IHO CSMWG-18
Cape Town, South Africa, 7-9 May 2008
[including a combined TSMAD-CSMWG meeting on 7 May]

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Results of S101 Workshop affecting CSMWG

As a result of proposals at the ECDIS Stakeholders' Forum, held in Rotterdam in November 2007 in conjunction with CHRIS19, the Chairman of TSMAD invited a range of Expert Contributors to a workshop held at the IHB from 4 to 6 March 2008. The purpose of the workshop was to provide initial guidance to the TSMAD Task Groups assigned to develop the first draft of S-101 – *ENC Product Specification*.

A wide range of stakeholder groups was represented at the workshop including ECDIS equipment manufacturers, maritime administrations, ship management companies, mariners, and ENC software houses. The leaders of the relevant TSMAD teams also attended. Captain Ward (IHB) acted as Convener, assisted by the Chairman TSMAD. CSMWG chair attended the workshop as well.

The workshop participants covered a wide range of topics and provided the S-101 group leaders with various technical options together with their benefits and consequences to the non-IHO stakeholder community. In addition, the stakeholder group raised a number of matters for wider consideration by the IHO. The issues related to the tasks of CSMWG are:

Display of tide information:

Stakeholders statements:

- *Dynamic tides should be implemented in ECDIS as soon as possible with appropriate safeguards being put in place.*

- *An MIO is an appropriate way to deal with tidal stream information.*

CSMWG chair comment:

Application of actual tide values to the presentation of depth contours and depth soundings has already been demonstrated to CSMWG/CHRIS and stakeholders meetings in the past. Existing mechanisms of PresLib can be used, however, it should be noted that the coded topography represented by depth contours will not be adapted to the changed water level, in other words: for an actual tide value of 1.20 m the 10 m depth contour will become a 11.20 m depth contour and a 8.60 m depth sounding will become a 9.80 m depth sounding. There is no known procedure available which would be able to recalculate the 10 m depth contour for the changed water level on the fly. It is therefore subject to a principal decision of the IHO ordination bodies, namely the Tidal Committee, CHRIS and IHC, under which conditions this technique of chart presentation of the actual water level is acceptable and how the promulgation of actual tide values for an on board real time processing should be performed.

Colour Orange

Stakeholders statements:

- *Too excessive use of colour orange*

CSMWG chair comment:

Orange is used by the following colour token:

CURSR   -   (cursor colour, VRM, EBL)
SCLBR   -   (scale bar)
CHCOR   -   (chart corrections)
NINFO   -   (Navigators Notes)

The complaints may refer to CURSR – especially ist use for variable ranger marker VRM and electronic bearing line. CSMWG may investigate alternative solution providing sufficient contrast to each background colour und all ambient light conditions.

Simplified Symbols

Stakeholders statements:

- *The concept of simplified symbols for buoys and beacons has very little acceptance. ECDIS display should concentrate of symbols for aids to navigation shaped in traditional manner but coloured.*

CSMWG chair comment:

Modern display technology provides sufficient contrast and resolution which allows the provision of coloured traditional symbology. CSMWG may discuss if the concept of simplified symbols is out of date and should be modified if not given up. This discussion needs to take into account that S-52 presentation is a carriage requirement for ENC and ECDIS.

Option a) delete simplified symbols

Option b) delete simplified symbols and redefine traditional symbols as coloured

Option c) declare simplified symbols as a voluntary option

Other options may developed during the meeting.

Development of Standard Display

Stakeholders statements:

- *IHO role is on the standard or baseline requirements for the chart display, not the user interface.*

- *Menu system not in scope but will be influenced by IHO input.*

- *IHO should standard terminology for chart related terms and functions. Suggest a glossary with all standardized terminology, including abbreviations.*

- *The existing specification for fonts* [in S-52, App.2] *is sufficient.*

- *Colors and others are well defined through display certification* [according to the requirements of S-52, App. 2 as part of type approval process].

CSMWG chair comment:

The elements of a standard display are bound to IMO´s responsibility for ECDIS operational functions rather than to IHO/CSMWG.

Pick-Report

Stakeholders statements:

- *Standardise the Pick-Report to ensure better usage uptake.*

- *Reference is made to the Presentation Library.*

- *Availability / prominence of Notes need to be improved. Notes need to be displayed without interfering with charts*

- *Create a functional performance standard for display of notes, including definition of importance and/or notification means. This will allow best practice methods available from industry.*

- *This standard needs to focus on the chart content* [rather than future added information as contained in sailing directions].

CSMWG chair comment:

S-52, App.2 only notes the availability of cursor picking and the possibility to retrieve information carried by INFORM and TEXT attributes. The usefulness of a generic standardization of pick report has been considered by CSMWG at several occasions, however, due to limited resources disputed in terms of responsibility with SNPWG. The setup of such a standardization under close cooperation with industry is generally supported.

User Interface Symbology

Stakeholders statements:

- *More critical is what needs to be displayed* [(the data) compared to the question how is this managed by user interface functions]. *The criticality of display is needed.*

- *Standard display contains that. As such this topic is already taken care of.*

- *Discussion circled around wrecks with unknown depth but in non dangerous depth. The usage of existing attributes could allow the systems to differentiate and display or not.* [this example was given by CSMWG chair to illustrate the complexity of the PresLib drawing procedures and has very little to do with the user interface]

- *A standard suite of palettes* [colour palettes like PresLib] *defined by IHO should be the default display but OEMs should be allowed to offer alternative palettes. Ground rules should be set for this.*

CSMWG chair comment:

PresLib contains 11 colour tokens which are advised to be used for the user interface. As a result of industry intervention, CSMWG gave up the status of user interface colours as mandatory requirements in 1998. Even though, many ECDIS manufacturer deviate from PresLib advice for user interface colours on different levels, no complaints from practice have been received by CSMWG since.

Revision of S-52

Stakeholders statements:

- *IHO standard should restrict to data delivered by IHO community.*

- *Chart symbology is part of the responsibility IHO. S-52 (Presentation library – Annex A of Appendix 2) needs to be "fixed".*

- *A major review of S-52 is required. This will need resources not available in IHO.*

- *Industry participation is needed. This includes contribution (e.g. resources to perform the task,* [i.e. specialist contractor]*) as funding may not be available within IHO budget.*

- *Chart presentation should be reviewed in relation to Human Factor Research results.*

- *IHO needs to find ways to facilitate the process. This could be part of the work of the CSMWG.*

- *Additional attributes for "de cluttering" and rotation of labels may help in dynamic display de cluttering.*

CSMWG chair comment:

The discussion did not specifically address a revision of S-52 main document. Instead, it was questioned if the Appendix 2, Annex A – Presentation Library would still be state of the art in terms of technology and presentation. CSMWG chair argued that the concepts of the current PresLib are based on technology of the mid-nineties and a substantial refit would certainly lead to significant improvements of chart presentation clarity and software design. As mentioned on several occasions at CHRIS and stakeholder meetings, such a refit would

need extensive contribution of expertise in software technology from industry. CSMWG may discuss options for such a PresLib refit.

The revision of S-52 would be in correlation to how presentation is handled in S-101. S-101 will establish rules from encoding to portrayal. However, the CSMWG needs to also consider how the manufacturers use the symbology. Is it a matter of implementing the IHO symbols directly or is it better for the manufacturers to implement their proprietary symbol set as long as the symbol appears the same as the IHO symbol for that feature.

S100 ECDIS: "Plug and play" type upgrading in the ECDIS equipment of elements like "feature catalogues", "symbol libraries", et cetera

Stakeholders statements:

- *Feature catalogue*

  - *easy case, everybody agrees machine readability and publishing by publisher of Product specification (e.g. S-101 by IHO, AML by NATO etc.)*

  - *format of machine readable catalogue should be defined in S-100. (most suitable format e.g. ISO 8211 or XML or ? must be agreed)*

  - *version of feature catalogue should be linked to publishing of new version of Product specification. Consider minor and major version numbering.*

- *Portrayal library*

  - *open standard to do everything by machine readable files is technically possible, but difficult to create and result is not optimal for performance of drawing*

  - *OEMs see different presentation as a possibility to differentiate in competition*

  - *"plug and play" should be done by individual OEMs and this process should be type approved by each OEM*

  - *version of portrayal library should be linked to publishing of new version of Product specification (S-101, AML etc.). Consider minor and major version numbering.*

CSMWG chair comment:

The observations made to machine readability of portrayal libraries are valid and repeat preceding discussions. The new aspects are "plug and play" testing as part of the type approval process and the strong link between a version of product specification and its portrayal rule set.