

**Paper for Consideration by ENCWG
S-57 Encoding of Sector Lights**

Submitted by:	UK Hydrographic Office
Executive Summary:	User-awareness of Sectorised Lights where the nominal light range extends outside ENC limits
Related Documents:	
Related Projects:	S-101

Introduction / Background:

- The question has been raised that if a user is navigating on an ENC, and has not purchased the adjacent ENC which contains a sector light where the value of nominal range extends beyond the limits of the ENC, would they be aware of the lights?

Analysis / Discussion:

- In S57, it is not currently possible to extend light sector boundaries beyond the standard length displayed on an ENC.
- The light sector boundaries only display when the 'long lines' layer is enabled on an ECDIS.
- The issue is relevant to both traditional ENC scheming based on paper chart limits and gridded ENC scheming, although it may be more common on gridded schemes.

Options:

- Do nothing i.e., do not amend the S-57 encoding guidance
- Use NEWOBJ (see annex A)
- Use NAVLNE, this option has been adopted by some HOs e.g. NZ, and it passes the IC-ENC validation checks with no observed issues (see annex B).

Conclusions:

- Test-Data to trail both scenarios has been created by UKHO, a summary of the outcomes are below:
 - NEWOBJ: this option is more complicated than NAVLNE's, HOs need to ensure the symbolisation is displayed correctly. Areas and lines need to be constructed for each of the light sectors. Attributing a sectorised light means that we could ensure that the light displays on an ECDIS exactly how the user will want to view it, without having to switch on 'Long Lines'.
 - NAVLNE: requirement is quick and simple to create, the lines are digitised using the paper chart as a guide, ensuring that the orientation is correct. There is potential for confusion by the user who could mistake the light sector arm as a Nav line.

Recommendations:

- This specific scenario is not common and does not present a significant safety risk, it does not need to be applied to all sector lights.
- Only consider alternate encoding where a specific light meets certain specific scenarios and safety can be improved.

Justification and Impacts:

- Current proposals include S-101 being carriage compliant by 2026. HOs have a considerable amount of work to complete to achieve that date.

Action required of ENCWG:

The ENCWG is invited to:

- To confirm if the concern represents a genuine risk or a perceived risk, HOs are requested to highlight if this issue has been raised at their national HOs and or by their customers/users
- Consider if an encoding bulletin is required where the alternative encoding improves safety for the user.

Annex A: NEWOBJ



Annex B: NAVLNE

