ANM16Input paper

Agenda item 8.1

Task Number 1

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Modification to Guide Line 1033 – the Provision of AtoN for different Classes of Vessels, including High Speed Craft (HSC)

1 SUMMARY

Paragraph 4 of Guide Line 1033 addresses the specific AtoN requirements of HSC and, in particular measures that tackle the problems of background lighting. However, whilst it provides good advice on countering specific background lighting-related interference, this does not include the effect of the elevation of an AtoN on the bridge to AtoN line of sight in relation to specific interference behind the AtoN. The purpose of this input is to raise this omission for discussion in WG 2 of ANM16 with a view to issuing a revised Guide Line.

1.1 Related documents

Guide Line 1033.

2 BACKGROUND

The requirement to modify the advice given in Guide Line 1033 arose after the author of the input was invited to consider the part that an AtoN of Navigational Significance might have played in a casualty that occurred when a HSC struck abreakwater upon which the AtoN in question was installed.

3 DISCUSSION

The relevant text of the Guide Line for the WG to consider is as below with suggested modifications in red:

“4.1 General Considerations for HSC

The general considerations for HSC include:

a) The navigator’s view and aural reception on the bridge of certain types of HSC;

b) The nature of the waterways traversed:

1) In open water, there may be little need for specific AtoN for HSC;

2) In more restricted waters, however - where HSC navigation is based, primarily, on the use of visual AtoN - HSC Captains will attach greatest importance to visual and spatial references. Nonetheless, heeding a basic rule of navigation that reliance should never be placed on one system of navigation, alone, they will be aware of the various electronic systems that are available - albeit in a secondary role – to corroborate their position and intended movement;

c) Traffic densities, water depths & tidal streams; and

d) Geographic or environmental considerations in relation to conspicuity of the AtoN provided, for example,

1) Colour of AtoN – care may need to be taken over the choice of colour against green summer forest or wintry white backgrounds;

2) Background lighting – specific interference from street lights or well-lit buildings, behind an AtoN along an HSC Bridge to AtoN line-of-sight may seriously inhibit the conspicuity of an AtoN of major navigational significance where the latter is most needed; in such cases, it may be necessary to consider the elevation of the AtoN, so that the worst of the interference is above or below the line-of-sight at that location;"

4.2 Provision of AtoN for HSC – 3rd, 6th and 7th bullet points:

- For harbours and port approaches, lights should have a multiple flash character rather than a single flash, for example, Fl (3) rather than Fl for more rapid identification. Nonetheless, where lights are fitted with synchronising circuitry, a Q flash character at a turning point – synchronising only with other Q flash characters may also be as effective, in clarifying an AtoN layout at night.
- Synchronisation of AtoN lights can clarify AtoN layouts in confined waters at night, and could be considered as an effective means of enhancing the visual and spatial awareness of HSC Captains.
- Authorities should consider:

  - The vertical divergence of lights when HSC must necessarily pass close aboard AtoN, and
  - The elevation of lights, as discussed in 4.1 d) 2), above,

The draft diagram, below - perhaps with a more appropriate flash character (Fl (3) G, for example) - may be of use as an illustration of 4.1 d) 2):

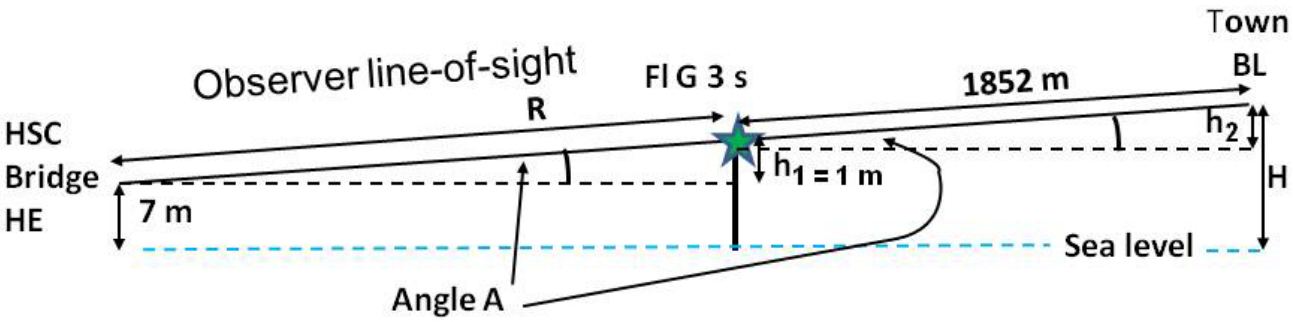

Fig.1 Observer Line of Sight in relation to Specific Background Lighting (BL)

Note:

H (elevation of specific source of background lighting interference) = 7 m (HSC Bridge Height of Eye) + h1 (elevation increment of AtoN of major navigational significance above Bridge Height of Eye) +h2 (elevation increment of specific source of background lighting interference above AtoN of major navigational significance)