

Paper for Consideration by S-101PT10

Topmarks with multiple colours

Submitted by:	Netherlands Hydrographic Office
Executive Summary:	Align the encoding of Topmarks with multiple colours in S-101 with the way they are encoded in S-57.
Related Documents:	S4 chapter B-463; S-57 UOC; S-101 DCEG
Related Projects:	

Introduction / Background

In S-57 you have the possibility to encode multiple colours for a Topmark. When you do so, you have to use the attribute COLPAT to define the colour pattern. This is mandatory for any object that has more than one colour. In S-101 you don't have this option.



Analysis/Discussion

In S-57 you have the possibility to encode Topmarks with multiple colours. In S-101 encoding of Topmarks with multiple colours is not allowed. A work around has been in place by encoding a Daymark on top of the buoy or beacon. Since S-101 has the possibility to set the NAVIGATIONAL SYSTEM OF MARKS (M_NSYS) to CEVNI (11) the encoding of these topmarks should be properly supported as CEVNI marks may have multi coloured topmarks.

The definition of a Daymark is:

The identifying characteristics of an aid to navigation which serve to facilitate its recognition against a daylight viewing background. On those structures that do not by themselves present an adequate viewing area to be seen at the required distance, the aid is made more visible by affixing a daymark to the structure. A daymark so affixed has a distinctive colour and shape depending on the purpose of the aid. (IHO Dictionary, S-32, 5th Edition, 1248)






References: INT 1: IQ 101; M-4: 456.2;


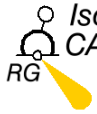




The definition of a Topmark is:

A characteristic shape secured at the top of a buoy or beacon to aid in its identification. (IHO Dictionary, S-32, 5th Edition, 5548)

References: INT 1: IQ 9; M-4: 463.1;

How does this look in an ECDIS? Two examples:

Entry prohibited buoy	
S-57 ENC: S-52 Simplified	WNB 1 
S-57 ENC: S-52 Traditional	WNB 1 
S-101 ENC: S-101 Draft	WNB 
S-101 ENC: S-101 Draft Paper Chart	WNB 

CEVNI Bifurcation Buoy	
Paper Chart:	 <i>Iso.2s</i> CA 2-NW 1
S-57 ENC: S-52 Simplified	CA 2-NW 1  <i>Iso(1)W 2s</i>
S-57 ENC: S-52 Traditional	by CA 2-NW 1  <i>Iso(1)W 2s</i>
S-101 ENC: S-101 Draft	by CA 2-NW 1  <i>Iso W 2s</i>
S-101 ENC: S-101 Draft Paper Chart	by CA 2-NW 1  <i>Iso W 2s</i>

The way Daymarks symbolize doesn't make it clearer for a user what the object looks like in the real world. The current S-52 portrayal of Topmark is far more clear.

Also Landmarks and Beacons with Topmarks now convert to Daymark features. The resulting display in S-101 seems less clear than in S-52. It also creates a difference between S-57 and S-101 during the dual fuel period which could be confusing.

Validation checks would probably flag these due to IALA rules and those could be ignored on a case by case basis. When the buoys are within CEVNI area the validation checks could be amended so that Topmarks with multiple colours in CEVNI area are not flagged (Or to ignore all where MARSYS is not IALA A/B).

Conclusions

It should be possible to encode multiple colour values on Topmarks in S-101 so that the real world can be represented.

Recommendations

- Allow the multiplicity 0,* of colour on Topmark in S-101
- Colour pattern may also need to be added.
- Amend validation checks so these are not flagged in CEVNI area.
- Reconsider the mapping of Topmark objects to DAYMARK features in S-101

Justification and Impacts

Mariners expect an identifiable and uniform way of the portrayal and encoding of Topmarks throughout ENCs in S-57 and S-101 format.

Action Required of S-101PT10

The S-101PT10 is invited to:

- a. endorse the paper
- b. discuss the topic and recommendations
- c. decide on the next steps forward