

## Paper for Consideration by TSMAD and DIPWG

### Attributes to Simplify Portrayal in S-101

<b>Submitted by:</b>	UK
<b>Executive Summary:</b>	This paper identifies cases where the addition of attributes currently calculated as part of S-52 portrayal could be added to the S-101 Feature Catalogue in order to simplify portrayal.
<b>Related Documents:</b>	1. S-101 DCEG
<b>Related Projects:</b>	1. S-101

#### Introduction / Background

1. The Data Classification and Encoding Guide (DCEG) sub group has been developing an improved data model for S-101, addressing limitations of S-57 and expanding it using the new constructs defined in S-100. Although some of the changes should simplify portrayal there are some specific cases where adding attribution to S-101 features could reduce the complexity of portrayal. This paper discusses the justification and practicality of this. It goes on to suggest a number of new attributes to address this in S-101.

#### Analysis/Discussion

3. In S-52 conditional symbology procedures provide the more complex display rules. In many cases these are required as context input by the user determines display. However some of the complexity of conditional symbology procedures simply determines values which could be defined within the ENC dataset. For example a wreck with no VALSOU defined will query its underlying depth area to obtain a least depth this will be used to determine if the wreck is an isolated underwater danger and determine its symbology. With the approach proposed in this document the need to query the underlying depth area for a least depth is moved from the ECDIS portrayal to the production software reducing complexity within ECDIS and allowing user override in certain cases.

4. One area where conditional symbology could be simplified is where the underlying depth of underwater hazard features needs to be calculated. As the DEPVAL02 procedure is not dependant on user input contextual information, a least depth could instead be provided as an attribute in the ENC data. This could be achieved by adding a simple attribute to the appropriate features. This approach could also be used to replace the Exposition of sounding on these features. For example where VALSOU is not known but a least depth can be estimated a value could be entered by the producer overriding the default value. This approach would require the new attribute to be mandatory and be enforced through validation checks.

#### Proposal 1

- Add a new attribute least depth to Obstruction, Underwater rock and Wrecks objects. The attribute must be populated in production software based on the rules in the CSPs, S-58 checks must ensure the attribute is populated.
  - As a consequence the DEPVAL02 CSP can be deleted for S-101 Portrayal.
5. Currently the conditional symbology for lights is quite complex. The proposed structure which makes light sectors a complex attribute would simplify this. However one area which could be simplified is the extension of light sectors when sectors overlap. This could be provided as a

Boolean attribute populated by the production software and not indicated within the pick report. By adding a simple attribute for sector extension distance populated by the producer the length of light sectors could be controlled.

### Proposal 2

- Add a new complex attribute to Lights features in S-101 with the sub attributes Extended light sector as a Boolean and extended light sector distance as a real. In S-101 portrayal the Boolean value would be used to extend by the default distance and where populated the distance would enable cartographic control by producers.
- The relevant part of the LIGHTS05 conditional symbology procedure can be omitted within S-101 Portrayal.

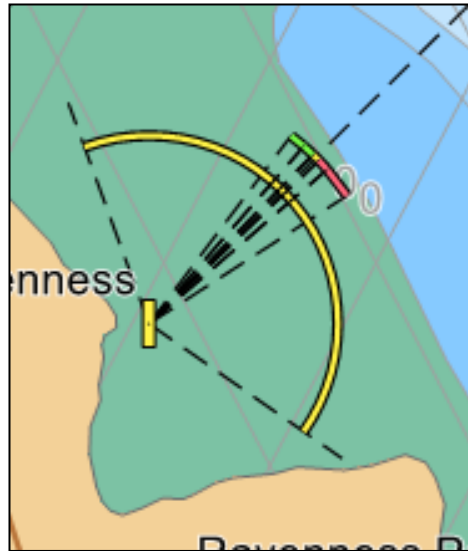


Figure 1 – Example of light sectors being extended based on the CSP LIGHTS05

6. The example shown in figure 1 results from the Lights05 CSP within S-52 where

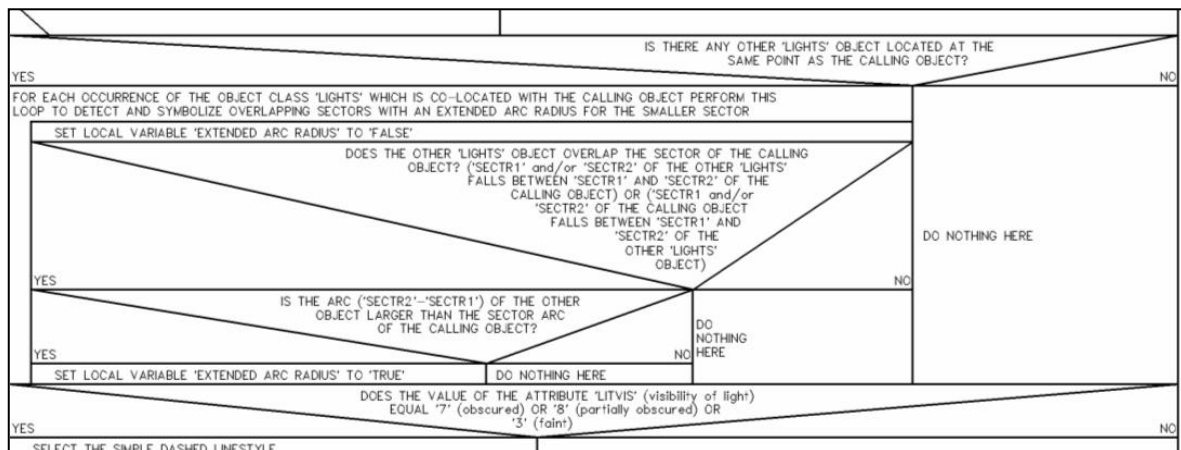


Figure 2 – Extract from S-52 LIGHTS05 CSP

### Conclusion

7. Although much work remains to be done on portrayal within S-101 one opportunity to reduce the complexity of portrayal is to provide the best possible information within the ENC data. This document supports this approach and proposes two specific areas where new attributes would reduce portrayal

complexity without additional burden for encoders. In fact by allowing overrides there are benefits for encoders in ensuring their data displays as intended.

#### **Action Required of TSMAD**

- Consider the proposed new attributes for inclusion in S-101
- Consider other instances where new attributes would simplify portrayal
- Consider the impact on S-101 portrayal