Paper for Consideration by ENCWG4

Omnidirectional lights with a nominal range of 10NM or greater

Submitted by:	Australia (AHO)
Executive Summary:	Propose changes to the UOC, S-58 and LIGHTS06 CSP.
Related Documents:	S-58 Ed 6.1.0, S-57 UOC Ed 4.1.0, S52 PL Ed 4.0.2 Part I
Related Projects:	S101PT

Introduction / Background

S-57 UOC Ed 4.1.0 guidance section 12.1.2 states that:

New portrayal rules for ECDIS have resulted in the display of omnidirectional lights with a nominal range of 10 Nautical Miles or greater using a 360° light sector. On land, if no aid to navigation structure object has been encoded at the position of these lights, the Mariner does not have a displayed centre point to take bearings to. Encoders are advised, therefore, that an aid to navigation structure object (for example **BCNSPP**, **PILPNT**) should be encoded as a light structure object for all lights on land of nominal range 10 Nautical Miles or greater, where the nature of the structure object is unknown.

Analysis/Discussion

1. The current UOC wording does not inform encoders that the 'double encoding' of an aid to navigation structure object shouldn't apply to **LIGHTS** with CATLIT = 5 (aero light) or 6 (air obstruction light). According to S-52 PL 4.0.2 CSP LIGHTS06, these type of lights are not displayed in ECDIS as a 360° light sector and therefore they do not need a 'centre point' to be added in the form of another S-57 object.
2. When an omnidirectional light with a nominal range => 10NM sits on a **BRIDGE** (ECDIS Standard display object), and the **BRIDGE** is over navigable water, the encoding of a **PILPNT** or **BCNSPP** as a 'centre point' object may not be the best solution. In this scenario, mariners may not be able to resolve if the feature (e.g. **PILPNT**) is under (in the water) or on the **BRIDGE**.
3. A new S-58 check (Warning) should be created to alert encoders when a 'centre point' object has not been added to the product in accordance with section 12.1.2 of the UOC.
4. ECDIS performance may be improved to automatically display an appropriate 'centre point' symbol when the required conditions are met. This will save encoders (and reviewers) compilation time and would stop a bad practice of encoding artificial objects to indirectly fulfil other requirements.

Conclusions

Changes to a number of specifications may clarify and speed up the compilation of omnidirectional lights with a nominal range => 10NM.

Recommendations

- Expand existing UOC section 12.1.2 guidance to exclude 'aero lights and 'air obstruction lights'.
- Discuss the best way of encoding a 'centre point' object for lights on bridges over navigable water without generating confusion to mariners.
- Develop a new S-58 check (Warning) to alert encoders of noncompliance with section 12.1.2 of the UOC.
- Discuss the possibility of amending S-52 PL CSP LIGHTS06 to include a suitable 'centre point' symbol when displaying omnidirectional lights of nominal range => 10NM on land that do not share position with a valid aid to navigation structure object of type Point.

Justification and Impacts

The implementation of the recommendations would clarify and speed up the encoding of omnidirectional lights with a nominal range => 10 NM.

Action Required of ENCWG

The ENCWG is invited to discuss the topic and asses the benefits of proceeding with the recommendations.