoding guide. <i>Action to update the S-101 Encoding Guide.</i>
45		MJ/CH	16.3	Action DIPWG for the future adding unknown as an enumeration value to prevent the question marks being displayed on the ECDIS. Current PL to be changed to differentiate between unknown and null. In S-52 we can amend the look up tables to make unknown allowable. Deferred amendment.
46	S-101 WG TM/AP		16.3A	Develop a strategy for tracking entries into the FCD. (S-101 development group. This should be posted on the IHO web site). (TM to make up the web page and AP to include on the IHO server).
47	S-101 WG JP/TM/RF		16.3A	Request the Data Supply and Certification WG to study and provide recommendations on an appropriate mechanism for including updates as part of an exchange set.
48	BG/DOB			Enquire how to include multiple scopes in the S-101 product specification at the ISO/TC211 meeting.
50		JP	16.3A	Include a question in the outreach questionnaire concerning the provision of warning/notification of a change in sounding (vertical) datum in an ECDIS.
51	CHS		17	Develop an information paper for submission to HSSC-1 motivating this to be included as a TSMAD work program item.
52	RS			Robert Sandev to write to the IHB (Capt Robert Ward) noting that he attended the TSMAD 18 meeting and presenting his requirements for an S-100 based product specification. Request that TSMAD provide some assistance/support with the development of their product specification.
53		MJ	18.1	Create a deferred amendment for Wrecks
54		JW	18.1	Draft a report on discussions and present it to CSPCWG for their next meeting in Monaco in December 2009.
55	BG		CSMWG18 Action 2	Talk to the UKHO Bathymetric section and try to obtain some high density surveys for trial KI's digital bathymetry proposal.

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56		HP	6.2 CSMWG18 Action 7	Prepare a paper that proposes possible alternative colours (other than orange) for Mariner Objects.	
57		CH	6.4 CSMWG18 Action 9	US are to enhance CHART 1 to include the additional column containing additional references to ENC symbols.	

CH Colby Harmon
 DOB Doug O'Brien
 JP Julia Powell
 JW Jeff Wootton

RC Richard Coombes
 RF Richard Fowle
 RS Robert Sandev
 EM Eivind Mong

TM Tom Mellor
 AP Tony Pharaoh
 MJ Mathias Jonas
 PLB Pol Le Bihan

AU COMMENTS ON TSMAD18/DIPWG1 PAPERS

TSMAD18 PAPERS:

DIPWG1 PAPERS:

1. DIPWG1 06A: Minutes of CSMWG18:

- Section 8, Object classes not symbolised in ECDIS: Entry for PRDARE stipulates CATPRA = 1, 5, 6, 8, 9. Paper TSMAD17-03.7A, which was referenced during discussions, refers to CATPRA ≠ 1, 5, 6, 8, 9. Suggest that "(CATPRA 1; 5; 6; 8; 9)" be amended to "(CATPRA 2; 3; 4; 7; 10)".
- Section 8, Object classes not symbolised in ECDIS: Entry for SLOGRD stipulates type line. ENC PS only allows point or area for SLOGRD. Paper TSMAD17-03.7A, which was referenced during discussions, refers to area type objects not symbolising in ECDIS. Suggest that "(primitive: line)" be amended to "(primitive: area)".

2. DIPWG1 06.1A; MD07 – V1:

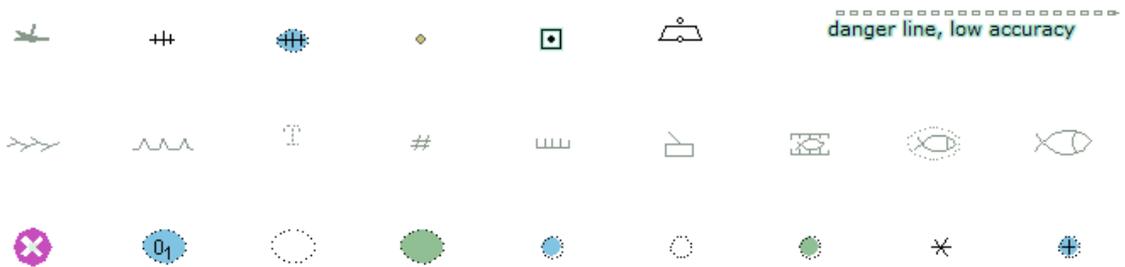
- Clause 11.1.1: Look-up table for paper chart point symbolisation:
 - New entry for GRIDRN is in conflict with CSMWG18 Minutes, Section 8, which states that the decision of the meeting was not to symbolize GRIDRN.
 - Changed entries for PRDARE: CSMWG18 Minutes, Section 8 state that it was agreed to symbolise where CATPRA = 1, 5, 6, 8 or 9. In paper CSMWG17-03.7A, which was used at CSMWG18 during discussions, the non-portrayal of symbols for PRDARE refers to values of CATPRA ≠ 1, 5, 6, 8 or 9 (i.e. values 2, 3, 4, 7 and 10), and these were the values for CATPRA that CSMWG18 agreed should be symbolised.
 - In section 2: Non-Standard Classes, the seventh comment line – should be "chosen", not "choosen".
- Clause 11.1.2: Look-up table for paper chart point symbolization: Same as for clause 11.1.1 above.
- Clause 11.2: Look-up table listing for object of type line:
 - Suggest remove the word "Listing" from the clause heading.
 - In section 2: Non-Standard Classes, the seventh comment line – should be "chosen", not "choosen".
- Clause 11.3.1: Look-up table for areas with symbolised boundaries:
 - New entry for GRIDRN is in conflict with CSMWG18 Minutes, Section 8, which states that the decision of the meeting was not to symbolize GRIDRN.
 - Paper CSMWG17-03.7A refers to SLOGRD of type area with CATSLO ≠ 6 not being symbolised in ECDIS. CSMWG18 Minutes, Section 8 state that the decision at the meeting was to symbolise SLOGRD of type line where it is radar conspicuous. Line is not a valid type for SLOGRD, which may be an error in the Minutes. Based on the decision of CSMWG18, there should be new entries for SLOGRD with CATSLO = 1, 2, 3, 4, 5 and 7 and CONRAD = 1 of type area.
 - In section 2: Non-Standard Classes, the seventh comment line – should be "chosen", not "choosen".

Clause 11.3.2: Look-up table for areas with plain boundaries: Same as for clause 11.3.1 above.

ANNEX G

Incorrect display of Isolated Danger Symbols in the S-57 data file, AA5C1JKL.000

ECDIS Chart 1 (Intended Symbolisation)



AA5C1JKL.000 (Actual Symbolisation)



IMO MSC 86 Report

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

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

Implication:

(Shipbuilders and manufacturers)

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

(Owner/Ship management companies)

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

(Flag Administration & its recognised organisations)

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

(Application) – to ships engaged on international voyages only

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

Slides presented at the AIS on Aids to Navigation Presentation

Current Situation	Charted existing AtoN	Charted existing AtoN equipped with AIS	Charted existing AtoN reported with synthetic AIS ("monitored")	Charted existing AtoN reported with synthetic AIS ("predicted")
Paper Chart per INT 1				
Stand alone ECDIS				
ECDIS actively interfaced to AIS-receiver				

Current Situation	Charted existing AtoN	Charted existing AtoN equipped with AIS	Temporary existing virtual AtoN	Permanent existing virtual AtoN
Paper Chart per INT 1			Presentation?	
Stand alone ECDIS			Coding? Presentation?	Coding? Presentation?
ECDIS actively interfaced to AIS-receiver				
			Message 21 transmits the type and position of AtoN	

Japan's Proposal	Charted existing AtoN	Charted existing AtoN equipped with AIS	Temporary existing virtual AtoN	Permanent existing virtual AtoN
Paper Chart per INT 1			Presentation?	
Stand alone ECDIS			Coding? Presentation?	Coding? Presentation?
ECDIS interfaced to AIS-receiver				
			Message 21 transmits the type and position of AtoN	