

**IHO CSMWG 16
IHB Monaco 29-31 May 2006**

MINUTES (Record of Meeting)

1. Open and welcome

Docs: CSMWG16-1A - Document list
CSMWG16-1B – Participants
CSMWG16-1C Membership of CSMWG

The Chairman, Dr Mathias JONAS (MJ) welcomed those attending, especially those newer members attending for the first time.

Apologies: Gert Buttgenbach (GB), Hannu Peiponen (HP) and Lloyds of London representative.

The Chairman had sent two letters of invitation to each of the type approval authorities around the world. Only one acknowledged attendance (BSH) and one other response from Lloyds of London sent his apologies. However Mr Olaf Gundersrud (OG) from DNV also attended the meeting.

(Member's initials in CSMWG16-1B are used throughout these minutes, after the full entry on the first use of their name. Section numbers in these Minutes refer to the Agenda numbering.

2. Approval of the Agenda

Doc: CSMWG16-2A Rev5-Draft Agenda

The agenda was approved without change and proposed program was adopted being:

Day1: CHRIS17 directions and matters relating to these.
Day 2: Mainly agenda Item 6 and other technical issues
Day 3: Liaison and political issues

3. Issues with the minutes of previous meeting

Doc: CSMWG16-3A - final Minutes of IHO C&SMWG 15th meeting

A typographical error appears in the second action under section 3.2 CSP issues. The reference to the PL should be 3.2 (not 5.2).

The minutes as presented (with this one amendment) were adopted. Action items were addressed in the course of this meeting.

Action 1: amended Minutes for CSMWG15 to be added to the IHO website (MH). (Note a summary of all action items is attached as **Annex B** to these Minutes).

4. Vice-chairman and Secretary

It was approved that Chris Roberts (CR) would act as Secretary for this meeting. There were no volunteers as Vice-Chairman.

5. Upgrade of Presentation Library to S-57 Edition 3.1.1 Extensions

Doc: CSMWG16-5A (CHRIS17 Item 5.2 - Issues from the CHRIS17 meeting affecting CSMWG)

- Actions from CHRIS17 are all covered in the current agenda items.
- Linear depth areas will be considered on Day 2 of the meeting
- Apparent contradiction between action bullets 4 and 9 in CSMWG16-5A. Pol Le Bihan (PB) is actioning bullet point 9 which includes harmonisation with ISO 19117 for any IHO registry/register. PB explained that there is no real contradiction between these action items.

5.1 Status Report S-57 Supplement No1 (Edition 3.1.1)

Doc: CSMWG16-5.1A introduced by CR (attended the TSMAD SubWg10 meeting in Brest 15-19 May 2006 where this draft Doc had been reviewed)

CR: CSMWG16-5.1A Rev1 explains the main changes in the introductory page. Members of the CSMWG are encouraged to register onto the Open ECDIS Forum (OEF) where further editing of the this doc will take place. [After meeting note: it would appear there are problems with the OEF and discussion will most likely now take place on the IHO S-100 Discussion Forum <http://195.217.61.120/smf/> or connect via the IHO website (TSMAD SubWg section)]. Anybody who is interested in being advised of new postings on this site, should let CR know, who is co-ordinating this task initially. He will inform the applicant by email when new substantial postings are made. Members of the CSMWG are very welcome to participate.

PB: final wording will influence portrayal.

MJ: Need to invent new symbology and set an implementation date. Should ideally be part of CSMWG report to CHRIS18.

CR: As another option, CSMWG could introduce a new attribute to drive symbols for IMO approved new objects, or unexpected safety issues, to be immediately displayed on any ECDIS.

Actions 2, 3:

- Working group members (WGM) encouraged to register on the S-100 Discussion Forum and if interested in the S-57 Supplement No1, advise CR.
- CR to update final para to the Introduction of S-57 Supplement regarding existing PresLib rules for display unknown objects, attributes and attribute values.

5.2 Presentation of unknown objects, (specifically S-57 3.1.1 compliant data) in type approved ECDIS devices

Docs: CSMWG16-5.2A
CSMWG16-5.2B
CSMWG16-5.2C
CSMWG16-5.2D
CSMWG16-5.2E
CSMWG16-5.2F

The Chairman advised that as there are many papers on this subject, so please do not repeat issues from other presentations. Please concentrate on new issues not already discussed. What are the consequences and do we need to change the PL?

• BSH tests

Doc: CSMWG16-5.2A presented by Jochen Ritterbusch (JR)

Tested 4 ECDISes of different manufacturers for compliance with PresLib 3.3 and display of unknown objects:

- SAM: warning messages on loading OK. ASL unknown object symbols OK, Query on INFORM attribute pick report possible. BSH used the original IHO Test data Set (TDS) and not the updated version! SAM representative Bernhard Nöggerath (BN) ensured the WG that SAM will display und handle also the updated version correctly.
- Atlas Electronic (NEPTUN): no warning message on loading, but no display of ASL at all nor pickable
- HDW-Hagenuk: ASL not displayed and unpickable unknown objects. RESARE (PSSA) displayed OK
- Furuno (EC 1000C) ASL symbolised but no INFORM

Michael Bergmann (MB): do we require warnings at every instance or only general warning expected?

JR: advised that 1 message as a list would be acceptable.

Julia Powell (JP): some warnings relate to S-58 type checks. No warnings at all is disturbing.

Andrey Vorobjev (AV): no warning is bad, there are ways around this. Warnings no use to a second mate who loads data. Transas makes a list.

MJ: C&S specifications appear to be tight enough. Appears to be an implementation issues with 2 systems. Suggested that Type approval authorities send message to those who did not comply.

JP: concern with systems which didn't display anything.

Olaf Wenzel (OW): we shouldn't make conclusions until we see all the presentations

Konstantin Iwanow (KI): only 1 system displayed the INFORM correctly.

Shawn Freeman (SF): Questioned the mechanism to advise manufacturers about these issues, or is it up to Type Approval Authorities?

MJ: hold this question until the end of the presentation.

Summary:

2 systems behaved as expected, including warnings on loading; but 2 systems did not display as expected.

- **NOAA tests**

Docs: CSMWG16-5.2B (Report)

CSMWG16-5.2D (Images) (JP presented)

JP thanked CR who prepared the written report

JP: University of Southern Mississippi has an ECDIS lab, not full test house, and only looked at full ECDIS systems (as against ECS). Results are in the report.

PB: PL 3.3 has plain boundaries for areas of unknown attributes or attribute values (defaults to object symbology without question marks) so display is correct. Only unknown objects drive the ? symbology

MJ: plain and symbolised boundaries are not well understood in PL.

Summary:

1 did not symbolise as expected, other 3 symbolised pretty much as expected. NOAA plans to write to ECDIS manufacturers pointing out the issues they have.

- **IC-ENC tests**

Doc: CSMWG16-5.2E presented by Richard Coombes (RC):

Remarks:

RC: Other ECDIS reports already covered many of the issues with similar results. Note that Kelvin Hughes used PL **3.2**. Interrogation issues.

OW: Furuno: nothing displayed but could have been very old PL (3.0.1?).

RC: Shows that legacy systems obviously have symbology issues.

MJ: summing up: are our expectations covered by the C&S Specs? Many deviations is the problem. Two aspects: approach ECDIS manufacturers to upgrade to PL **3.3**, but second issue is what is appropriate behaviour of PL **3.3**

- **Unknown object portrayal**

Doc: CSMWG16-5.2F (PB presented)

Remarks:

MJ: confusion starts with terms 'unknown' and 'invalid' which have different meanings. 'Unknown' object can never appear on the ship as not allowed. An object not part of ENC PS is 'invalid' and should be portrayed as an unknown object. 'Unknown' Attribute is when no value is provided. 'Valid' attribute includes an empty value.

BN: There is no specification for the presentation of attributes not included in ENC product specs. In such cases the default symbology must be used according to the PresLib.

MJ: When an object is known, but an attribute is empty (means unknown), should use default symbology but no "?". Known object with new attribute (name), should be 'invalid' and lead to default object symbol. When an attribute is not in PS, C&S Spec says default, but IEC says "?"
Do we change C&S or does IEC change?

PB: Proposes to change IEC.

AV: What picture do we want to see on ECDIS? How do we show it is something new?
 JP: HOs must not introduce new objects or attributes without TSMAD changes to ENC PS.
 MJ: only if an object is unknown, should ? appear – Yes. What happens to the ECDIS which are not upgraded.
 PB: only way for mariner to know is by cursor picking
 MJ conclusion and clarification: INFORM (and/or TXTDSC) is very important and must be provided. Expect an error log for unknown objects, attributes or values. Secondly, they need to be somehow displayed. Thirdly expect pick report to explain what it is. This is an interim method, but encourage manufacturers to upgrade to S-52 PL 3.1.1. Don't see the need for changes to C&S spec.
 BN: future PL add ?. What is 'valid' and 'invalid'? Too complicated to change
 PB: proposed retaining existing PL, change IEC specs
 MJ: should we have "?" with unknown attribute and or unknown value?
 OW: many objects display one way irrespective of attribute. Why should this special case be different. Older systems do not handle this properly. Suggest no action required.
 Dave Turnbull (DT): if HO bother encode something, they want the mariner to investigate.
 MJ: 'invalid' data is different to 'unknown' in PresLib interpretation.
 BN: too much use of INFORM with 'i' symbols in squares on too many objects.
 AV: is "?" symbol intuitive enough to warn mariners about heavy fines in PSSAs. Duplicate with text to emphasise?
 MB: difference between really 'invalid' and something of importance, are 2 separate issues.
 MJ: S-101 data and presentation together is a real possibility. Suggested a letter to TSMAD explaining how C&S handles it today and add to C&S Bulletins and advise IEC.
 JR: supports PB's proposals. What about additional test against TDS. Revise TDS again?
 PB only the updated TDS file has 'invalid' object, attribute and value, by P, L and A..
 JP: will update TDS as required
 SW: summary

- Error Log should report any unknown objects on loading (IEC doesn't test this)
- Invalid Object --> "?" symbology (IEC test)
- Invalid Attribute --> Default symbology for the object (no ? symbology)
- Invalid Attribute Value --> Default symbology for the object (no ? symbology)
- INFORM and or TXTDSC attributes must be available to mariner in every case by Pick Reports

Summary:

- symbolization complies with in the majority of presented test cases with the current rules of Preslib:
 - symbolize unknown object (i.e. non-existent in ENC Product Spec) by question mark
 - symbolize known object with invalid attribute by default symbol for the object class
 - symbolize known object with valid attribute but invalid attribute value by default symbols of the object class/attribute class
- detection of an unknown object and/or invalid attribute and/or invalid attribute value is not recorded in log file by some of the tested devices
- inform attribute and/or text description attribute of an unknown object/known object with invalid attribute and/or invalid attribute value, is not user accessible with some of the tested devices

Conclusion:

Principles in place for symbolisation of unknown objects and known objects carrying unknown/invalid attributes and/or unknown/invalid attribute values are sufficient and, consequently, there is no need to change the rules of the PresLib. However, insufficient logging of the existence of such combinations and bad accessibility of the inform/text description attribute values should cause enhanced requirements for affected ECDIS functionality. This functionality is not within the scope of CSMWG.

Action:

- No need for changes to PresLib rules for symbolisation of unknown objects/known objects with invalid attribute and/or invalid attribute values
- 4. Draft CSMWG bulletin entry to explain that some ECDIS may not be able to display/access attributes of such objects
- 5. Advice TSMAD to mandate coding of INFORM/TXTDC for such unknown objects/known objects with invalid attribute and/or invalid attribute value)
- 6. Check for possible clarification of PL User's Manual that even for unknown objects, INFORM and/or TXTDSC attributes must be accessible for display and picking (potential Deferred Amendment)

- 7. Report proper symbolisation but unsatisfactory logging and picking to CHRIS and stakeholders
- 8. Raise at CHRIS18 for possible IHO letters to CIRM, IEC TC80 and Type Approval Authorities and other stakeholders regarding additional tests of such objects in IEC 61174 for
 - Error logging
 - Access to more details by cursor picking accessing INFORM, TXTDSC
- Proposed enhancements of tests for processing of unknown objects, attributes and attributes values to IEC (see action items of 5.2 above)
- 9. Advice IEC /TC80/WG7 ECDIS to add a test for logging and picking of unknown objects/known objects with invalid attribute and/or invalid attribute value (proposed changes to IEC 61174 6.5.1.c and d contained in CSMWG16-5.2F)

5.2 (cont) Linear depth area issue

Docs: CSMWG16-5.2C
CSMWG16-6.3A

see under 6.3 below

5.3: Proposed symbolisation for new S-57 3.1.1 objects/attributes:

Docs: CSMWG16-5.3A Introduced by OW
CSMWG16-5.3B Introduced by MJ

OW: Questioned whether to discuss the old proposals in the doc or wait till E3.1.1 is more stable
MJ: prefer to discuss at least ESSA, PSSA.

- **ESSA, PSSA symbolisation**

OW: ESSAs and PSSAs – INT1 entries N22 proposes green or magenta. Green tests were not useful on ECDIS screens, especially over intertidal areas and mixed up with radar overlay. Proposed to adopt faint magenta for ECDIS. User needs to know if he is inside a large ESSA, so added centred symbol “ESSA” or “PSSA” in darker but not dominant magenta. Only distinction to other area objects of type “restricted area” is centred symbol.

CR: supports solution as magenta is allowable on paper charts.

JP: entire Baltic Sea is PSSA and supports fainter magenta. Then other magenta of higher restrictions will still stand out.

MJ: centred symbol is helpful to larger areas

DT: INT 1 used the abbreviation along the inside of the limit.

OW: ESSA, PSSA should be in standard display, but switchable OFF by viewing group, identical to other restricted areas.

- **Archipelagic Sea Lane (ASL) symbolisation**

OW: Cold front symbol for area for both plain and symbolized area boundaries and no centred symbol. Archipelagic Sea Lane Axis (ASLXIS) is a simple line style (pecked line). A lot of vertices would cause symbolisation issues (default to solid line for short segments). Good reason to retain simple line. ASL and ASLXIS should be under ‘other’ display group where other routing measures lie.

KI: why adopt a complex area line style.

SF: why not centred feature

OW: always have axis line.

MJ: open seas are within ASL

AV: why ‘other’ display? Routing is in standard or base display in IEC 61174 Annex A. ‘Other’ is usually not on the display

OW: ‘other’ includes routing information. Happy to alter to Standard display.

JP: supports standard display

OW: re complex linestyle, another example is navigational system of marks (area), no centred symbol but the mariner needs to know if he is inside or outside the area. Same issue for ASL, so without centred symbol we need to know which side.

KI: Description of complex line style should become a Deferred Amendment.

- **Generic Object (or New object NEWOBJ) symbolisation:**

OW: grey question marks are obsolete now that TSMAD has tightened the definition. Grey to distinguish from ‘magenta unknown’ to indicate something to the mariner.

CR: explained TSMAD proposal for magenta symbology (see CSMWG16-5.1ARev1)

MJ: don't want to misuse isolated danger symbol for something that is not dangerous. Symbol CTYARE71 exclamation mark in a magenta circle, is a suggestion. Currently used as a centred symbol but could be amalgamated into a line and as centred symbol within area features with magenta pecked line

OW: could introduce an alternative, rather than a single presentation, let encoder decide to display this. Reintroduce the concept of cartographic objects. ENC encoder could select most appropriate symbol from the variety of all PresLib symbols and could hard code it directly into the data by call up as an object attribute. The data could carry the attribute which contains the symbol name. This mechanism was used in S-57 V2 and is still used in Chart 1. The majority of ECDISes should still provide the software routine to access the symbol from the object directly, skipping the lookup table entry.

MJ: CSMWG PresLib Addendum is a comparable doc to INT 1 and would allow encoders to select a suitable symbol from the addendum symbol acronym.

JP: agrees in principal. TSMAD could issue an encoding bulletin in conjunction with CSMWG Bulletin.

BN: Newer systems may not be able to use this approach because this mechanism was prohibited by the end of the nineties.

CR: If acceptance, this generic object should be of very limited use in ENCs and will be tightly controlled by TSMAD.

DT: Even in case of acceptance of this method there should still be a default symbolisation for new objects.

AV: Questioned that if encoders are that clear about the nature of the particular objects, why not use an existing object when, instead of encoding a new object this way? If we adopt this method, how does the mariner know about the special nature of this object as being a new uncommon one? In this case the mariner could not differentiate on screen without pick report.

OW: counter argued that there are lots of other cases where many other objects lead to the same symbology.

CR: supports symbol call up as an direct object attribute, but tightly controlled by TSMAD in conjunction with CSMWG.

BN: We need an indication that there is something new – nothing to encourage pick report, one new symbol never used for anything else to make him pick.

MJ: need for P, L and A versions of the symbology

DT: what about a new colour?

MJ: new colour impossible, magenta is used for important objects.

James Ford (JF): Proposed to invert colours of exclamation mark symbol, white ! on large magenta circle similar to the shape of the isolated danger symbol.

AV: Supports but suggested smaller than isolated danger

MJ: Is any industry willing to test proposed symbols?

KI: centralised same symbol for area, but line?

JP: the solution must not break type approval

MJ: There must be a test for it. Needs to be in updated TDS. Raise at Stakeholder's Workshop after consultation with TSMAD.

AV: can WGM confirm from their background that re-type approval would not be required. DNV and BSH agreed that it would not.

OW: generically, any change to the PL may require an update of type approval.

AV: if CSMWG adopts any new symbol and more involved issues, Transas usually advises test houses of any significant changes, but it's up to Type Approval Authority to decide about amount of re-testing.

JP: if GENOBS drives new type approval, TSMAD will not support its adoption

OW: disagrees, because even S-57 was frozen and is now re-opened, which may lead to re-approval of affected parts anyway.

SF: Proposes dashed line with ! possibility for boundaries.

RC important to have default symbols to allow encoding for urgent issues.

MJ: Suggests to send proposal to TSMAD (default and optional new attribute), discuss finalisation of symbols with CSMWG.

CR: Supports a new attribute SYMNAM to drive symbology, PB: new CSP will be required if adopted, OW agreed

MJ: see if this suggestion gets up first, closes topic.

Decisions:

- Adoption of proposed symbolisation according to CSMWG16-5.3A for
 - ESSA, PSSA (instances of restricted area),

- Archipelagic Sea Lanes including axis line – complex line style for plain and symbolised boundaries made in order to indicate the inside and the outside of the area (no centred symbol used for ASL) – make ASL viewing group standard display
- Rejection of grey question mark
- Proposed symbolisation by magenta surrounded exclamation mark in reverse colour, to be tested for the diversity of point, line and area symbolisation, including plain and symbolised boundaries by 30 June 2006
- Alternative proposal to re-introduce the concept of cartographic objects considered as a possible solution which needs broader acceptance by data encoders and ECDIS Industry.

Action:

- **10.** Carry out exclamation mark testing, compilation of test results and confirm/modify proposal for symbolisation of GENOBJ.
- **11.** Draft proposal of symbolisation of ESSA, PSSA, ASL, ASLXIS and inform TSMAD by 30 June 2006 and report to CHRIS18
- **12.** Draft (immediate) Amendment containing proposed symbolisation for ESSA, PSSA, ASL, ASLXIS by promoting PresLib to Edition **3.4** finally **13.** Put on IHO CSMWG site assuming CHRIS18 adoption of the time line for its introduction

6. Maintenance of Presentation Library - CHRIS17 Item 5.2

6.1 Free access to the paper based description of PL addendum (Symbol Library)

Michel Huet (MH): Reported that the IHB has made this freely downloadable off the IHO website (under publications).

6.2 OEF discussions about S-52 matters since CSMWG15

CR: advised that the OEF has been completely revamped and it does not appear to be possible to locate a history of previous topics discussed. All members of the CSMWG may need to re-register if they cannot recall their username. Emails are no longer sent out to members automatically and members are required to visit the site to see if anything new has appeared. You cannot use the email address cswg@openecd.org to send papers. You have to log onto the forum and paste a topic. The revamped system in its current form is a step backwards but its continued use for this WG is recommended, but those adding issues will need to advise MJ and or CR, so that they can send an email around advising of any new topic or posting. It is suggested that at least automatic email outs be re-instated. It is understood that CHRIS18 will be discussing the IHO support of this forum in the future, especially since the S-100 Discussion Forum has been set up on the IHO website. It should be noted that TSMAD will use the OEF for the new ENC PS discussion and OEMs in particular are encouraged to review this site from time to time. If you would like to be emailed when a new topic is posted for the new ENC PS, please let CR know and he will pass your details to the Chairman of that group.

MJ: New OEF is an HTML application, where contributors make direct comments. All our previous email appears to be lost so we cannot review. Many not comfortable with no email advice and having to look it up. Some other users require email.

MB: technically many brands of software allow users to ask to be notified by email or not. Some in CSMWG expressed the desire to be notified via email.

CR explained that the IHO Committee on the Hydrographic Dictionary (CHD) and S-100 discussion forums both supposedly have email notification.

Action:

MJ: **14.** Raise in CSMWG report to CHRIS18 that discussion forum participants require e-mail notification for new postings on OEF.

6.3 Efficiency of new safety contour detection method (linear depth areas):

Doc: CSMWG16-6.3A, introduced by BN (also discussed with agenda item 5.2 above)

MJ: history: a smarter method was introduced into PL **3.3** at CSMWG15. will eventually avoid the need for HOs to encode linear depth areas.

BN advised of deficiencies in certain circumstances. Safety contour CSP being part of PresLib 3.3 considers the edges of depth areas. Dependency is on coastlines, assumes there is one and breaks safety contour line. Mixes of coastline (COALNE) and shoreline construction

(SLCONS) gives broken safety contours (see example in paper). Unsurveyed area (UNSARE) is possibly a more important issue which also breaks the safety contour.

New issue: if SLCONS exist, it portrays bolder than the safety contour so will be broken for SLCONS.

PB: decision to not draw safety contour was CSMWG decision and excluded coastline.

OW: elegant approach but asked if there was a TSMAD rule that SLCONS (area) always has LNDARE on one side? CR later replied this is the case. Would like to do more tests on BN's new approach.

MJ: 8 weeks limit on testing to report to CHRIS and TSMAD.

CR: would the mariner really be concerned if the safety contour was broken in small places? Indications and alarms would still be triggered.

SF: supports consistency of the safety contour.

Action:

- **15.** OW to conduct tests by end June with PB,
- **16.** Decision on linear depth areas to be discussed between WGM by correspondence after testing.
- **17.** Draft deferred Amendment: corrected CSP as suggested in CSMWG16-6.3A
- **18.** Report to CHRIS18 to advise the continuation of coding of linear depth areas until incorporation of corrected CSP into a new Edition of the PresLib (Edition 3.4 possibly available to be set in force 2008) plus a grace period of another year.

6.4 Review of CSMWG entries on the IHO web site

Docs: CSMWG16-6.4A,
CSMWG16-6.4B, introduced by MJ

MJ: IHO website for CSMWG was in poor shape so CR and MJ recompiled the pages. The main issues were discussed, but not in detail. Could be some refinement following last days of discussion. Part 4 (see paper) was looked at in detail – this will be the location for all current immediate and deferred amendments

MH:

- Thanked authors for trying to gather all the C&S information into one place.
- CSMWG is one of 6 WGs of CHRIS. Objective, ToR, meetings, then Letters, etc have to be presented in a harmonised structure on the OEF. Will need to adapt what's written with various links.
- Some parts already exist elsewhere (eg FAQ). Proposed to merge S-52 as its appendices and annexes are being integrated into one document in the future.
- S-64 reference to be added to ENC/ECDIS area.

MJ: immediate amendments as discussed at CSMWG15 and this meeting will need to be added. Last Deferred amendment was absorbed by PL E3.3 issued in 2004. None since then have been issued. There are some from CSMWG15 and there are more from this meeting. Draft has been commenced (CSMWG16-6.4B). Actual items will be expanded.

- Need to discuss when these DA will come into force.

MH: Where does new PL fit?

MJ: Have agreed symbols for ASL and PSSA, more discussion and test for GENOBJ – to CHRIS18 Sep 2006.

Need further testing – next CSMWG(17) in June 2007 will confirm symbology and issue as an immediate amendment which will lead to PL E3.4 coming into force about 1 Jan 2008 with S-57 Supplement No 1 as joint approach.

AV: what about CHRIS19 in 2007 for final adoption? Could be a number of issues from CSMWG15 and 16 which may require more time to implement by OEMs? Short notice for E3.4 if still applying deferred amendments.

MJ: Discussion of these concerns at CSMWG17 in 2007 could result in Deferred Amendments not being implemented into PL E3.4. New PL E3.4 may also sweep up any deferred amendments

JP: what will be the implementation date for E3.3 and the date that linear depth areas no longer need to be encoded?

MJ: Enforcement of E3.3 and 3.4 would move to 1 Jan 2008 (but all new systems should have complied with E3.3 from 1 July 2005 and ECDIS already type approved as at 1 Jan 2005, not later than 1 Jan 2006)

MB: Enforcement for existing systems.

CR replied that IHO specified 'at the earliest by letters to all holders of PL in 2004 and 2005.

MJ: US may regulate that all ECDIS be upgraded by a certain date

AV: practicality of implementation may be raised at CHRIS18. Transas is 50% upgraded, however many ships cannot be traced after sales and many will not upgrade due to costs. ECDIS is still not mandatory equipment.

MJ: existing systems which do not have paper chart carriage requirement is a more important issue for all ECDIS at sea in general.

JP: Is there any other forum for industry besides the WEND Stakeholders Forum (as the Sep 06 meeting is more for distribution issues)

MB: Ship owners and operators need to be informed

MH: WEND Stakeholders has a draft program but is not restricted to just distribution, Could raise new editions of the PL there and future edition of S-57 as well.

MJ: confirmation of the roadmap above.

JP opinion (not official): S-100 expected by end 2007, NOT a PS. Early 2008 have a PS, not ENC, possibly list of lights in XML or products catalogue. End 2008 possibly ENC PS, but not for implementation until 2012. Then discuss phase in/out S-57 Vs S-101 ENCs. HOs must avoid double encoding in 2 formats. Will need TDS for S-101 and more testing.

AV: PL 3.3 (end 2005) for new ECDIS 2008 PL E3.4 incorporating S-57 Supplement with some Deferred amendments. Early 2008 S-100 released, busy period till 2012 for package for S-101 implementation.

MJ: if S-101 available at end 2008, there will be gap for HOs to start with S-100 compliant data production.

JP: could be many new features and attributes added to new Feature Data Dictionary (FDD), some of which may impact on PL

MJ: CHRIS instruction was for low level maintenance of PL, new features and attributes is not low level. Beyond this low level of work, MJ is not the person to continue leading this work. More for software engineers. No idea how to set up a new PL mechanism to handle S-100 / S-101 issues.

AV: a process will be developed for the implementation and industry advised as early as possible.

MJ: HSSC issues, we must advise what CSMWG will be doing till S-101 is released

OW: this group may not be the group to discuss portrayal ISO 19117 issues.

MH: implementation of PL E3.4 similar procedure 1 Jan 2008 new ECDIS must conform. Existing ECDIS must conform by 1 Jan 2009. At sea? early as possible.
New edition of S-64 based on S-57 Supplement will be required.
IHO will need to submit paper to IMO re publication of PL E3.4 and S-57 Supplement as in 2008 ECDIS will be mandatory carriage requirement for high speed craft. May help to upgrade systems at sea.

MJ: high speed craft agrees with proposed roadmap. Future of CSMWG after 2008? In the past, data and symbols people were separate groups. We`are now working closer. Supports direct links between data and portrayal for future.

Conclusion:

- New symbols to depict new objects/attributes should form an immediate amendment to PresLib.
- Both new Editions of data transfer standard and Preslib should be set in force in a joint action.
- Introduction of S-100 compliant products will lead to completely revised visualisation methods. CSMWG is currently not able to provide expertise to the standardisation of this on product level.
- Development of IHO presentation standard after 2008 has to change its focus away from the PresLib in its current construction to S-101 compatible structures.

Decision:

- members confirmed the structure of CSMWG website advice in general
- draft text will be adapted to the common IHB web site structure
- set up of a new deferred amendment paper including all amendments made at CSMWG15 and CSMWG16
- Proposal for time line of introduction of PresLib Edition 3.4 absorbing all deferred amendments adopted since CSMWG15 and include symbolisation of S-57 Supplement No. 1 in a joint approach with the setting in force of S-57 Edition 3.1.1
- Advice stakeholders for retesting of selected items affected by new symbology with regard to type approval
- Time line to be proposed to CHRIS18 (see Annex A to this document):

End of June 2006:	Propose symbolisation for new Objects/Attributes of S-57 Supplement
September 2006:	Report to Stakeholders meeting and CHRIS18 for adoption
End of 2006	IHB to send out for voting by member states in conjunction with the S-57 Supplement

2007	Industry and HO's to implement and install new software (production and ECDIS software) – time for industry to implement (1 year to set into force)
June 2007	CSMWG17 Stavanger/Norway to adopt new symbols as immediate amendment to Preslib Edition 3.3 becoming new Edition 3.4
2008	In a joint approach set S-57 new Edition 3.1.1 and S-52, App.2 PresLib Edition 3.4 by 1 Jan 2008 into force for: <ul style="list-style-type: none"> ▪ new development ▪ upgrade of existing systems who are carried to fulfil SOLAS carriage requirements - i.e. on ships navigating without paper charts.

As it is suggested to mandate the implementation of both components after 1 Jan 2008 for all new systems to be installed and existing systems which are seriously used to fulfil the SOLAS-carriage requirements with nautical charts, CHRIS18 be requested to discuss the time line and the effects of such an approach to the stakeholders and the strategy to communicate these decisions.

Action:

- **19.** CR and MJ to review CSMWG16-6.4A after meeting decisions and adapt/add to IHO website (MH)
-
- **20.** prepare draft Maintenance Document No 5
- **21.** Report time line proposal for introduction of new symbology jointly with new objects/attributes and attribute values to CHRIS18. CR advise CHRIS Chair of these proposed actions and dates.

6.5 Revision of S-64 plots of test data sets

Docs: CSMWG16-6.5A, introduced by PB
CSMWG16-6.5B,

PB: proposed new series of displays (plots) for the TDS. These are needed because current plots have slight deviations and some errors when compared to the current PL E3.3. New plots however may introduce new errors so require volunteers to check these new plots if adopted. The main change is a method to add remarks to the new plots.

BN: it is always an issue to know if the software is wrong or the data is wrong? Eg position of the centred symbols based on area on display.

PB: Showed plots with examples of remarks. Suggests a new way to add remarks to the plots.

OW: excellent tool for type approval and method to exchange information on their test plots, and as manufacturers also a good tool to communicate with type approval organisations. Currently every type approval is a learning process. Comments could be collected and shared between type approval organisations.

MB: could be used for display anomalies or data set issues and by RENCs. If agreement is reached, eg range is acceptable, could build a knowledge base and make available to others. Could investigate freeware not having to use XML.

PB: used in internet explorer. Software still has minor problems.

MJ: current TDS was made by HP and PB has used a more modern approach to fix them, but he wants someone to test and check his work. Anyone can add comments to these plots, and it may also be used for CSMWG discussion with graphic examples. Could be made available on CSMWG IHO website.

JR: we don't always know where the problem is. Those who comment should also identify there experience.

MR: make free as viewing tool with S-64, or on OEF. PB could be used as a filter for issues and add comments as raised for future CSMWG meetings.

DT: could add thread to discussion

PB: needs people to check this work and the TDS issues.

MJ: slight deviations are a political nightmare for visualisation issues. TDS is under review now and other issues may need to be added.

JP: new TDS for E3.1.1 issues will be required (update of older TDS).

MH: software could placed for download (120 MB) on IHO website. Could write to all members of CSMWG encouraging them to check and reply to PB directly.

Ultimately new edition of the S-64 TDS. Agree to course of action but when will TSMAD have their TDS ready.

JP: TSMAD is yet to fully agree to S-57 E3.1.1 details. Following this final review, NOAA will finalise TDS for release with S-57 Supplement

MJ: the TSMAD review should also correspond with new symbols for E3.1.1, but not likely before CHRIS18. Better to allow another round of comments and testing before we release symbols.

Decision:

- Update plots for new test data for S-57 Edition 3.1.1 and related symbolisation will be adopted
- whole package needs to be considered again for S-57 Supplement, together with a new edition of PL (3.4)

Action:

- **22.** PB, OW, HP to check new plots including display of new objects/attributes and attribute values before publication on IHB website
- **23.** MJ to approach Mike Eaton to contribute to the check of new plots
- **24.** IHB to forward all future claims/comments regarding the plots for TDS to PB for consideration/reply

6.6 Bearing of a directional light:

Docs: CSMWG16-6.6A, introduced by OW

CSMWG16-6.6B, introduced by MJ

CSMWG16-6.6C, introduced by MJ

CR: reported on apparent issue with Australian ENC data with two misaligned lines portrayed.

SF: Thinks it is an issue

OG: Used to calibrate compasses and is an issue

MJ: source for digitisation was Transverse Mercator (TM). Could lead to this effect in Mercator presentation. Most ECDISes use Mercator as portrayal.

CR: S-57 ENCs are projectionless.

OW: most OEMs use Mercator as a default for visualisation.

MJ: BSH use to encode ORIENT as unknown (blank), and let visualisation of PL control the display.

CSMWG16-6.6C uses a work around same as BSH for encoding. Solves the issue. If everyone does this we could remove CSP. Encode SECTR1 and SECTR2.

PB: French use NAVLNE and RECTRC without populating the attribute ORIENT.

MJ: Suggest encoding practice to TSMAD not to use TM as source, use French encoding and not delete CSP for time being.

Decision:

- accept French proposal in CSMWG16-6.6C to encode directional lights as appropriate solution
- Keep the CSP within the PresLib for the time being because there is no guarantee that all encoders will follow this encoding advice

Action:

- **25.** draft ENC encoding Bulletin for TSMAD approval (CR) using French approach
- **26.** Reconsider deletion of CSP next CSMWG (17), add to agenda (CR)

6.7 Display of names of conspicuous objects

(NO doc available)

CR introduced the topic advising that CONVIS is not used by the PL to display text OBJNAM.

SF: visual fixing is still used, their system looks for CONVIS so that he can select them if GPS is lost. Taught in ECDIS classes how to look for CONVIS.

MJ: PL changes appearance of CONVIS (brown text). Text is in 'other' so does not appear often, so does it need to be in Standard display?

SF: text is turned off to reduce clutter. No tools to display text selectively unless OEMs enhance their tools. Suggested a future attribute for justification and orientation of text.

MJ: resolution is at least 5 times better on the paper chart, so text portrayal is very complex, especially with orientation issues (north vs course up). Would not like text driven by CONVIS as there would be more clutter issues.

CR: TSMAD could consider an attribute for importance of text for S-101

PB: PL already has levels of text. Few are considered as important text.

BN: maybe similar to base, standard and other to correspond with importance of text. Eg. Orientation of nav lights

AV: query allows you to get more text. Doesn't support more complications for text display.

MJ: encourages members to raise on S-100 Discussion Forum if they have an interest in this topic.

Action:

- Topic closed

6.8 Symbology for tideways

Doc: CSMWG16-6.8A, introduced by PB

PB reported that tideways cannot be portrayed as areas currently.

CR reported that tideways have recently been considered for M-4, supports PB's proposal to display area features as they are allowed in the ENC PS.

MJ: BSH also support this proposal

KI: Suggested same line symbol as paper chart.

MJ: Blue lines not used in PL and contrast issues with intertidal areas.

KI: PresLib provides line symbol (solid grey line) already

BN: same symbol for boundaries of the area as used for lines

MJ: 3 options

1. Different line styles
2. Both solid lines
3. Both dashed lines

Decision:

- Proposal adopted in principle – use identical dashed lines for line objects and area boundary

Action:

- 27. PB to prepare a new look up table entry as a deferred amendment

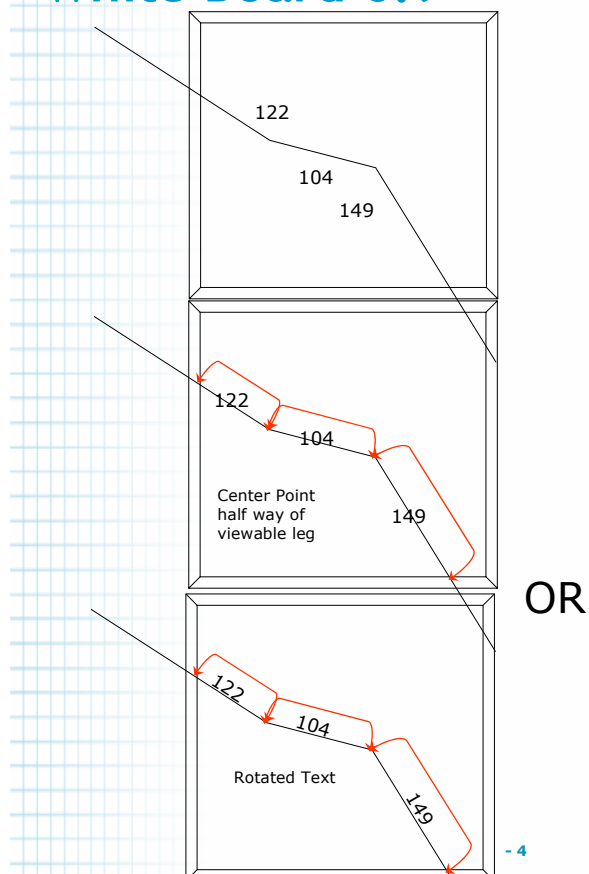
6.9 Display of bearing text along leading lines:

(No doc available)

OW: reported that text placement on NAVLNE can be confusing when the direction is changed with several dog legs (see top diagram below). Lots of text then appears and it is not easy to detect which part of line the text belongs to as it is some distance from the actual line. Text is always horizontal which adds to the problem. This is just an observation, no proposed solution. Would help if text was rotated parallel to the line, but we removed rotating text from the PL some years ago, reason unknown.

MJ: drew a diagram to illustrate the issue (PTO).

White Board 6.9



BN: difficult to have position point for text, could use the centre of the line (leg). Text jumps as screen refreshes.

MB: illustrated what Jeppesen does with flight navigational charts, but locates text on the line.

CR: is this a 'nice to have' for manufacturers to improve on PL or a PL change issue?

PB: could move text to be on the line, but still horizontal (minor change)

MJ: is really for PL, suggested it be raised with more people (eg Mike Eaton) who would be aware of the background to the way it is portrayed and raise again at 2007 meeting.

OW: CSMWG needs to do something as it has been pointed out as an issue in ECDIS training. Suggested OEF discussion

MJ: possible Deferred Amendment to PL, could be done with S-57 E3.1.1 new objects, attributes, could sweep up new deferred amendments as new Edition of PL. Join approach to do many things at one time.

MB: get proposal ready for next meeting, do not leave this issue until then to discuss.

Decision:

- no action at present.

Action:

- 28. MB will start OEF discussion with an aim to have a paper for CSMWG17.
- 29. MJ to get more information and add to agenda for 2007 (CR).

6.10 Pontoons as Group 1 / PERSTA, PEREND issues

Docs: CSMWG16-6.10A, introduced by CR
CSMWG16-6.10B

CR: introduced topic about holes in Group 1 if attributes involving dates or periods were used to display objects and possible move of FLODOC, HULKES and PONTON from Group 1.

OW: issue is floating objects being in group 1 and there is water underneath these features. ENC PS says they are in Group 1 and S-57 is supposedly frozen. Suggested this is a TSMAD issue for S-101. What are the options for now as visualisation date is not currently considered. Currently if PER--- DAT--- attributes controlled the display, we would have 'no data' symbol in

the resulting hole. Explained this would be a major issue as software change would affect Type Approval.

CR: is really an encoding issue as there is data under the feature in the real world. Same issue as BRIDGE. Should be up to HOs to better encode if they were moved from Group1.

RC: not many time variable objects handled on ECDIS, suggested that seasonal pontoon could be handled using INFORM rather than PER---, DAT--- attributes

BN: BSH also has such examples.

OW: proposes to do nothing to PL

MJ; what will mariner think if features disappear overnight? Handle such changes as updates to ENC.

Decision:

- no changes to PL

Action:

30. Draft ENC Encoding Bulletin advising not use PER--- DAT--- for Group 1 objects and forward to TSMAD for adoption (CR).

6.11 Use of FOULGND1 symbol for WRECKS with CATWRK 3

Doc: CSMWG16-6.11A, introduced by MJ

MJ: the variety of symbols on paper charts is far wider than for ENCs. Paper and ENC should have similar portrayal whenever possible.

PB: supports the proposal

CR: supports revised portrayal

OW: in principle supports reducing isolated danger symbols

PB: Solution is already implemented in PresLib, possibly ENC production system does not visualize according to PresLib

MJ: CATWRK means "distributed remains of wrecks". For such attribution the hash symbol should be shown always – even if VALSOU is known!

Decision:

- Proposal agreed in principle

Action:

- **31.** MJ to get more details from the originator of CSMWG16-6.11A
- **32.** PB to check again if symbol is shown for known VALSOU and prepare a new look up table entry as deferred amendment if needed

6.12 Introduction of alternating colours for sector lights
(No doc but refer to www.vega.co.nz)

White Board 6.12 pg1

Port Entry Lights

<http://www.vega.co.nz/default.aspx?Page=29>



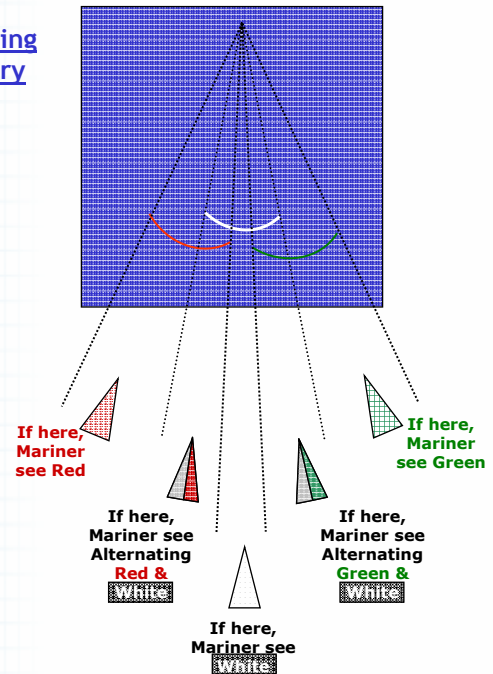
- 5

White Board 6.12 pg2

Port Entry Lights

<http://www.vega.co.nz/default.aspx?Page=29>

Oscillating Boundary



- 6

PB: Port Entry Lights (PEL) have alternating colours over the same sector, but we have no way to symbolise this feature. PEL website was visited to see how they work.

MJ: can TSMAD attribute it – nothing specific in S-57 but possibly encode more sectors, 5 instead of 3 – possible ENC Encoding Bulletin. COLOUR is List attribute

BN: what would presentation do with these overlapping sectors.

JP: will it be handled in S-100? Identify

MJ: need an encoding example

BN: CSP only uses the first of 2 colours, assumes one colour for each sector.

Decision:

- no action at present.
- (examine Encoding Bulletin).
- Possible new attribute for CATLIT (oscillating) for S-100 FDD and S-101

Action:

- **33.** JP and RC to Draft proposed ENC Encoding Bulletin
- **34.** CR forward to TSMAD for adoption and CSPCWG for consideration
- **35.** Add issue to agenda for CSMWG17 (CR)

6.13 Revised CSPs to visualize Soundings over dangers

- Docs CSMWG16-6.13A, introduced by MJ
CSMWG16-6.13B,
CSMWG16-6.13C, introduced by PB
CSMWG16-6.13D

CR presented CSMWG16-13D explaining the background to the M-4 paper chart review, which includes substantial changes to wrecks, including estimating the safest clearance to populate VALSOU for WRECKS objects.

MJ: provided background information about previous changes to the wrecks CSP, especially about the wrecks along the French coast. A formula was used to estimate wrecks based on paper chart specifications, which has been proposed for removal from M-4 in the review of this section.

JP: doesn't follow paper chart specs but does follow S-57 closely and NOAA is unlikely to revisit their wrecks to estimate depths.

Doc: CSMWG16-6.13C

MJ: PB's proposal is the mechanism how to handle wrecks, obstructions and marine farm/culture. We may be able to agree to the mechanism and hold further decisions as pending, until the review the M-4 is approved.

PB: if viewing group for wrecks is OFF, cannot see VALSOU (like soundings). When soundings viewing group is ON, VALSOU for wrecks should also be on.

OG: depth information behind the safety contour is not required.

PB: needs another CSP to display soundings and VALSOU for wrecks. Also needs testing.

SF: Issue if VALSOU is shoaler than the existing seafloor. Sven Herberg's (SH) solution in CSMWG16-6.13A is slightly different but the result is the same.

OW: supports PB's proposal as more elegant and less change.

KI: proposed some changes to the wording within the procedure. Advised to prepare concerns in writing with PB

PB: we need to retain the spirit of other CSPs.

CR suggested we also look at DRVAL1 as a minimum depth to also be shown with VALSOU and SOUNDG.

KI in principle agrees with the method, but more information would be appreciated (diagram).

Decision:

- Agreed in principle to change CSPs as per PB suggestion. Final solution details might be influenced by undergoing revision M-4.
- Deferred amendment not to be issued before M-4 finalised.

Action:

- **36.** CR to report on final IHO agreed M-4 specifications on wrecks.
- **37.** PB (assisted by CR and MJ) to draft a CSP as deferred amendment explaining the special cases of this uncommon CSP in detail.
- **38.** SH to produce the Nassi-Shneiderman-Diagram

6.14 Display priority of UNSARE objects

Doc CSMWG16-6.14A, introduced by PB

PB: reported that PresLib **3.3** has increased the display priority of UNSARE from 0 to 3. Propose to return to the lower display priority of UNSARE to 1, as it is expected for all group 1 objects.

KI: agrees with PB

Decision:

- agreed to make all group 1 objects priority 1

Action:

- **39.** PB (assisted by CR and MJ) to prepare a deferred amendment.

6.15 Display of OBJNAM for LNDARE point features

(No doc available)

PL: reported that the French HO raised this issue. LNDARE has attribute OBJNAM but it is only displayed when an area feature. However when a point the OBJNAM is not shown. French HO encodes LNDRGN to ensure the display of OBJNAM. We should choose either to remove the display restriction for LNDARE point, or restrict the display of OBJNAM for LNDRGN point. Or we could do nothing as it may create clutter.

CR: causes HOs to double encode point features such as islands, which breaks fundamental encoding principles. Suggested handling point and area LNDARE in same way. If adopted, we would need to advise HOs not to encode OBJNAM on LNDRGN of same geometry

SF: mariners require the ability to search for keywords such as island name.

MJ: how popular is LNDARE point used.
JP: numerous point LNDARE at small scale in particular, especially for islands.
PB: change to look up table?
BN: Built up area similar issue (point and area).

Decision:

- agreed to adopt displaying OBJNAM for both point and area objects LNDARE,
- check BUUARE as well (PB)

Action:

- **40.** PB to review look-up table entries for BUUARE and LNDARE and to draft a new entry as deferred amendment if required
- **41.** Prepare proposed ENC Encoding Bulletin for LNDARE and LNDRGN, with consideration for lead time for encoding (PB, CR, JP) .

7. Setup of a symbolization register as part of IHO Registry (CHRIS17 Item 5.2)

Doc: CSMWG16-7A

MJ: introduced history of CHRIS requirement. PB has made this investigation under contract.
PB: Examined reasons why CSMWG may do this and how.
JP: S-100 FDD register holds everything. Then feature catalogue refers to bindings for each product. This group would be responsible for the portrayal rules for ENC, procedures for new symbols and management issues. Can adopt other symbols such as from DGIWG (GeoSym) into our register (DGIWG register does not exist yet, but have 3 groups working on it).
MJ: would DGIWG allow IHO to have a register in their registry?
PB: DGIWG representative has offered to make a presentation to us about what they are doing.
MJ: is the second option a possibility for us to reduce the amount of work.
PB: Yes and we have time to do this as DGIWG is still developing their registry.
JP: DGIWG will probably implement S-52 as AMLs and use S-52 in many cases. Various registers will take from other registers as required.
PB: suggests default portrayal catalogue
CR: default register will get our symbols into the GIS community, especially with topo people for example. They may adopt our depiction of reefs and similar hydro features.
TP (Tony Pharaoh - IHB): worked out some issues with DGIWG last week at an ISO meeting. There are some inconsistencies that will need to be sorted out between IHO and DGIWG (but not many). Thinks PB's approach will have many long term benefits, especially for the GIS industry. IHO has a registry and ICE wants to have their register with IHO.
MJ: a register/registry does not send S-52 to retirement. Is only an extract from S-52.
JP: portrayal catalogue could be machine readable and be sent with the data in accordance with the future ENC PS (S-101)
PB: biggest job is to separate PL (symbols from CSPs, etc). However ISO (19117) approach is reverse to what we have done in the past. Some issues: our PL addresses are not in either ISO nor OGC specifications. Eg we have generic rules for some attributes, like INFORM. The ISO models currently do not fit well with our PL, would make mapping more time consuming. (But ISO 19117 is still in development). Needs close liaison with DGIWG if PB was to undertake the proposed work, and would need extra help.
MJ: PB has completed what was asked for, do we continue with this work?
KI: do we have a schematic to explain how everything fits together?
TP: an application schema will tie all portrayal rules and catalogues together. Register is a management tool for multiple products.
MJ: as summary, extract parts of symbolisation and fundamental portrayal rules into register. Suggests support from NGA or DGIWG.
DT: will discuss with relevant people at NGA

Decision:

- Report prepared by PB under contract endorsed by CSMWG and accepted as meeting the required tasks.
- support PB to continue his work on the matter under contract, in particular:
 - participate in DGIWG work
 - sort out symbols and rules of the PresLib to form a symbol specifications register
 - sort out CSPs and look up table entries of PresLib to form a portrayal/feature rules register
 - draft first version of such registers in ISO compliant form

- investigate three alternative options to host the register of symbols

Action:

- **42.** MJ and MH to expand PB's contract
- **43.** PB to continue consultancy work as outlined in CSMWG16-7A
- **44.** OW to organise assistance for PB for transfer of symbol specifications into ISO language

8. Liason matters

8.1 S-101 new ENC Product Specification:

CR reported that up until now, no real work has commenced in the development of a new ENC PS. Once the structure of S-100 is agreed to, the development of any product specifications may commence with the approval of CHRIS. CHRIS has already approved the development of a new ENC PS with an 'implementation' date of 2012. The release of S-101 is expected to be published much earlier than this to provide OEMs and other software manufacturers ample time to test and become familiar with the new PS. An early publication should also permit other authorities such as IEC and Type Approval Authorities time to prepare new or amended procedures.

It may also be possible to introduce new attributes that would automatically trigger certain symbology. As an example, it may be possible to have an attribute for features regarded as dangerous to surface navigation, that do not have a depth (VALSOU). Such an attribute, if developed, could trigger the isolated danger symbol. There may be other suggestions to help filter the display of text such as OBJNAM, to reduce clutter. In other words, attributes used by CSPs or LUTs to display various information on ECDIS.

There may be other features in S-100 that can be used to enhance ECDIS. For example, collection objects are encoded in ENCs but the PresLib does not use them to any advantage for display purposes. One way to reduce clutter, would be to use the OBJNAM of the collection object, rather than portraying the OBJNAM of each section of a feature such as a traffic separation scheme. It is anticipated that S-100 (and S-101) will include a whole range of collection objects, not the generic ones we currently have. For example, we may adopt a collection object specifically for buoys and their associated objects such as LIGHTS, TOPMAR, AIS, etc. Similarly for trot moorings, measured distance lines, marked dredged channels, marked clearance lines, etc.

In this regard, it may be timely to consider a joint meeting with TSMAD some time in 2007.

Action:

- **45.** WGM encouraged to review new postings on S-100 Discussion Forum for proposed ENC PS (S-101).
- **46.** Consideration in CSMWG contribution to IHO work program 2012

8.2 List of S-57 objects allowable for ENCs that are not currently symbolised:

CR reported that there are apparently some S-57 features (attribute values) that are not symbolised by the PresLib. It is understood that these default to a question mark. As this symbol was designed for 'unknown objects', perhaps CSMWG needs to review all non-symbolised features and assign more appropriate symbols, different to the question mark. How do we ascertain exactly what features are currently not symbolised – and start from there (if approved).

Action:

- **47.** KI to produce such a list
- **48.** To be put on the Agenda of CSMWG17 if needed (CR)

8.3 Synchronized and/or sequential lights:

Doc: CSMWG16-8.3A, introduced by CR

CR: reported that the CSMWG (responsible for the maintenance of the paper chart symbols – M-4), has adopted a new abbreviation 'sync' for both synchronized and sequential lights. S-57 only allows the encoding of synchronized features (STATUS = 15).

MJ: introduced background and does not see any requirement for CSMWG to adopt any special symbol for the variety of signal light combinations.

BN: interest to mariner?

SF: synchronized lights along a channel looks like a runway, could be important.

PB: we have this type of symbol for private light symbol 'priv'

SF: US encode only every other, or third occurrence of lights.

Decision:

- defer to next CSMWG meeting if there is a requirement

Action:

- **49.** Put on agenda for CSMWG17 in 2007 (CR).

8.4 Display of DGPS stations

Doc: CSMWG16-8.4A, introduced by CR

CR: reported that the CSMWG has also adopted a new charted abbreviation for DGPS stations. Is there a need to display on ECDIS. Info will be available by pick report.

MJ: only 2 DGPS in Germany

SF: mariners search for alternate DGPS stations in thunderstorms for example. Proposed ECDIS PS may allow queries to find such features. Would prefer DGPS indicated on SENC

MB: what are further similar requirements eg. Galileo

Decision:

- Create new symbol showing the nature of a radio station as being a DGPS station as a deferred amendment.

Action:

- **50.** PB to create a new symbol and a new look up table entry to become a deferred amendment

8.5 CSMWG contributions to CSMWG Letters during 2005-2006.

Doc: CSMWG16-8.5A

CSMWG16-8.5B, introduced by MJ

MJ: very appreciative of the efforts of the CSMWG Chairman and Sec but the amount of work is difficult to keep up with.

Fairways: Finland wanted a new symbol for the paper chart but CSMWG has difficulties with their proposals, but Fins have now withdrawn their proposal as the development in M-4 does not suit their requirements.

JP: Category of fairway may be useful in future for various uses of fairways.

CR: mentioned such an attribute could be suggested for S-100 FDD if there is a requirement.

Action:

- no action due to Finland's withdrawal

8.5 (cont) Status Report Revision of INT1:

CR: reported that the CSMWG adopted the new BSH version of INT1 as the official IHO English version. Both Spain and France are producing new editions as well for the official IHO Spanish and French versions. The method of advising the world of updates to these official versions of INT1 was discussed last year by the CSMWG, as there are various changes and new symbols being adopted in the review of Part B to M-4. The IHO will promulgate all NtM updates to these 3 versions via a new mechanism, probably IHO CLs and also add them to the IHO website for downloading. The mechanics of this are yet to be developed

Action:

- **51.** Advice IHB to allow wider public access to INT1 updates (IHO CLs have restricted access)

8.6 Presentation of pick report content on ECDIS:

Doc: CSMWG16-8.6A, introduced by MJ

MJ: reported that SNPWG has made additional objects and attributes and will become M-3 Nautical Publications for ECDIS.

SF: gets a lot of complaints for these pick reports. Having to constantly pick diverts attention away from navigation. Concern on over dependence which is difficult to read. Needs to be in 'sailer' talk and easier to use. On paper charts, HOs had control and worded it in a way that was easy to understand. Such information is fundamental to navigation, such as light list descriptions, and is easier to read than S-57 encoding. Now appears to be left with ECDIS manufacturers to sort out. ECDIS has the information, but it is not clear.

MJ: Agreed that it could be done better, but no-one willing to take on this task. More than size and colour of text. Confirms the need but cannot take on this work. Lee Alexander (LA) was going to try and get someone from academia to take on tasks such as this.
NPs making a package, but how to present it is still an issue not addressed.

RC: showed an alternative portrayal of lights on an ECS. As you pass the cursor over the feature, the information automatically appears. Capability can be switched off.

MJ: must be less restrictions on manufacturers and allow more opportunities to enhance their products.

SF: wants standardisation between systems

MH: CHRIS meeting expects report from SNPWG on this topic.

Action:

52. Consider SNPWG report to CHRIS18 to this topic. MJ to follow up LA re presentation issues and report at next CSMWG (17)..

8.7 ECDIS Stakeholders Forum of CHRIS

Doc: CSMWG16-8.7A, introduced by MJ

MJ: Paper is personal notes of Cor Mallie taken at the last stakeholders' meeting held in conjunction with CHRIS17 in September 2005 in Rostock. We have touched on some of his issues already. Main issue is progress of PL and strategy of low level maintenance rather than re-make whole PL. Next Stakeholders' meeting will be at the WEND in 11-15 September 2006 before the CHRIS18 which will be Cairns in Australia 25-29 Sep 2006

Action:

- no comments nor action

8.8 IEC TC80 WG13 – status of development of IEC 62288

(No doc available)

AV: introduced topic. Draft IEC 62288 close to CDV stage, in reasonable shape, needs further testing. Contains comprehensive table of navigational symbols. How will CSMWG interact on with IMO SN CL243? No statement on who is responsible for what? CSMWG could propose additional wording? Needs clear responsibility boundaries between the 2 WGs. Do we need any other features on OEF to get all players to contribute (including CIRM).

MJ: history was that CHRIS decided IHO (CSMWG) would concentrate on chart symbols, while IMO handled Navigational symbols assisted by IEC. CSMWG recommended input for colours for navigational symbols (to avoid conflict and arrange testing) but this was not accepted by IMO and was intentionally removed from IMO SN CL243 because these requirements apply to the whole range of navigation requirements including bicolour displays. Shape of symbols is delivered by IMO, recommendations of dimensions, colour etc will still be proposed to IEC by CSMWG. (This is IHO's understanding). CIRM may contribute to such discussion via the OEF.

KI: CSMWG should not include any related IEC issues as C&S Deferred amendments.

MJ: Colour perception is very difficult to argue.

SF: teaching ECDIS needs to give more relevance to colour.

MH: when will WG7 reconvene After revised ECDIS PS. ISO 62288 may impact

Decision:

None

Action:

- **53.** MJ to review and comment CDV of IEC 62288 from CSMWG position

9. Strategic issues

9.1 Reorganisation of CHRIS as HSSC

Doc: CSMWG16-9.1A, introduced by MJ

MJ: reported from CSMWG view that there will be a major restructure of the IHO committees with some merging. CHRIS will become redundant and HSSC will include all of the technical committees. 3 sub-committees will remain more like the IMO structure. CSMWG will become part of the Symbology and Data Presentation Standards (SDPS) (both paper chart and digital presentations). Should bring the work of the 2 current WGs (CSMWG and CSPCWG) closer together with better co-ordination. Assuming the concept is approved, CSMWG will become the DCPWG (Digital Chart Presentation WG). New structure has been submitted to the SPWG which will submit this to member states for the Conference next year. Anticipate back to back meetings of digital and paper charts WGs under SDPS..

JP: raised concern (NOAA) that TSMAD will be further away from DDCP (old TSMAD) and there is a need for these 2 groups (CSMWG and TSMAD) to continue to work closely together. Not sure how TSMAD will have to report up through SSDS or direct to DDCP. SPWG may discuss this further.

Action:

- 54. MJ to raise concern about DDCP and TSMAD Liaison in his CSMWG Report to CHRIS18

9.2 Contribution to IHO work program 2008 – 2012

Docs: CSMWG16-9.2ACSMWG16-9.2B, introduced by MJ

Conclusion:

CSMWG members stated that their expertise is limited to current model of visualisation of chart content as provided by the PresLib in place. Any continuation in chart display standardisation after 2008 to set up visualisation rules for S-100 compliant products, will require a reconstitution of the affected subordinate body necessary. Those individuals who will take over this task in this time frame should have excellent knowledge about S-100 products as well software technology. The CSMWG in its current form has therefore very limited abilities to contribute to the strategic planning of such a wide horizon based on technology which is not within the core of their expertise.

Action:

- 55. MJ will prepare report based on discussion at meeting as contribution to CHRIS18

9.3 Status of IMO discussion about revised ECDIS PS and future ECDIS carriage requirements

Docs: CSMWG16-9.3A
CSMWG16-9.3B
CSMWG16-9.3C, introduced by MJ

MJ: The request for revision of IMO PS for ECDIS was submitted to the IMO from Greece /IHO. Other submissions were made from Russia and Japan. The Correspondence Group looked at all submissions and the result is paper CSMWG16-9.3B. Still not completely revised, comprises same structure as before, but includes additions taken from S-52 including some appendices (see highlighting). MJ went through the more important additions taken from S-52. Base Display issues: Suggestion to move buoys and beacon to Standard display was rejected. Buoys and beacons are still in base display together with overhead cables, wires, while other nav features are in Standard Display. App. 4: alarm list is now reduced. Draft is on the table for NAV meeting in July 2006. Probably take one more year to be approved.

JP: update numbering doesn't tell the mariner anything? Unless tied to notice is useless.

BN: Issue date far more important.

MJ: see also 4.7: the functional requirement is fine. Backup requirement App 6 is of interest, last para: means that a chart radar screen may fulfil this requirement, not a second ECDIS. MJ supports this approach. Annex 2 was not accepted (new structure) and is there for information how it could be done. From an S-52 perspective, appears to have been a success. (75% adopted). Can now revise S-52 to become one consolidated document, removing appendices, pending final IMO decision.

MH: If accepted Dec 2006, still has to be ratified end 2007 at IMO assembly

Action:

56. If IMO approves revised IMO PS at NAV52, CSMWG will put a revision of S-52 on the agenda of CSMWG17 in 2007.

- This revision would aim to
 - Delete App. 1 Update (absorbed by IMO PS) and App. 3 (absorbed by IHO Hydrographic Dictionary)
 - Merge App.2 with S-52 main document to become the new main document
 - Rename S-52 to 'Colours & Symbols Specifications for ECDIS Presentation Library'
 - Issue as S-52, Edition 3.4 by end of 2007
- **57.** CR add topic to agenda for CSMWG17

10. Other Business

10.1.1 Mini ECDIS for Fishermen:

Doc: CSMWG16-INF01

CR: reported that the paper was supplied for information purposes, but any comments or suggestions could be taken up by this WG if anyone saw a need.

SF: should meet ECS standard, allows more than ECDIS in some cases.

Action:

- no action

10.2 DNC presentation

Doc: CSMWG16-INF02, introduced by DT

DT:DNCs have 4 coverages at 4 different scales. SCAMIN is a main trigger. Adopt a 'Cookey cutting' process with common tile size. NGA has 29 CDs of DNCs. Using SCAMIN reduced CD storage by about half. Interested in increasing the number of usage bands available. SCAMIN was applied to line and area features as well as points. Areas revert to centred point symbol.

MJ: interesting approach for database.

Action:

- no action

11. Next meeting (venue, dates)

MJ: It is proposed to have the next meeting of the CSMWG in June 2007 and have at least one day overlap with TSMAD, preferably in Europe. Action: to be worked out with TSMAD and promulgated on the IHO website under CSMWG and on the OEF.

Decision:

- CSMWG17 at NHS, Stavanger, Norway mid-June (tentative)

Action 58:

- MH add to IHO calendar and CSMWG IHO website.
- Contact TSMAD to have 1 day overlap at end CSMWG
- Consider Hydrographic Conference mid-May in Monaco (MH)

12. Close

The Chairman thanked all those who attended and contributed to discussion

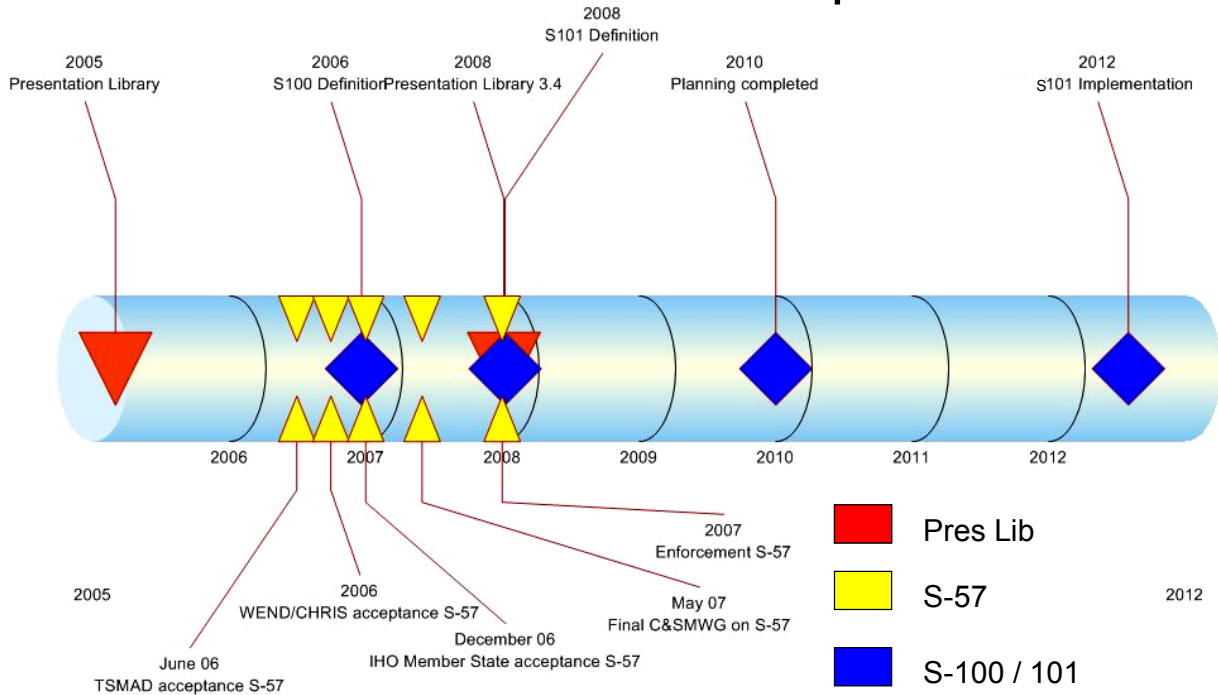
No reply to papers in circulation will be taken as agreement to any proposals.

RC: thanked IHB (MH in particular) for his support and arrangements for the meeting and weekend, etc

MH: thanked Chairman for chairing a difficult topic.

END OF MEETING

Unofficial-Unapproved-Optimistic TSMAD/ CSMWG Road Map Time Line



Action items resulting from the discussions made at the meeting:

Action No	Minutes Ref	Description	Who	By when	Actions made	Date completed
1	3	Amended Minutes for CSMWG15 to be added to the IHO website	MH	End of June 06		
2	5.1	WG Members encouraged to register on OEF and if interested in the S-57 Supplement No1, advise Chris Roberts.	WG members	ASAP		
3	5.1	Update final para to the Introduction to S-57 Supp 1 regarding existing PresLib rules for display unknown objects, attributes and attribute values.	CR, (MJ)	End of June 06		
4	5.2	Draft CSMWG bulletin entry to explain that some ECDIS may not be able to display/access attributes of such objects	CR, MJ	Sept. 06		
5	5.2	Advise TSMAD to mandate coding of INFORM/TXTDC for such unknown objects/known objects with invalid attribute and/or invalid attribute value)	CR, MJ	End of June 06		
6	5.2	Check for possible clarification of PL User's Manual that even for unknown objects INFORM and/or TXTDSC attributes must be accessible for display and picking (potential Deferred Amendment)	CR, MJ	Sept. 06		
7	5.2	report proper symbolisation but unsatisfactory logging and picking to CHRIS18 and stakeholders	MJ	Sept. 2006		
8	5.2	Raise at CHRIS18 for possible IHO letters to CIRM, IEC TC80 and Type Approval Authorities and other stakeholders regarding additional tests for such objects in IEC 61174	MJ	End of June 06		
9	5.2	Advise IEC /TC80/WG7 ECDIS to add a test for logging and picking of unknown objects/known objects with invalid attribute and/or invalid attribute value (proposed changes to IEC 61174 6.5.1.c and d contained in CSMWG16-5.2F)	MJ	Sept. 06		

Action No	Minutes Ref	Description	Who	By when	Actions made	Date completed
10	5.3	Do exclamation mark testing, compilation of test results and confirm/modify proposal for symbolisation of NEWOBJ.	OW, BN, PB,	End of June 06		
11	5.3	Draft proposal of symbolisation of ESSA, PSSA, ASL, ASLXIS to inform TSMAD per 30. June 2006 and report to CHRIS18	MJ	End of June 06		
12	5.3	draft (immediate) Amendment containing proposed symbolisation ESSA, PSSA, ASL, ASLXIS of promoting PresLib to Edition 3.4 finally	CR, MJ, ME	After CHRIS18 approval		
13	5.3	Put on IHO CSMWG site assuming after CHRIS18 adoption of the time line for introduction	CR, MJ	After CHRIS18 approval		
14	6.2	OEF requirement for email advice of new posting – part of Report to CHRIS18	MJ	End of June 06		
15	6.3	Conduct tests for revised method to detect safety contour without linear depth areas prior final decision	OW, PB	End of August		
16	6.3	Decision on linear depth areas to be discussed between CSMWG by correspondence after testing	MJ, CSMWG members	Before CHRIS18		
17	6.3	Draft deferred Amendment: revised CSP for Safety Contour detection	BN, CR, MJ	Before CHRIS18		
18	6.3	Report to CHRIS18 to advise the continuation of coding of linear depth areas until incorporation of corrected CSP into a new Edition 3.4 of the PresLib plus a grace period of another year.	MJ, CR	End of June 06		
19	6.4	Complete review CSMWG Bulletins on IHO web site	CR, MJ, MH	July 06		
20	6.4	Prepare draft Maintenance Document No 5	PB, SH, CR, (MJ)	Ongoing		
21	6.4	Report time line proposal for introduction of new symbology jointly with new objects/attributes and attribute values to CHRIS18	MJ	End of June 06		
22	6.5	Check new plots including display of new objects/attributes and attribute values before publication at IHB website	PB, OW, HP	End of 2006		

Action No	Minutes Ref	Description	Who	By when	Actions made	Date completed
23	6.5	Approach Mike Eaton to contribute to the check of new plots	ME	End of June 06		
24	6.5	IHB to forward all future claims/comments regarding the plots to PB for consideration/reply	Ongoing	Ongoing		
25	6.6	Draft proposed ENC Encoding Bulletin for Dir Lts and forward to TSMAD for adoption	CR, JP, (MJ)	July 06		
26	6.6	Reconsider deletion of CSP next CSMWG (17)	CR (agenda)	June 07		
27	6.8	Prepare a new look up table entry for Tideway area to become a deferred amendment	PB, (MJ)	Before CHRIS18		
28	6.9	Start OEF discussion with an aim to have a paper for CSMWG17 (advise CR when posted).	MB	June 06 + ongoing		
29	6.9	Add to agenda next CSMWG (17)	MJ, CR	June 07		
30	6.10	Draft ENC Encoding Bulletin advising not use PER--- DAT--- for Group 1 objects and forward to TSMAD for adoption	CR, JP, (MJ)	Before CHRIS18		
31	6.11	MJ to get more details from the originator of CSMWG16-6.11A	MJ	End of June 06		
32	6.11	PB to check again if symbol is shown for known VALSOU and prepare a new look up table entry as deferred amendment if needed	PB	Before CHRIS18		
33	6.12	Draft ENC Encoding Bulletin for PEL lights	JP, RC	Before CHRIS18		
34	6.12	forward to TSMAD for adoption and CSMWG for consideration	CR	Before CHRIS18		
35	6.12	Add to agenda next CSMWG (17)	MJ, CR	June 07		
36	6.13	Await final M-4 specifications on wrecks and report to WG members	CR	End of 2006		
37	6.13	Draft revised CSP as deferred amendment explaining the special cases of this uncommon CSP in detail.	PB, CR, (MJ)	Before CHRIS18		
38	6.13	Produce the Nassi-Shneiderman-Diagram	SH	Before CHRIS18		
39	6.14	Draft deferred amendment	PB, (CR, MJ)	Before CHRIS18		
40	6.15	review look-up table entries for BUUARE and	PB, CR	Before		

Action No	Minutes Ref	Description	Who	By when	Actions made	Date completed
		LNDARE and to draft a new entry as deferred amendment if required	(MJ)	CHRIS18		
41	6.15	Draft ENC Encoding Bulletin (with lead time for implementation) for BUUARE and LNDGRN object names	PB CR, JP, (MJ)	Before CHRIS18		
42	7	Expand contract	MJ, MH	End of July 06		June 06
43	7	Continue consultancy work as outlined in CSMWG16-7A	PB	Ongoing		
44	7	to organise assistance for PB for transfer of symbol specifications in ISO language	OW, PB, (MJ)	End of June 06		
45	8.1	New ENC PS (S-101) on S-100 discussion forum for input, ideas	Members	Ongoing		
46	8.1	Consideration in CSMWG contribution to IHO work program 2012	MJ	End of June 06		
47	8.2	List of S-57 objects not symbolised by PresLib	KI	Before CHRIS18		
48	8.2	Non-symbolised objects on the Agenda of CSMWG17 if needed	CR (agenda)	2007		
49	8.3	Sync/Seq lights defer to next CSMWG (17) if there is a requirement	CR (agenda)			
50	8.4	Create a new symbol and look up table entry for DGPS station to become a deferred amendment for PresLib and addendum	PL, SH PL, (MJ)	Before CHRIS18		
51	8.5	Advice IHB to allow wider public access to INT1 updates	MH	Ongoing		
52	8.6	Consider SNPWG report to CHRIS18 - follow up LA re help with presentation issues and report at next CSMWG (17).	MJ	Sept. 06/June 07		
53	8.8	MJ to review and comment CDV of IEC62288 from CSMWG position	MJ	If CDV becomes available		
54	9.1	Raise concerns with CHRIS about HSSC reorganisation and need for TSMAD and CSMWG to work even more closely together	MJ	End of June 06		

Action No	Minutes Ref	Description	Who	By when	Actions made	Date completed
55	9.2	prepare report based on discussion at meeting as contribution to CHRIS18	MJ	End of Oct. 06		
56	9.3	If NAV52 adopts revised IMO ECDIS PS draft WP proposed consolidated Edition of S-52 for for CSMWG17	MJ	June 07		
57	9.3	Add S-52, Edition 3.4 to CSMWG17 agenda	CR (agenda)	2007		
58	11	Dates and venue for CSMWG17 on IHO calendar, website, contact TSMAD	MH	Autumn 06		
59	11	Updated CSMWG papers to IHO website	CR, MH	Ongoing		
60	11	Circulate Minutes of CSMWG16	CR, (MJ)	End June 06		
61	11	Links to older Maintenance Documents (at least MD4) of Preslib for explanation of PresLib history	MH	Before CHRIS18		