Input paper: [[1]](#footnote-2) ARM16-8.6.1

Input paper for the following Committee(s): check as appropriate Purpose of paper:

**X** ARM **□** ENG **□** PAP **X** Input

**□** ENAV **□** VTS **□** Information

Agenda item [[2]](#footnote-3) 8.6

Technical Domain / Task Number 2 …………………………………

Author(s) / Submitter(s) NCA

Proposal for portrayal update S-101

# Summary

IHO and IALA have recently conducted a workshop regarding product specification development and portrayal. This paper point at the need for having a discussion regarding portrayal principles regarding AtoN.

In particular we are addressing floating AtoNs, but other items might be added based on discussion and work at ARM16. Sector lights are undergoing changes with IHO, but we should also include a debate regarding PEL’s and how to display complex light characters of such lights.

## Purpose of the document

The committee is requested to form a small group of experts/stakeholders during ARM16, to debate the general principles of portrayal in S-101. With IHO currently, unless anyone proposes changes to portrayal, portrayal in S-101 will be identical to S-52 portrayal regarding AtoN. In S-52 there are two major principles for portrayal, this is;

Standardized symbols, and

Simplified symbols.

In addition, within the S-52 ENC Symbol Catalogue, reference to paper chart symbols is referred to as INT1 presentation/symbol.

In the following, brief examples of various marks (not all) are given to indicate on how they are/will be portrayed in S-101.

Our goal then, is to discuss if IALA should propose changes, possible in line with how we depict our AtoNs in the MBS, or try to refine the existing symbols from IHO by color filling etc. Requirement regarding viewing distance and size/font/day/night from IEC62288/IMO Circ. 243/IHO S-52 must be adhered to, on any proposed changes.

As an example, in Norway the symbol SY(BOYSPR01) are used for coding multiple types of marks, port lateral mark, starboard lateral mark and cardinal marks then these are of type; unlit, spar bouy. The result is a black symbol on the ECDIS display, without any indication for the mariner on type (unless he uses pick-report or changes to simplified symbols). Similar is the symbol SY(BOYPIL01) used in the same way for lighted buoys, with the same effect for the mariner (need for use of pick-report or simplified symbols).

NCA is asking for feedback on how other national HO codes ENC, since we do not have access to ENC’s outside Norway.

We kindly ask you to note that the standard symbols are referenced at the bottom of the symbol, while the simplified are referenced in the center of the symbol (between the cones).

IHO have earlier conducted surveys relating to use of symbols, and they commented that INT1 symbols looks “faint” in night palette, particular cardinal marks.

IHO is concerned with significant changes to portrayal in S-101. A proposal which do not change simplified symbols, but have slight changes to the standard symbols, could be more easy to accept by IHO.

Please study below images, as examples of where standard display to not match visual presence on scene.

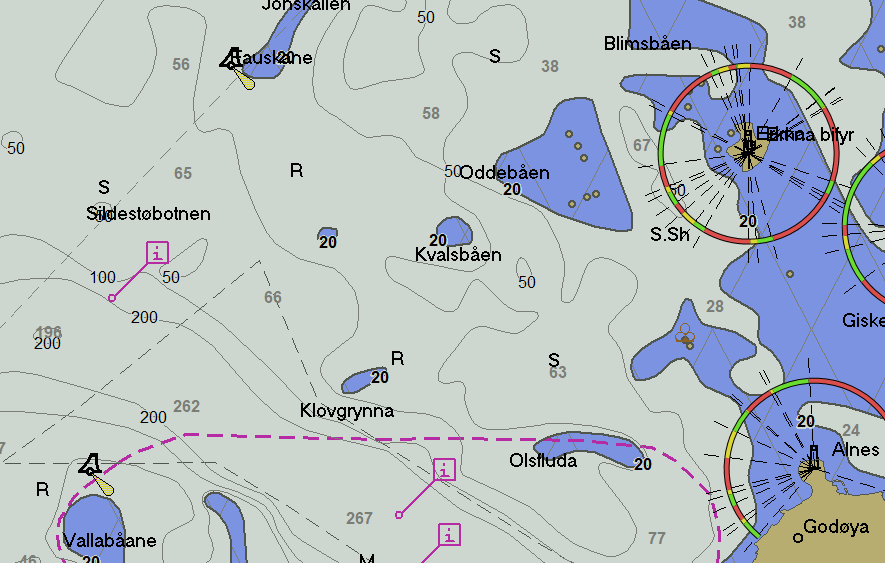


Figure 1 Image of ENC with standard symbols, pillar buoy, west and north cardinal identical symbol. Entrance to Aalesund.

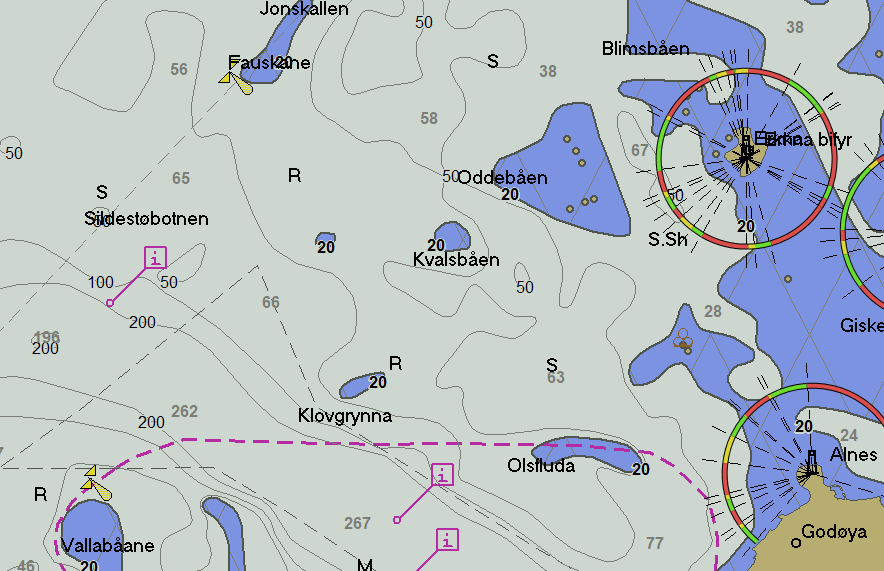


Figure 2 Image of ENC with simplified symbols, cones indicate type of cardinal mark.

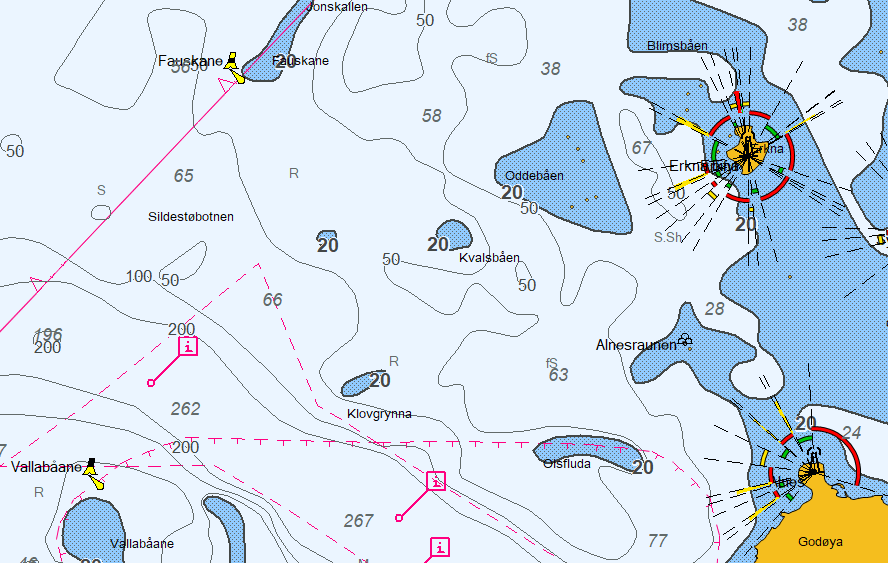


Figure 3 Image with ENC and INT1 symbols, multi-colored cardinal marks.

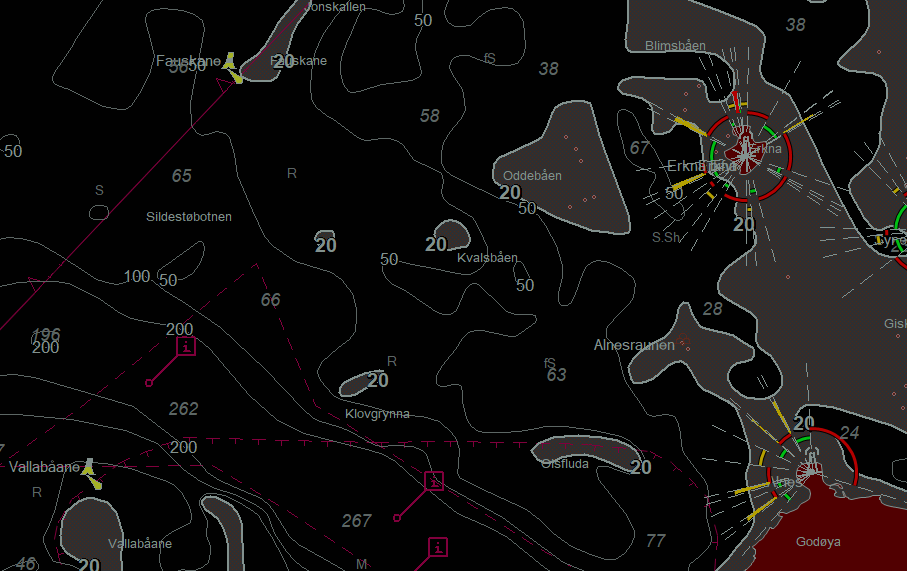


Figure 4 Image with ENC, INT1 symbols in night palette.

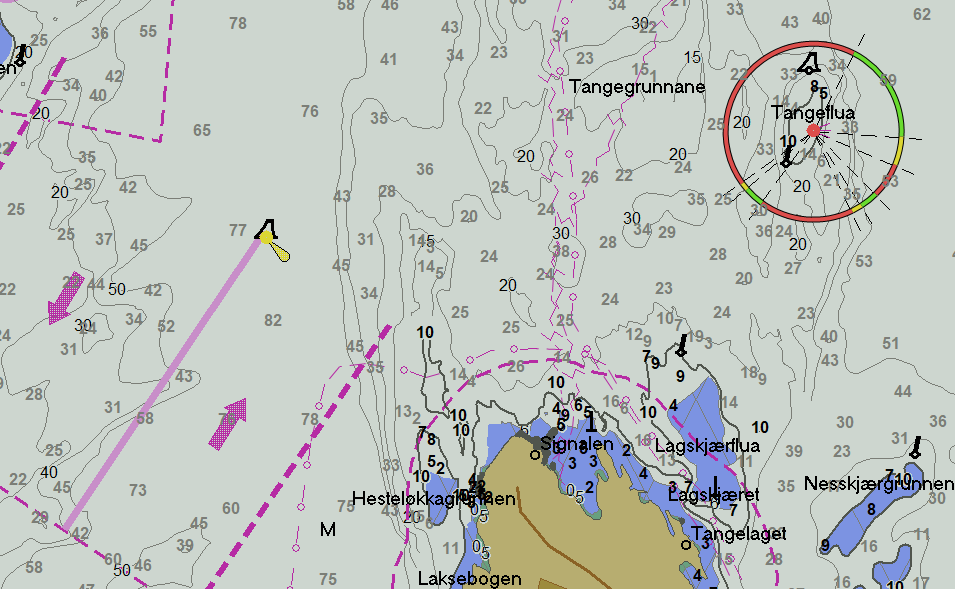


Figure 5 Image with ENC and standard symbols, entrance to Oslo, same symbols for port/starboard marks.

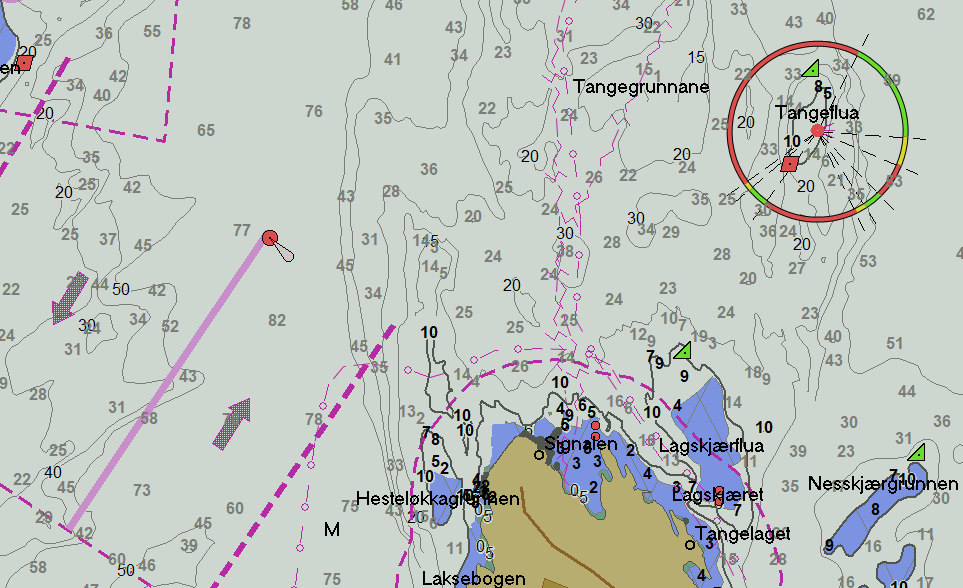


Figure 6 Image with ENC and simplified symbols.

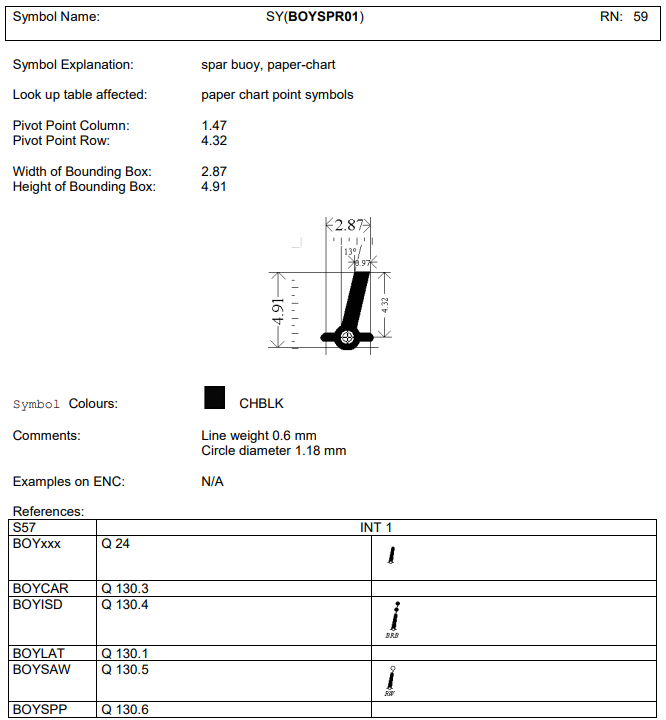
## Related documents

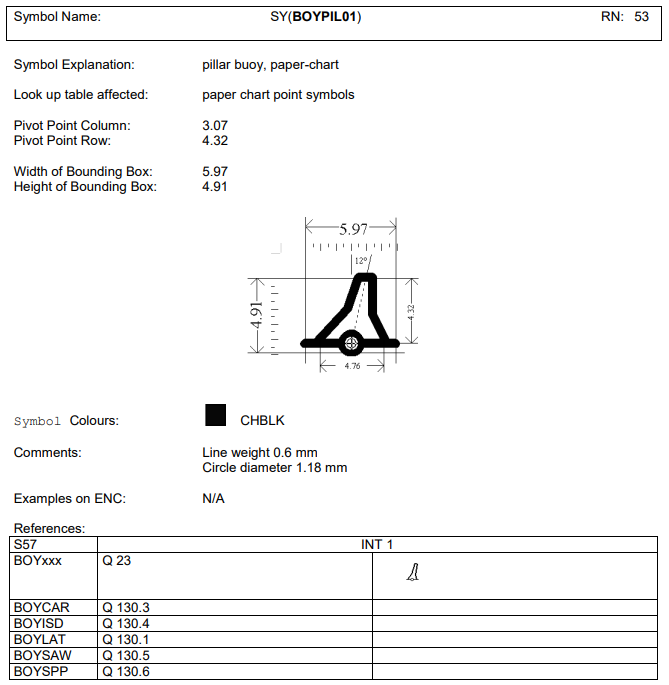
S-52 Annex A: IHO ECDIS Presentation Library, edition 4.0(3) – October 2014, revised December 2020, Addendum to Part 1: S-52 ENC Symbol Catalogue

# Background

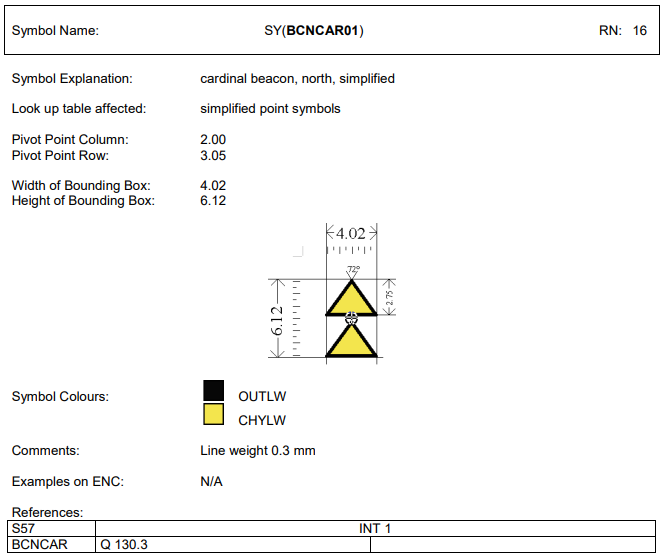
These figures shows examples on how IHO draws various symbols. All images courtesy of IHO.

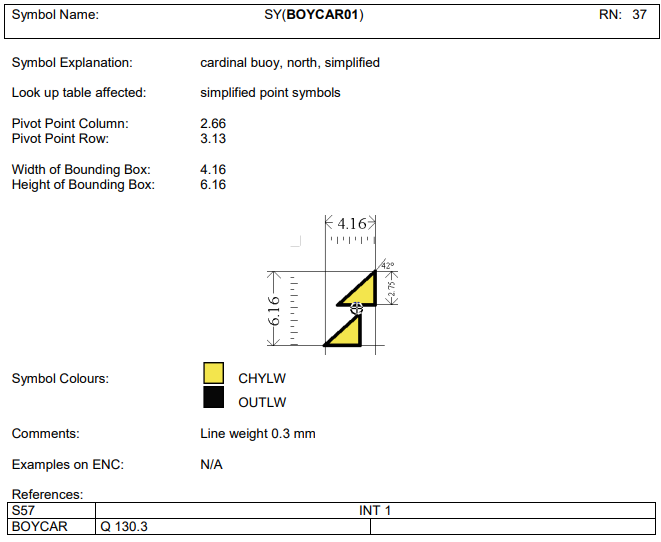
Examples of standard portrayal:

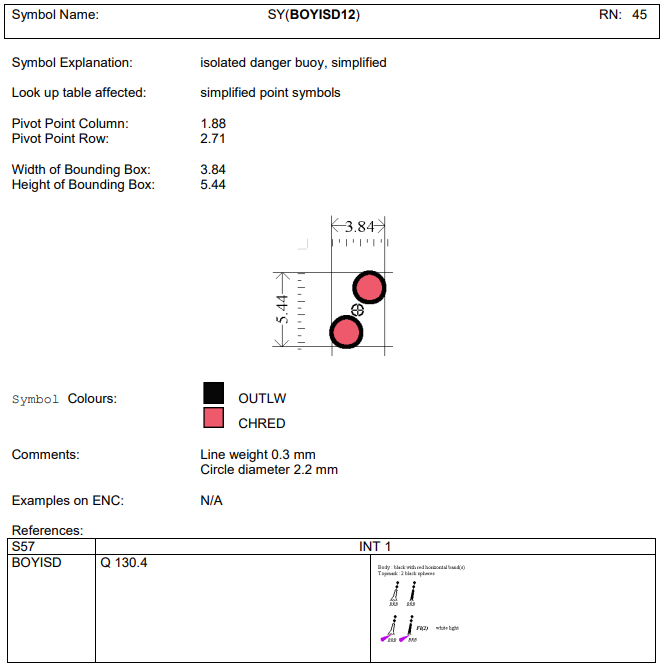


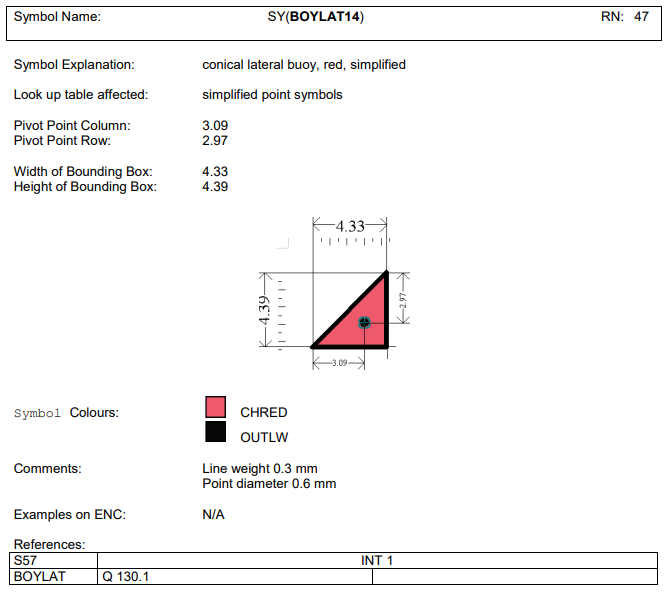


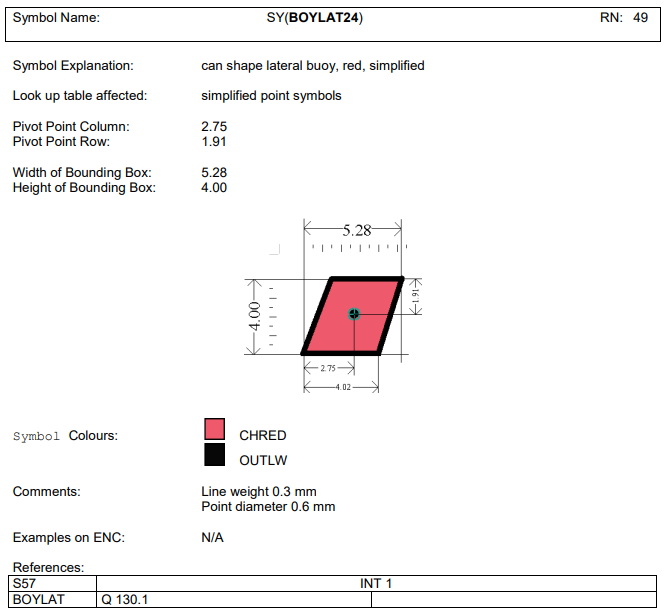
Examples of simplified portrayal:

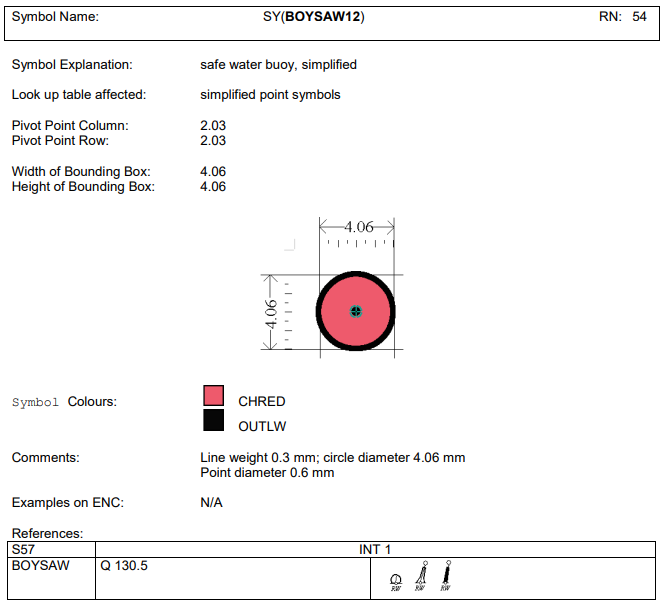












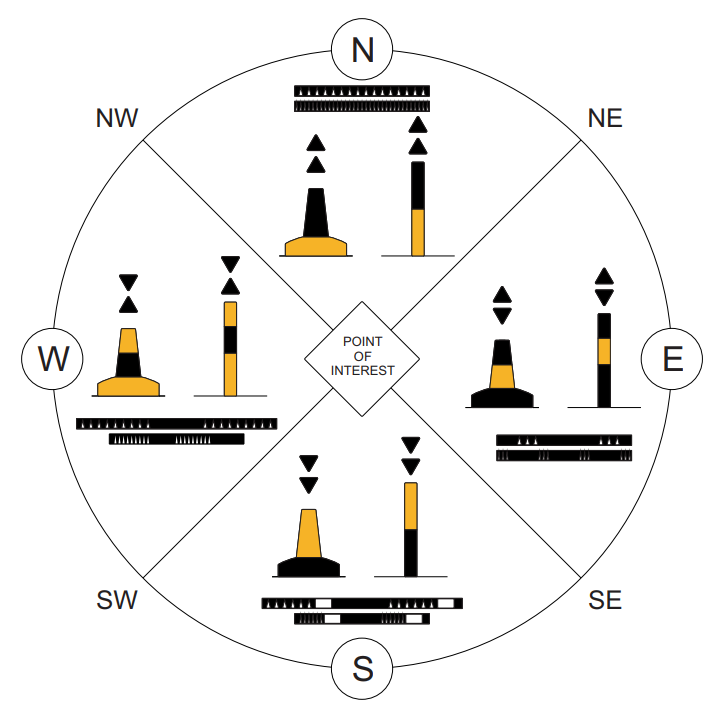


Figure 7 Image from IALA MBS, with example on how buoys are depicted.

# Discussion

The ARM Committee is asked to discuss the content of this paper during ARM16, and possible have intersessional work after ARM16 with proposing/drafting actual symbols for IHO approval in the S-101 portrayal subgroup.

Proposal 1: consider using color fill for spar buoys, in standard symbol mode.

Proposal 2: consider using color fill for pillar buoys, in standard symbol mode, with a size and shape that meets requirements for viewing distance and night palette. Shape and outline similar to MBS style guide.

Proposal 3: Discuss ways of portraying lights with more than one flash character, and/or with oscillinating color boundrys or alternating color in sector segments.

Proposal 4: Consider to develop symbols for preferred channel marks (missing today).

# Action requested of the Committee

The Committee is requested to:

Form a group of attendees to discuss and propose a way forward, if changes are deemed necessary.

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-2)
2. Leave open if uncertain [↑](#footnote-ref-3)