ENC STANDARDS MAINTENANCE WORKING GROUP (ENCWG)

Paper by the AHO

Dangers highlighted by Sector lights intersections

Introduction

The grounding of the Dutch freighter ‘Nova Cura’ in 2016 highlighted the sub-standard depiction of a navigational danger in ECDIS when compared with its paper chart equivalent. The area to be avoided was marked by 2 intersecting light sectors. ENC encoding practices should be improved to provide ECDIS with data capable of activating its in-built safety functions.

Introduction

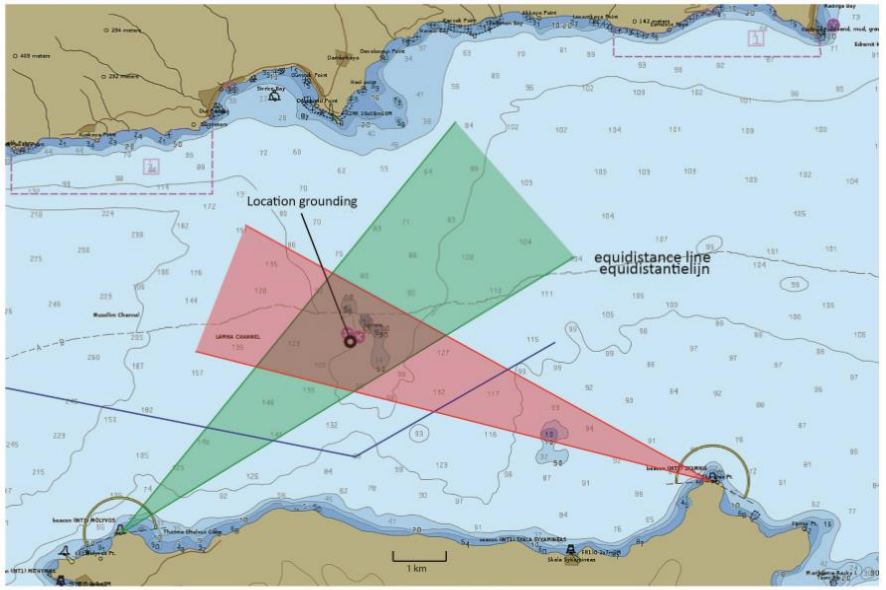


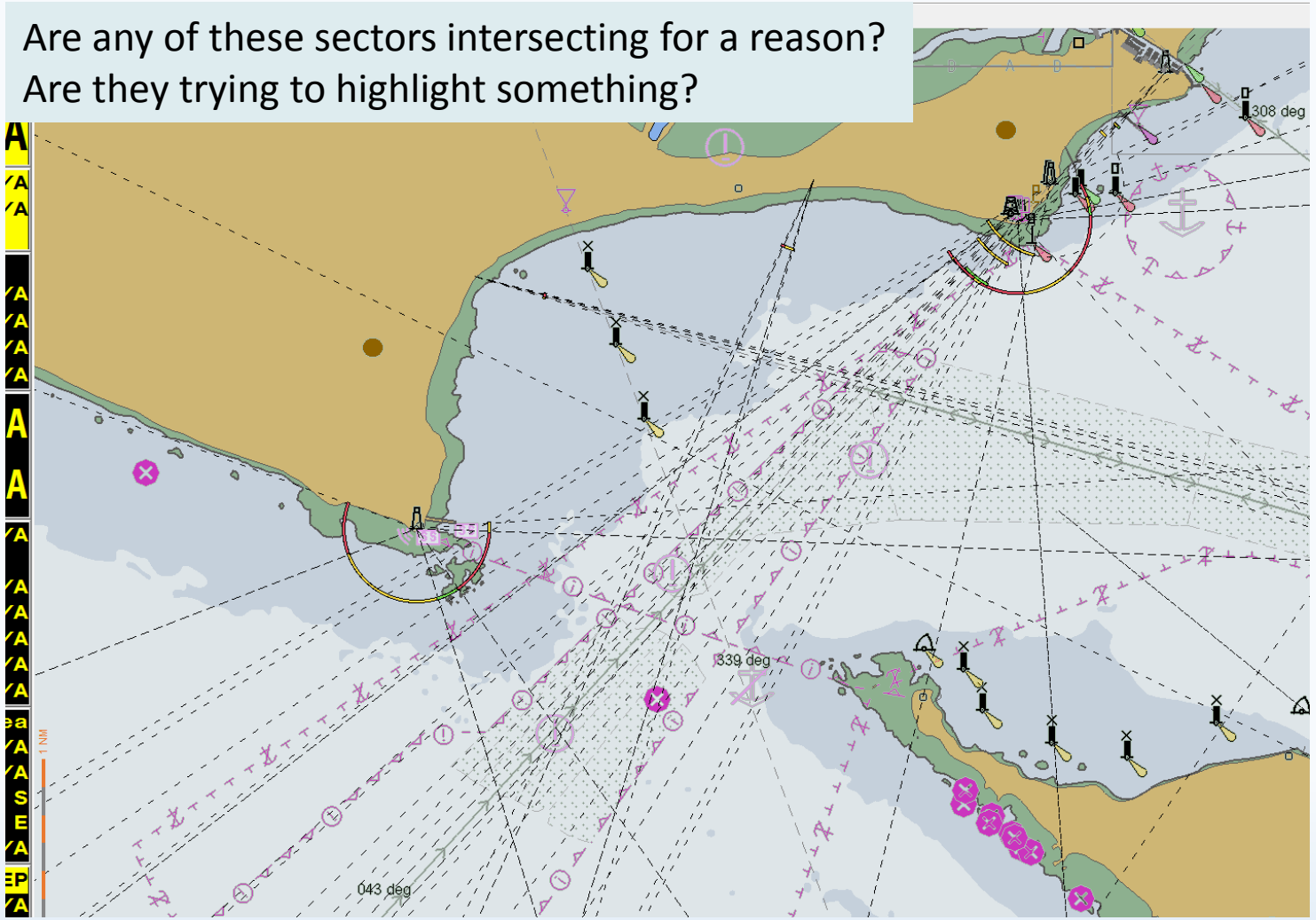
Figure 8: Sector lights in Mytilini Strait. Source: GR4APP01

The problem

- For sector lights in ECDIS, the ‘show full length light sector lines’ option can be ‘enabled’ or ‘disabled’. If the extension of the sector lines to reach VALNMR is ‘enabled’, it applies to all sector lights stated in the ENC, including those that are not relevant to the route.
- In the standard display, the option to show full length light sector lines is disabled.
- By default, the sector-colour and sector-limits generated by lights located outside the display window’ are not shown. This is not a mandatory requirement in S-52.

The problem

Are any of these sectors intersecting for a reason?
Are they trying to highlight something?



Conclusion

ECDIS could not warn the ship that it was approaching a ‘no-go’ area marked by the intersection of 2 sector lights.

The proposed solution

1. ‘Double encode’ the ‘NO-GO’ area as an ‘independent’ CTNARE or RESARE object. This object and the corresponding sector LIGHTS should be linked using an M_ASSO Meta object.
2. Amend S-52 Edition 6.1.1, 3.3.1 (2) (and consequently S-64) to mandate the implementation of the ECDIS functionality that allows mariners to display, on demand, a sector light’s colour and limits affecting the position of the ship when the lights involved are off the display.
3. Refer the topic to the S101PT to asses the need for amendments to the portrayal rules and the DCEG.