MINUTES OF THE 13th C&SMWG WORKING GROUP MEETING

Federal Maritime and Hydrographic Agency (BSH)
Hamburg, Germany
13-15 May 2002

Attachments

Appendix A	-	List of Documents (C&S 13/1 A)
Appendix B	-	List of Attendees (C&S 13/1 B)
Appendix C	-	Actions List
Appendix D		Draft Letter to IMO (MSC/NAV) via CHRIS
Appendix E		Draft Resolution reg. C&SMWG status for CHRIS
Appendix F		List of C&S contact persons
Appendix G		Protocol of Workshop

1   0pening and administrative arrangements

C&S 13/1A - document list
C&S 13/1B - participants

Mathias Jonas (Chair) welcomed the participants. Horst Hecht (Director Nautical Charting, BSH) also welcomed those attending, and provided a brief overview of the history and activities of BSH. He stressed the importance of this CHRIS WG and how Member States contribute to the technical activities and functions of the IHO as it relates to standards developments. Received apologies from DnV, Norway and the Australian HO. Lee Alexander (UNH-USA) agreed to serve as Rapporteur for the meeting.

2   Approval of the Agenda

C&S13/2A - proposed Agenda

Agenda was approved. Chairman introduced a Proposed Workplan for the Meeting that rearranged the sequence of the Agenda items to be addressed.

3   Approval of the Minutes of C&S/12

C&S13/3A - final draft Minutes of IHO C&SMWG/12

Minutes were approved with no changes. Particular note was made on how well these minutes were prepared.

4   Vice-chairman / Secretary and Technical Coordinator

C&S13/4A - proposed secretarial tasks (C&S/12/4A)
C&S13/4B - technical Coordinator's duties

Chairman informed WG members that the post of the secretary/vice chairman is still vacant. He pointed out that to his view the post should be taken over in due course ideally by an employee of an national HO speaking English as a native. Alternatively an IHB em-

ployee would be an option because many of the duties of the secretary would consist in coordinating topics between the different Working groups of CHRIS.

The Chairman informed members that BSH has made arrangements with the Maritime Simulation Centre Warnemünde (MSCW) for the post of the technical coordinator. This post is taken over by Sven Herberg of MSCW, subsidized by BSH for two Years from March 2002.

The noted papers, describing the task of the secretary and the technical coordinator were noted but not discussed in detail. The content of the papers has remain unchanged since their first issue during the 12th Meeting of C&SWG, Monaco September 2001.

5   Issues on arrangements for bringing into force PresLib ed. 3.3 and C&S Specs ed. 4.2 arising from section 5 of the minutes of C&S/12

C&S13/5A to C&S 13/5L (see document list):
    - action items from C&S/12
    - revised Colour & Symbol Specifications ed. 4.2 and PresLib Manual ed. 3.3
    - amendments and revised CSPs

C&S 13/5A – Action Items List

5.1   Draft ed. 3.3 of PresLib Users Manual (Annex A of App.2) and draft ed. 4.2 of S52 App.2 Colour & symbol Specifications

Drafts were prepared by Michel Huet (IHB). Printed and CD versions were distributed.

5.2   request funding via CHRIS

IHB (Huet) quoted a section from the Minutes to CHRIS 12:
    "*The Meeting agreed that it was necessary for the work to continue and that the IHB, as a matter of urgency, should seek to obtain funding, e.g. investigate all the options open to the IHO to fund the work of the C&SMWG.*
In regard to funding for C&S, CHRIS 13 listed two action items:
"5.1   IHB to encourage MS to directly support C&SMWG, particularly by providing office bearers.
    IHB to investigate all the options open to the IHO to fund the work of the C&SMWG."
IHB (Michel Huet) explained that despite good intentions, there has been little progress on identifying funding. Chairman suggested that C&S should submit a budget request to IHB, to be considered at the next CHRIS meeting. C&S needs a firm commitment on funding in order to continue current and future work.

Outcome: Chairman will submit a resolution concerning the general situation of standardization of ECDIS chart display including a budget request to IHB, to be considered at next CHRIS meeting (August, 2002).

5.3   Request funding from EU

Chairman explained that common practice is that EU provides funding on a 50:50 government/industry basis. Finland (Peiponen) described his experience with the ECHO Project. There is potential for two companies (Navintra and SAM Electronics) in Europe to develop a proposal. Institutions like ISSUS and MSCW could potentially get 100% funding from EU.

UNH‑USA (Alexander) explained that there is considerable interest in USA, but it relates to navigation (not) chart-related symbols. It was suggested that a coordinated, "broader" approach (e.g., Chart and Navigation C&S) may be the best approach.

Outcome: In order to have some realistic chances for acquisition of EU funding the development of a "big" EU project proposal would be needed. During the meeting (see following records) the WG members did not identify such a voluminous task for the actual work strategy in order to complete the presentation library **edition** *3.3 and attached documents/software. The collection of substantial tasks, potentially big enough may only be possible for the next fully revised PL* **edition** *4.0 which in turn cannot be initiated before TSMAD has drafted details of the planned new S-57* **edition** *4.0.*

5.4 Practical guidelines on discussion groups

C&S 13/5K OEF Guidelines

Finland (Peiponen) pointed out that the OEF has not been very active (i.e., in a sleeping mode"). UNH (Alexander) explained that the OEF was physically re-located to UNH last summer, but that its operation and management have not changed for the past three years. He pointed out that the OEF is only as good as the Users or Discussion Leader. However, some of its technical capabilities need to be improved. On the question of C&S using the OEF, Chairman felt that this should continue to be used for C&S discussions, but not as a closed Discussion Group. IHB (Huet) pointed out that distribution of documents for the C&SMWG was not the best use of OEF.

Outcome: Place Steve Grant's FAQs on OEF. OEF will continue to be used for discussion for wider audience – not for meeting document distribution. There is a need for more OEF Discussion (i.e., leaders and participants) on C&S issues.

5.5 draft a letter to IMO (MSC/NAV) about situation wrt FERYRT

no action performed to date.

Outcome: The WG agreed to submit a letter to IMO via CHRIS (Appendix D) concerning discrepancies between IMO ECDIS PS and S-52, App.2. The problem of FERYT (put it to standard display) will be raised in this letter too.

5.6 CHRIS to consider chart display priorities of dual-fuelled ECDIS

Outcome: CHRIS/13 (September 2001) decided that no action was required on the matter (re: CHRIS/13 Minutes, section 14.2); C&SMWG to continue to monitor.

5.7 Monitor work of TC211

To date, little has been done (no resources available). IHB (Huet) pointed out that C&S specs are how S57 objects are shown (portrayed) for a particular application (e.g., ECDIS). Since the ISO standard is rather general, C&S provide an example.

Outcome – At this stage, no further action required; C&SMWG continue to monitor.

5.8 Inform manufacturers by a letter about C&S work program/ use of OEF

Outcome: Chairman will check to see if this was done. If not, need to follow up.

5.9   Letter written to Chairman, TSMAD
C&S 13/7/3A

Letter was sent in October 2001 but Chairman did not get any reaction yet. TSMAD minutes of 8th Meeting December 2001 noted the letter and the discussion which arose. A reply to C&SWG was announced but not sent.

Outcome: Chairman will ask for reply of Chairman TSMAD directly.

See also item 9.3

5.10 Review of changes to UOC for impact on PL and S-52 – resulting in deferred amendments d6.co.10 to d6.cl.16
C&S 13/5C (deferred amendment 6)

The following decisions were taken:

d6.co.10 -	new CSP for symbolising tracks & routes: not accepted. Ask the chairman TSMAD to cancel the change in UOC from 'must' to 'should'.
d6.co.11 -	new CSP for bridges with underlying UNSARE: not accepted. Ask the chairman TSMAD to code un-defined bridges with an attribute.
d6.co.12 -	revision to CSP DEPARE to handle new group 1 underlay for non-navigable rivers etc.: accepted.
d6.co.13 -	revision to CSP UDWHAZ to handle new group 1 underlay for obstructions; accepted.
d6.cl.14 -	geographic names: only for information. No action required at present.
d6.cl.15 -	collection objects: addition to PresLib manual accepted.
d6.cl.16 -	floating breakwater: only for information. No action required at present.

France (Le Bihan) does not feel that C&S should revise the PresLib in order to accomodate all changes to the UOC. Finland (Peiponen) agrees that S-52 should not automatically adapt to every change in how the S-57 object catalogue is used.

(See sections 6 and 7 below for conclusions on other amendments)

Outcome: Chairman to inform TSMAD about three issues:
1. *how should TSMAD and C&S cooperate? (in general)*
2. *How to resolve specific issues of potential conflict? (e.g., Deferred Amendments PL03.2.d6co10 - 16 regarding impacts of the UOC on C&S specs)*
3. *Need for TSMAD and C&S to have a representative at each other's WG meetings.*

5.11 Publication of Annex D, S-52, App. 2 (Slight deviations)

Moved to section 1.2.6 of the Colour & Symbol Specs.   ("Annex D" not used.)

Outcome: accomplished

5.12 Consideration of new edition of M-4 (Spring 2002) for new symbols

pending

Outcome: IHB will keep Chairman updated if new Edition arrives. Chairman and technical coordinator will monitor.

5.13 Numbering of next edition of S-52 App 2

Outcome of the 12th Meeting, Monaco 2001 considered

Outcome: edition of the PresLib (Annex A of App. 2) planned for end of 2002 will be 3.3. A revised edition adapted to S-57 edition 4.0 will probably start with 4.0 too. No immediate action required.

5.14 Removal of the requirement in C&S Specs. section 1.2.3 para. 2 for the ECDIS onboard to accept amendments (amendment d6.co.2)

Agreed. *A further consequence is that the 'Test edition' of the PresLib is no longer required in PresLib 8.3.5 or in IEC 61174 section 6.5.1b.*

Outcome: The appropriate requirement will be deleted from the new edition 4.2 of S52 Appendix 2 and the digital version of PresLib 3.3 will not provide it any longer.

5.15 Symbolization of unsurveyed/no data, dredged areas (amendment d7.co.1)

Outcome:
1. The drafted proposal containing a contrasting background colour and more prominent boundary for unsurveyed/no data area was adopted. To be incorporated in new edition 3.3 of the PresLib.
2. The existing dot pattern for dredged areas is to be retained.

5.16 Labelling Safety Contour (amendment d7.co.2)

Outcome: see review of draft Amendment in item 7 below

5.17 Drop linear depth area (amendment d7.co.3)

linear depth areas will be dropped from next edition of the S-57 specification. Edition 4.0 of S-57 is announced as to be without linear depth areas.

Outcome: Ed. 3.3 of the PresLib will contain the already drafted alternative CSP DEPARE02 for display of safety contours without use of linear depth area. See review of draft Amendment 7 below.

5.18 Handling of INFORM and TXTDSC on collection objects (amendment d6.cl.4)

Outcome: appropriate solution is left open for the manufacturer. Appropriate amendment drafted for PresLib ed.3.3.

5.19   Issues with SCAMIN and ECDIS displays using stepped display

Outcome: there is no official reply from TSMAD available yet. However, Johannes Melles, BSH briefed the meeting about the rejection of the issue at last TSMAD meeting in December 2001. Chairman will reiterate the issue to TSMAD directly.

5.20   Use of SCAMIN on display base features

Outcome: no reports received. No further action

5.21   Recommendations for Tidal committee

Outcome: unchanged situation compared to 12th Meeting C&SMWG. No further action

5.22   Symbolisation of tunny net in display base

Outcome: there is no official reply from TSMAD available yet. However, Johannes Melles, BSH informed about rejection of the issue at last TSMAD meeting in December 2001. Chairman will reiterate the issue to TSMAD directly.

5.23   Test data set plots

Hannu Peiponen informed the meeting about the availability of test data set plots for a variety of data and presentation combinations.

S-57 3.1 data PL 3.2 (available)

S-57 3.1 data PL 3.2 + deferred amendments up to d05 (available)

S-57 3.1 data PL 3.2 + deferred amendments including d6 and d7 as accepted by this meeting (not yet available)

Outcome: 1)   Navintra (Hannu Peiponen) to produce the above 3rd set of TDS plots.

> *2)   IHB (Michel Huet) to collect all test data plots and to issue them together with the test data for both ENC and RNC in June 2002 latest (see also under 13.3).*

5.24   Display of PICREP.TIFF (amendment d6.cl.4)

Outcome: No change from C&S12; it is left to the manufacturers to provide an appropriate solution. PresLib ed 3.3 will be amended appropriately.

5.25   DATEND, DATSTA (amendment d6.co.5)

Outcome: No change from C&S12 which agreed that there are two options to achieve the requirement to support time/date dependent objects in ECDIS, either:

a.   the ECDIS could allow the user to show time/date dependent objects active at a future "time/date window", or

b.   the ECDIS could show all objects in the database, including all time/date dependent objects, irrespective of the current time/date.

In either case, the user must be made aware, through a continuous indication, that objects in the display may not be valid at the current time/date.

Edition 3.3 of the PresLib will be amended appropriately.

5.26   Grey circles for lower CATZOC values

Outcome: issue was dropped

5.27   Scaled outline of own ship gets lost

Own ships symbol has moved to WG7/WG13 responsibility. Falk Bethke informed about their intention to allow a more individual outline of the symbol in order to avoid the disturbing effects.

Outcome:
*   - may need to be re-visited (w/ IEC TC80/WG7 or WG13)*
*   - C&SWG members suggest WG 13 to allow a more detailed own-ship true-to-scale outline which may be more prominent and consequently better to recognize in narrow channels. Bethke reported about discussion of this topic within WG7 leading in this direction. Chairman will monitor activities of WG7/ WG13.*

5.28   Proposed revision to S-52 and IEC 61174 – Displaying "Unknown Objects"

Finally rejected. Reply written to C-Map

Outcome: clarification added to the PresLib (amendment d6.cl.7)

5.29   Mariners should be able to add any chart symbol

reconsidered, then withdrawn

Outcome: no further action

5.30   Implement C&SMWG 10 ('99) suggestion for standardised display of automatic chart corrections on mariner's demand

reconsidered, then withdrawn

Outcome: clarification added to the PresLib (amendment d6.cl.8)

5.31 Reduction of colour tables

Sven Herberg reported about ongoing investigations at MSCW. To be continued. US Coastguard UNH have plans to investigate alternative colour tables too.

Outcome: see under paragraph "9.6 Colours" below.

5.32 Draft amendments for colour calibration of flat panel displays

Hannu Peiponen gave a presentation about the principles of colour calibration CRT versus LCD displays. Falk Bethke demonstrated colour calibration for flat panels at BSH labs and explained the results.

Outcome: see under paragraph "9.6 Colours" below.

5.33 Alignment of calibration procedures between IEC 61174, Ed. 2 and S-52 Appendix 2

Outcome: see under paragraph "9.6 Colours" below.

5.34 Gamut problem

solved by direct e-mail communication with Litton

Outcome: no further action

6 Review of Draft Amendments 6

C&S 13/5A to C&S 13/5I

Outcome: Decisions on Deferred Amendment 6
Item No.:
CS04.2.d6.co1 –   revised amendment procedures: accepted as proposed
PL03.2.d6.co2 –   ECDIS on board not required to accept amendments automatically:
*   accepted as proposed*
CS04.2.d6.co3 –   minor deviations to the PresLib.: wording accepted, but put into Sec-
*   tion 1.2.6*
PL03.2.d6.co4 –   displaying PICREP etc at night: accepted as proposed
PL03.2.d6.co5 –   displaying date-dependent objects: accepted as proposed
PL03.2.d6.co6 –   masking cell boundary lines: accepted as proposed
PL03.2.d6.co7 –   symbolizing unknown objects: accepted as proposed
PL03.2.d6.co8 –   identifying automatic chart corrections: accepted as proposed
PL03.2.d6.co9 –   see discussion for over-scale symbol under amendment 7 below
PL03.2.d6.co.10 –   d6.co.16: see under para. 5.10 above
PL03.2.d6.co17 -   details of Ishihara colour-blindness test: accepted; just a procedure;
*   no further testing required*
PL03.2.d6.co18 –   revised IMO category for floating hazard: not accepted (leave as is)
PL03.2.d6.co19 –   overbright toolbar: accepted
PL03.2.d6.co20 –   diagram for complex linestyles: accepted (an amendment to an
*   amendment)*

Decisions made will be incorporated in final revision of ed. 3.3 S-52 Appendix 2 Annex A (PresLib Users Manual) and Edition 4.2 of S-52 Appendix 2 (C&S Specs.) if needed.

7   Revision of Draft Amendments ~~No~~ 7
C&S 13/5D & C&S 13/5H
C&SWG (Eaton) introduced Deferred Amendment d7. He explained that they are work descriptions (proposals) rather than conclusions.

<u>Item No.</u>

d7.co.1 –   symbolization of over-scale area, unsurveyed area, and dredged area (doc. C&S 13/5H)

For over-scale indication, pattern or symbol? If a symbol, which one?

Finland (Peiponen) feels that overscale <u>pattern </u>is best since it can be turned off. Germany (SAM Electronics) agrees that users are already accustomed to pattern. Also, if centered symbol is used, this could be obscured by other symbols. Germany (7Cs) prefers keeping the ugly pattern. Chairman asked if there should be a rule that over-scale should not occur too often. Finland (Navintra) agrees that no one likes to see overscale pattern, but once shown it can be turned off. UNH (Alexander) pointed out that a) Mariners do not like to see overscale indication, and switch it off as soon as possible, b) it shows that ENC data is not at the desired scale for the task at hand.

Outcome – not accepted – keep current area pattern of vertical lines

For <u>unsurveyed area</u> symbolization

Outcome: the proposal (C&S 13/5I.3) to increase the luminance of back ground colour for night display was agreed.

For <u>dredged areas</u>, the current indication is an area pattern of dots (wallpaper). Two options:
     1) leave as is (shown at all times)
     2) leave as is, but have ability to turn off
The proposal (C&S 13/5I.4) offers three options:
     1) use swept area symbol for boundary line
     2) use a swept symbol centered on area
     3) special case of #1

Outcome: no change – keep current area pattern of dots

d7.co.2 – <u>labelling the safety contour and other depth</u>

C&SWG (Eaton) explained that that there are three options: square and shaped background, and fat or thin for the shaped. SAM Electronics feels that regardless of which used, the display should be optional (user selectable). SevenCs agrees that this should not be mandatory. C&SWG (Eaton) feels that this capability should be provided by the manufacturer.

France (Le Bihan) asked about how the conditional procedure generates the safety contour label. Finland (Peiponen) stated that this matter may require a new approach, and would be discussed later.

Outcome: Capability of labelling contours adopted,
- *Labelling is based on CSP SAFCON01 for labelling depth contours,*
- *thin shaped agreed,*
- *use is optional by mariner selection. Numbers shown upright, i.e. not aligned with the contour*
- *After successful testing, the procedure should be included in PresLib 3.3*

P.S: later OEF discussion about the use of viewing group led to the following result:
- *Use viewing group 33021 for labelling the safety contour, and*
- *Viewing group 33022 for labelling depth contours (if not already symbolized as safety contour).*

d7.co.3 – drawing contours in a 'cliff contour' situation

France (Le Bihan) supports this proposed correction to the PresLib CSP. SevenCs has used this for four years with good success. SAM Electronics and Navintra will also test within the next three months.

Outcome: Method was generally agreed. As with all CSP amendments, this procedure should be tested by volunteering manufacturers.

d7.cl.4 – displaying OBJNAM, INFORM and TXTDSC on collection objects.

Outcome –   revised wording is agreed for 8.6.2 of the PresLib.   Will be included in edition 3.3.of PresLib.

d7.cl.5 – mariner to be able to add to the SENC any chart symbol in the PresLib

Outcome - withdrawn

d7.co.6 –   3 colour tables: topic pending, see extra topic "colours" below, amendment will, if tests prove favourable, be proposed on the OEF for inclusion in ed. 3.3

d7.co.7 –   remove requirement for a dC* tolerance: topic pending, see extra paragraph "colours", Peiponen (NAVINTRA) will draft new wording

d7.co.8 –   revise colour calibration procedures consistent with IEC 61174: topic pending, see extra topic "colours", Peiponen (NAVINTRA) will draft new wording

8   Review of revised CSPs

(doc. C&S 13/5E)

New BRIDGE01 - *not accepted*
Revised DATCVR01 → DATCVRO2

<u>3 sub-points:</u>
1) new symbolization of non-HO data - *accepted*
2) new symbolization of over-scale - *rejected (keep unchanged)*
3) new symbol to express over-scale factor – not accepted

Revised DEPARE01 → DEPARE02 -

<u>4 sub-points:</u>
1) symbolizing dredged areas – *rejected (keep unchanged)*
2) construct safety contours from edges –   *accept method, but needs to be tested*
3) labels of contours –   *accepted in principle, but contours are only to be labelled when supported by a DEPCNT object*
4) adaptation to change in S-57 use of object catalogue (UOC), use of un-surveyed area as underlay for non-navigational water – *accepted*

Revised DEPCNT02 → DEPCNT03

<u>two sub-points</u>:
1) remove symbolization of safety contour - *accepted*
2) add labelling of contours –   *agreed in principle; needs to be tested with DEPARE*

Revised RESCSP01 → RESCSP02 –   *approved (previously)*
Revised RESARE02 → RESARE02 -   *approved (previously)*
New ROUTES01 –   *rejected*
New SAFCON01 –   *accepted for labelling all types of contours; needs to be tested*
Revised UDWHAZ03 → UDWHAZ04 - adaption to change in S-57 UOC: use of land area or un-surveyed area as underlay for area obstructions – *accepted*
Revised WRECKS02 → WRECKS03 – improved default 'least depth' - *accepted; needs to be tested*

Outcome: All changes of revised CSP accepted in principle will be subject of practical tests of manufacturers and French HO. Results will be reported to IHB and included in edition 3.3. of PL. (see Annex C Action list)

9   Other issues that have arisen since C&S/12

9.1   ESSAs and PSSAs
C&S 13/7.2A - IHO CSC proposed amendments to M4
C&S 13/7.2B - comments by Rob Ward
C&S 13/7.2C - comments by M. Eaton

Chairman explained that what has been done by IHO CSC for paper charts needs to be addressed by TSMAD and C&SMWG. However, the solution for symbolizing ECDIS could differ from that proposed by the CSC for paper charts. Since S-57 Ed. 3.1 is frozen for three years, this makes it difficult for C&S to deal with an object(s) that does not exist. Also, the colour and prominence used by CSC would not be appropriate for a a computer screen. More specifically, colour fill would not be suitable, while centered area symbols may be better.

IHB (Huet) stated that for PSSA's, the following encoding was proposed by IHB as a suitable interim solution: RESARE, CATREA=23 (ecological reserve). This is considered suitable for symbology that currently exists in the PresLib. The final encoding of PSSA has to be developed by TSMAD (for S-57 Ed. 4). Following that, C&SWG will reconsider the need to develop new symbology.

Outcome: Chairman will report to CHRIS that the interim symbolization is considered suitable. Alternative approaches will not be possible before ESSAs and PSSAs are reflected by appropriate S-57 attributes.

9.2   TSMAD issues

C&S 13/7.3A - letter to chairman of TSMAD
C&S 13/7.3B - letter to TSMAD by Navintra on PICREP edition control

.1) Johannes Melles (BSH) gave a MS PP report on the results of the recent (8th) TSMAD meeting

Outcome:
   a) Chairman will remind TSMAD that C&S needs an official reply.
   b) Reply from TSMAD and follow-on response from Chairman will be circulated via e-mail.

.2) C&SWG (Eaton) explained a problem with obstructions. When rocks/wrecks/ obstructions are 'covered' by a non-DEPARE group 1 object, the same spatial object should be used to allow detection of an isolated hazard.

Outcome: Chairman will bring this to the attention of TSMAD and clarify the issue.

9.3 IEC TC80 / WG13

Reports on these groups' progress were made by Jonas and Alexander

9.4 HGMIO

C&S 13/7.6 - HGMIO TOR

A report on this group's progress was made by Alexander

9.5 Colours
C&S 13 7.7B
.1) Are the new 3-table colours acceptable?
Alexander (UNH) stated that no scientific or operational testing in North America had been performed to date. What is needed is both simulator and at-sea testing in conjunction with navigation symbols (e.g., radar/ARPA, AIS, VTS, etc.) prior to adoption in Ed. 3.3 – or alternatively it could be issued as an immediate amendment.
Herberg (MSCW Warnemunde) gave a PP Presentation of some experimental trials that are being conducted at MSCW Simulator in Warnemunde (see C&S 13/7.7B). Three colour tables are being evaluated: Bright Day, Low Black (Dusk), and High Black (Night).
Chairman feels that there is good basis to look for reducing the number of colour palettes. However, this needs full testing before it is done.

Outcome: Continuation of testing at MSCW Warnemunde. UNH will consider this results/methods of investigation for its own planned activities and will report at the next meeting.

.2) Do we need modified colour tables and modified calibration procedures for LCDs ? *C&S 13/7.7A - Cowan on LCDs*
C&S 13/7.7C – Peiponen's PP Presentation on LCD Colour Calibration

Outcome: see .4) below

.3) Practical tests conducted with the new colour tables at MSCW (Warnemünde by Sven Herberg)

Outcome: see discussion in .1) above.

.4) <u>Practical experiences for colour calibration of LCD from Finland and as demonstrated at BSH Lab.</u>

Finland (Peiponen) gave a PP Presentation on colour calibration verification methods and tolerances (see C&S 13/7.7.3). Four topics were discussed:

a) original mode for colour calibration
b) principle difference between CRT and LCD calibration for full range Day to Night
c) why a new approach to verification of nighttime colour calibration is needed
d) a practical method for nighttime colour calibration

Bethke (BSH) gave a practical demonstration of colour calibration of flat panels which are currently undergoing type approval as ECDIS monitors at BSH. Those LCD panels are adapted to the specific purpose of ECDIS by the use of special front glasses (anti reflecting, grey filter) and a remote control of the backlight. The method of making the CRT colour calibration separately for each of the five colour tables provided by the LCD led to very good results. Only very minor deviations from the required colour gamut were observed and can be tolerated as an interim. Chairman mentioned that the car industry such as Mercedes and BMW are also currently taking advantage of the LCD/ switching colour table approach for night view for their car navigation displays. Traffic control towers at airports are apparently also interested in developing LCDs for night viewing using tailored colour tables.

Outcome: Due to the rapid change of technology it is difficult to get a final solution. For the interim the current calibration method used for CRT can be used for LCD. But, there needs to be five separate calibration tests, one for each of the colour tables. The chairman explained that only limited experience has been gained with calibration schemes for LCDs, and that the procedure of calibrating all five colour table separately, together with remote control of the calibrated settings, should be used. This will be incorporated into PresLib ed 3.3 as an interim solution until further experience has been gained.

.5) <u>Alignment of calibration procedures between IEC 61174, Ed. 2 and S-52Appendix 2</u>

Outcome: Hannu Peiponen will prepare wording for amendment of edition 4.2 of Appendix 2 "C&S Specs." reflecting the use of CRT procedures for LCDs too.

.6) <u>Use of blue for AIS may have repercussions on S-52 App. 2</u> (Eaton)

C&S 13/5I.6 - plots of blue foreground info.

Currently, AIS symbols are to be green based on what is called for in IEC 61174, Ed.2. However, there are no assigned colours that are to be used with the "Interim AIS symbols" as specified in IMO NAV Circ.217. Eaton (C&SMWG) pointed out that blue is a weak colour for an important feature such as AIS, particularly for showing detailed information against a blue background.

	Current Situation
AIS Target	Green (IHO S-52 & IEC 61174)
AIS Target (Interim Guidelines)	No colour specified by IMO (SN Circ.217)
AIS F&F Aids-to-Nav	N/A [Note: blue has been **provisionally** reserved for VTS]

Outcome: Need to test three alternatives related to colour of AIS symbols:
  1. Black or White (depending on background)
  2. Blue
  3. Green

9.6 Colours and Symbols on chart-radar
C&S 13/7.8A - derivation from chart radar standard

Hans-Karl von Arnim (BSH) gave a PP presentation on "Radar with Chart Information: The Chart Radar."
Radar/ARPA information will have priority over ECDIS. Depth contours will be shown as either deep or shallow, based on safety contour (two colour background). Colour fill for land area is similar to ECDIS. Requires the ability to turn down brightness/intensity of SENC display. White background causes problems in terms of weak or small radar targets. Vector data (both official and non-official), and not raster. He believes that ECDIS with radar overlay should not be the primary system used for collision avoidance. The new IEC standard will be IEC 60936-3.
Von Arnim stated that in the future, INS is the trend (e.g., multi-task equipment). Chairman asked if this may become a fully-unified system (i.e., integrated display). IHB (Huet) asked when can be expected a single system where it will be the user who decides having either ECDIS with radar, or radar with chart information. Chairman believes that in the near-future, there will be one system operating in either ECDIS or Radar-Chart Information mode. Longer-term may become just one system where the user decides what information is required for the task-at-hand. Also, that this must be a fully harmonized system in terms of display colours and symbols.

Outcome: working group will consider the need for harmonisation between the chart display of ECDIS and radar for future activities.

9.7 Symbolizing wrecks

C&S 13/7.9A - symbolizing wrecks

France (Le Bihan) explained the problem with the generation of the symbol: "ISODRG01" when used with wrecks. In some situations, a great number of wrecks are represented as 'dangerous' causing a very cluttered display. He proposed that "non dangerous" be assigned on point wrecks when the value of the sounding is unknown. There was full support for his proposal.

Outcome: Accepted. This will require a change to CSP in Ed. 3.3.

C&S 13/7.9B - symbolizing spatial attributes
France (Le Bihan) introduced four topics.
　　　1. Symbolizing QUAPOS on all objects

Mike Eaton explained that in order to avoid extensive and time-consuming processing, the CSPs for data quality are only run on object classes such as coastline which are important to the safety of navigation.

Outcome – not accepted

　　　2. Problem of cursor pick report

- He described two spatial attributes that could be displayed as C&S: QUAPOS and POSACC. He felt that this information should be shown as part of a cursor 'pick report' . It was pointed out that not showing spatial attributes as part of a pick report is an incorrect implementation by manufacturers.

Outcome – Members agreed that this view is acceptable but not a specific matter to deal with for C&SMWG nor for specific requirement within the presentation library

3. Proposed new symbol 'LOWACC01' (PA, PD)

It was felt that no change was necessary at this time.

Outcome: The suggestion was rejected because of the overall reluctance to introduce new symbology without a very strong need. It was argued that
- *PA; PD would not be more intuitive than a question mark*
- *The difference between PD and PA is not significant to the mariner.*

4. Mariner selection to switch on/off LOWACC01 symbols

This would allow the Mariner to determine if LOWACC01 symbology should be shown in terms of de-cluttering the display.

Outcome: Accepted, in general, for the LOWACC01 symbol. Viewing Group 31010 is selected for this purpose. Possibilities of further reduction of clutter caused by quality attributes to be considered at the next meeting.

9.8   New PL format

9.8.1   Suggestion from Elijah Merkin of Transas, to be considered for future development.

C&S 13/7.10A - new PL format, Elijah Merkin, Transas

Outcome: See workshop discussion about the maintenance of the digital PL version

9.8.2   Comments on Liability of manufacturer

C&S 13/7.10B - liability of manufacturer, Gert Buettgenbach
C&S 13/7.10C - comments by Rob Ward

This topic was discussed but not in detail. Chairman stated that the tabled documents both provide well argued standpoints but C&SMWG as a technical working group might not be the appropriate one to discuss nor to decide about legal liability problems. Chairman also felt that there was not sufficient expertise within the C&SMWG to deal with this legal matter. Although, this is an important issue, IHB (Huet) feels that this is a more appropriate issue for CHRIS to address. SevenCs expressed disappointment that the topic was not discussed to wider extend at this meeting.

Outcome - Chairman will address to CHRIS that this issue needs to be clarified.

10 Other Issues

10.1 ECDIS Colours & Symbols – fully revisited
Workshop: Presentation Library Edition 4.0 – the most intuitive and most mariner-friendly display of hydrographic information

The Chairman conducted a workshop which identified seven main topics to deal with under the above motto. Two of them from which the attendees felt of highest importance where discussed during the workshop:
- necessity of digital version of presentation library
- inconsistencies between IHO / IMO / IEC requirements

Outcome of Workshop – condensed (see also Appendix G

Digital version of PL: After a lengthy controversial discussion the following consensus was reached:
- *The envisioned edition 3.3 of PL will be still maintained in Digital form*
- *NAVINTRA (Finland) volunteered to incorporate the issues resulting from this meeting within DAI-file and submit it to IHB on no cost base*
- *Chairman and technical coordinator will investigate methods for a full equivalent paper based description of ECDIS symbology (including the offsets of the pivot point whhich are at present only available in the digital version) as base for future improved digital distribution methods, or*
  full replacement of the current IHO service to provide manufacturers with a digital version. Chairman and technical coordinator will be actively supported in this major issue by SevenCs on a no cost base.

Note: Chairman reminded group members that the use of the digital version is not mandatory for direct use onboard.

PS: After the meeting OSL (Canada) informed the chairman to that it will volunteer to cross check NAVINTRA's implementation of the digital version before acceptance by C&SMWG/IHB.

Inconsistencies between IHO / IMO / IEC requirements: After a lengthy discussion a conflict in the ECDIS Performance Standards was identified that affects the implementation and use of C&S associated with Standard Display and Base Display. Alexander (Univ. of NH) drafted a letter explaining the problem to be forwarded to IMO via CHRIS/IHO. Chairman will issue this draft combined with the FERYRT problem as a "consolidated note," and will put it on the OEF.

Due to time limitations the remaining topics identified by the workshop where not discussed in detail. A collection of this topics is contained in Annex G of this document and will be posted on the OEF by the chairman in due course.

11 Compilation Scale

C&S 13/5L – Inappropriate use of compilation scale in ECDIS software

Outcome: Although the display of ECDIS is affected, this matter depends on proper implementation by manufacturers and on type-approval testing, but not on C&S specifications. The issue should be forwarded by Australia to IEC WG7,or more directly raised on the OEF for a wider audience of manufacturers/test houses.

12   Time Schedule

12.1   When to issue Edition 3.3?
      User Manual
      DAI files
      CSP
      Plots
- work completed Oct/Nov 2002
- issued by IHO at end of 2002
- Fee:
  - 1.500 EURO for newcomers
  - 500 EURO as update for earlier subscribers
  - free for attendees of C&SMWG

12.2   When to set edition 3.3 in force (for type approval)?

New development   - one-year grace period
New selling (already type-app. before date of issue)   - one-year grace period

12.3   Test Dataset for IEC 61174, Ed. 2
    ENC – Micklefirth and Approaches (by UKHO)   IHB has got already
    RNC – HCRF (ARCS/Seafarer) & BSB/Maptech   IHB has got already
    Plots – will be four separate sets based on: Navintra provided
        1) PL 3.2 and S-57 3.0
        2) PL 3.2 and S-57 3.1
        3) PL 3.2 (plus deferred amdts up to 5) and S-57 3.0
        4) PL 3.2 (plus deferred amdts up to 5) and S-57 3.1

all will become App. 4 of S-52.

13   Principles for Change Procedures for IHO Standards

    - C&S already follows

14   Next Meeting: May/June 2003 (at BSH or Stavanger or IHB)

    - if at all possible back to with TSMAD

Chairman expressed his pleasure to chair and closed the meeting at 16:34, Wednesday, 17th May 2002.