

**25th IHO TSMAD Meeting
Tokyo, Japan, 15-18 January 2013**

Paper for Consideration by TSMAD

Considerations on the implementation of Annex 1 to TSMAD Terms of Reference

Submitted by:	Finland
Executive Summary:	This paper forwards comments, additional information and proposals related to the issues raised in TSMAD25-4.11.1
Related Documents:	TSMAD25-4.11.1 TSMAD Terms of Reference as amended at HSSC3 IHO CL 90/2012 of 29 October 2012

Introduction / Background

- On 29 October 2012 the IHB through CL90/2012 issued the Encoding Bulletin 53 advising the ENC producers that certain attributes on LIGHTS objects must not be populated.
- IHB has submitted to TSMAD25 a review of the actions taken in the case as document TSMAD25-4.11.1.
- Finland, as one of the 9 unnamed MS mentioned in document TSMAD25-4.11.1, forwards comments, additional information and proposals related to the issues raised in TSMAD25-4.11.1.

Analysis on use of SECTR1 and SECTR2 on all-round lights

- The guidance regarding the use of attributes SECTR1 and SECTR2 for all-round lights is somewhat unclear in S-57, but clearer in S-52.
- Clause 12.8.1 of UOC (S-57 Appendix B.1, Annex A, edition 3.0.0) describes of the use of attributes for LIGHTS object as follows:

Attributes: CATLIT - mandatory for air obstruction and fog detector lights.
COLOUR - mandatory except for air obstruction and fog detector lights.
 DATEND DATSTA EXCLIT
 HEIGHT - prohibited for floating lights.
LITCHR - mandatory except for air obstruction and fog detector lights.
 LITVIS MARSYS MLTYLT NOBJNM OBJNAM
ORIENT - prohibited, except for directional or moiré effect lights.
 PEREND PERSTA
SECTR1 - only for sector lights.
SECTR2 - only for sector lights.
SIGGRP - prohibited for fixed lights.
SIGPER - prohibited for fixed lights.
SIGSEQ - prohibited for fixed lights.
 STATUS VALNMR ~~VERACC~~
 VERDAT - applies only to HEIGHT; this must only be encoded if it is different to the value encoded in the VDAT subfield of the Data Set Parameter (DSPM) field, or different to the value of VERDAT encoded on meta object
M_VDAT.
 INFORM NINFOM

- Based on the description in UOC it is ambiguous if it is prohibited to use attributes SECTR1 and SECTR2 for all-round lights, or if the attributes are mandatory only for lights not visible all-round and optional for others.

- a. If the intention of the standard is to prohibit the use of SECTR1 and SECTR2 in such case, it should state "prohibited for all-round lights" the same manner as e.g. SIGGRP is marked as "prohibited for fixed lights".
 - b. If the intention of the standard is to indicate that SECTR1 and SECTR2 are mandatory for lights not visible all-round, but not for others, it should state "mandatory except for lights visible all-round" the same manner as e.g. LITCHR is marked as "mandatory except for air obstruction and fog detector lights".
7. The part of clause 12.8.1 of UOC quoted above has remained unaltered since S-57 was frozen.
8. In S-52, the previous edition (Ed. 3.3) of the Presentation Library (PL) contained an explicit instruction how to portray a LIGHTS feature with SECTR1=0 and SECTR2=360. According to Conditional Symbology Procedure (CSP) LIGHTS05 a flare was used in portraying a light if the difference between SECTR1 and SECTR2 was less than 1 degree or 360 degree. Missing SECTR1 and SECTR2 resulted to a difference of 0 degree.
9. The 17th Colours and Symbols WG (CSMWG17) meeting decided to change the CSP in June 2007. The change was initially related to very narrow sector lights. It was included in C&S Maintenance Document (MD) 5 as deferred amendment 7. The revised PL was released in January 2008. The revised CSP assigned a flare only to LIGHTS with difference between SECTR1 and SECTR2 being zero. The MD specifically states that "This change results to the effect that: [--] All-round-lights of 360 degree are displayed identical to sector lights."
10. The CSMWG17 record shows that in the discussion in the meeting it was considered possible to have all-round lights encoded in the ENC either without SECTR1 and SECTR2 or with SECTR1 and SECTR2 and their difference as 360 degrees. Of these options, the former would portray as a flare and the latter as sector arc with the revised PL.
11. It is therefore quite clear that an ECDIS complying with S-52 PL must portray a LIGHTS feature with SECTR1=0 and SECTR2=360 with a sector arc (a halo).
12. As discussed above, it should be fair for an ENC producer to assume that the use of SECTR1 and SECTR2 are allowed for all-round lights.

Analysis on the process in this case

13. In this case the course of events has been as follows:
- a. May 2012 or earlier – UKHO receives user feedback on portrayal of lights with SECTR1=0 and SECTR2=360.
 - b. July 2012 – UKHO contacts Finland and asks about reasons for its encoding practice regarding lights.
 - c. Thu 18 October 2012 – Draft EB submitted to S-57 sub-group leader by UK.
 - d. Mon 22 October 2012 – Revised draft EB submitted to S-57 sub-group for comments. "Due to safety critical nature of the issue" the comment period is reduced to five days.
 - e. Thu 25 October 2012 – Finland comments the draft with an objection against the "must" used in the EB.
 - f. Fri 26 October 2012 – S-57 sub-group leader advises Finland that TSMAD Chair has taken the issue to IHB to be promulgated as CL before the comment was received.
 - g. Mon 29 October 2012 – IHB issues CL90/2012 which includes the EB as drafted.
14. HSSC3 has approved TSMAD TORs including Annex 1. However, there is no TORs or equivalent for the S-57 sub-group. It has worked by established practice.
15. The procedure to publish amendments, whether clarifications, corrections or extensions, is described in TSMAD TOR Annex 1. The procedure is only described with a diagram without any textual explanation.

16. The procedure includes an early informing phase for safety related issues, which makes it possible for IHO to quickly react on ECDIS anomalies by making everybody involved aware of the potential problem and to seek feedback to solve it.
17. In the Annex 1 there are two alternative ways to take with an issue – one for those cases considered safety issues and one for those considered not directly safety related.
 - a. The safety path allows IHB to inform MS and stakeholders about an issue through CL before the S-57 sub-group is ready to distribute an EB. The S-57 sub-group (and if necessary, the full TSMAD) will handle the issue with its established practice, but with shorter commenting periods.
 - b. In the non-safety path, which should be considered the default, there is no need for IHB to inform MS or stakeholders in an early stage. The EB will be distributed after the S-57 sub-group has agreed on it. According to established practice the EBs that the sub-group cannot agree on are submitted to the full TSMAD for approval.
18. In the case at hand neither of the described paths has been followed. The EB was distributed by IHB after a request from TSMAD Chair without agreement in the S-57 sub-group nor with full TSMAD approval.
19. Declaring issues safety related has relevance in both how issues are processed within TSMAD and how the S-57 UOC may be amended¹. Therefore the decision to treat an issue as safety related should always be clearly taken and decision should be reasoned.
20. It is still unclear if the case has been handled safety related or not. The short comment period for S-57 sub-group was due to the "safety the critical nature". The CL was sent out in a hurry after the IHB had recognized the issue "as a safety issue", as stated by IHB in its email to Finland on 26 October. However, correspondence between IHB and Finland on 19 December indicated that the IHB has taken the issue as non-safety issue. In addition, in the document TSMAD25-4.11.1 (paragraphs 3, 5 and 8) there seems to be inconsistencies in the interpretation. It seems that the interpretation has changed during the process.

Conclusions

21. The guidance for use of attributes SECTR1 and SECTR2 for all-round lights is ambiguous in IHO standards.
22. The guidance for portrayal of LIGHTS with SECTR1=0 and SECTR2=360 is unambiguous in IHO standards.
23. The issue raised in user feedback to UK is a portrayal issue that should be fixed through a Portrayal Bulletin.
24. It is unclear why the issue, after been known for months, was hurried into an EB and IHO CL in such short time and abandoning established practices.
25. For the process it is vital to differentiate between safety and non-safety issues. It is unclear if this issue is declared as safety or non-safety issue at IHB.
26. Missing S-57 sub-group TORs and textual explanation of Annex 1 are causing confusion.

¹ Clause 1.1 of UOC (S-57 Appendix B.1, Annex A, edition 3.0.0) states: *"Any change to this document must not cause existing published ENC's to be changed retrospectively. However producers are encouraged to include new changes (if the data is affected by them) in any new ENC's and any ENC for which there is a planned New Edition. Any required change to data due to a significant issue affecting safety of navigation will be addressed by a communication to all producers by the IHB."*

Proposals

27. TSMAD to amend Encoding Bulletin 53 to read: "Encoders are advised that the attributes SECTR1 and SECTR2 should not be populated for lights that are visible all-round (omni-directional)."
28. TSMAD to initiate actions to clarify the criteria and process for assessing an issue to be a safety or non-safety issue.
29. TSMAD to inform DIPWG about the portrayal issue and invite it to take appropriate actions.
30. TSMAD to formalize the S-57 sub-group (TORs, ROPs, membership).
31. TSMAD to initiate actions to complement Annex 1 with textual explanation

Action Required of TSMAD

32. TSMAD is invited to:
 - a. **note this information**
 - b. **take actions** listed above
 - c. **take any other action** as considered appropriate.