

4th CSPCWG MEETING
Monaco, 13-15 November 2007

Charting of AIS transmitters on Aids to Navigation

UKHO experience and conclusions

Submitted by:	Chairman
Executive Summary:	Records outcome of discussions in UK with General Lighthouse Authorities and CSMWG on charting AIS
Related Documents:	M-4 B489
Related Projects:	none

Introduction / Background

Following implementation of trial AIS transmitters on Aids to Navigation in December 2004, CSPCWG consulted widely and published IHO approved new INT specifications for AIS transmitting Aids to Navigation. These were included in M-4 edition 3.002 (at B-489) as announced by IHO CL 121/05.

Analysis/Discussion

Subsequent exchanges of correspondence with UK's General Lighthouse Authorities (GLA), the CSMWG and internal UKHO discussions included such considerations as:

1. Should AIS transmitters on Aids to Navigation be included in NMs?
2. Should an 'i' be added to the AIS symbol on charts to show those transmitters which provide additional information services, eg tide, sea and weather conditions?
3. What information should be included in nautical publications?
4. How should AIS be encoded in ENC?

UKHO Conclusions

1. New AIS transmitters should be inserted on charts by NM (ie treat in the same way as Racons). However, trial AIS transmitters should not be included on paper charts (unless it is known that the trial is likely to exceed one year). They should be promulgated by (T)NM or Radio Warning, depending on likely period of trial.
2. 'i' should not be added to AIS symbols, because:
 - may sometimes be difficult to ascertain;
 - would be difficult to maintain;
 - such information broadcasts may not always be present, as the necessary additional equipment may be temperamental;
 - would be evident to the mariner anyway as soon as he is in range of the transmission.
3. AIS transmitters on 'primary aids' would be listed in UKHO's Admiralty List of Lights (in column 8 under 'Remarks'). At present, there is no intention to include AIS aids in UKHO's Admiralty List of Radio Signals, as it could only duplicate what is shown on the chart. This will be subject to review.
4. AIS aids will not be included in Electronic Nautical Charts (ENC). As ENC are expected to be used in integrated bridge systems, the AIS transmission would appear on the ECDIS

display anyway (in its real time position). Displaying it separately (and possibly in a slightly different position) from within the ENC is likely to lead to confusion. (See also copy of helpful email from Chairman CSMWG at Annex).

Action Required of CSPCWG

WG members may wish to consider whether UKHO's conclusions are helpful for their own practices.

Annex

Email from Chairman CSMWG dated 16 January 2007

I would not be in favour to make symbols of paper chart and ECDIS for AIS equipped AtoN identical because they tell different things. On paper charts it simply reports the existence of this combination between a buoy and an AIS transmitter placed on top of it. This information could be well coded into the inform attribute even though this information is not very useful for the mariner in itself. The whole thing comes to life first on ECDIS because from the operational standpoint AIS on ECDIS is much different: the proposed AIS symbol would not be triggered by the database - instead, the diamond and the cross hair in the centre would be triggered by the TRANSMITTED AIS message of this particular AtoN received from the on board unit and interfaced to the ECDIS device. The diamond and the cross hair have been taken because the charted position of the AtoN (in SENC) may well deviate from the real transmitted position. Because the cross hair represents the transmitted position one could easily detect such a shift and the diamond would not cover too much of the point symbol. If chart and transmitted position are the same, the diamond would well surround the buoy symbol and would tell its message of being identical to the mariner at the glance.

Like for other objects on ECDIS screen it would of course be useful to attach some display boxes to the symbol which could be triggered by picking the AIS symbol to learn more about its nature.

And a last aspect: There is some thinking about virtual AtoN formed by AIS messages send out from shore but referring to a distinct position at sea. For such arrangements a general AtoN AIS symbol would be needed which allows to form points, lines (in a row) and area objects. At the same time this symbol should be unambiguous, i.e. should be unique in comparison to other geometries at the screen. Where are a lot of rectangles, triangles and circles already on the ECDIS screen and the diamond is an unused, simple, undirected, intuitive symbol which is not of use for anything else except AIS equipped AtoN on the screen. With regard to its geometric primitive appearance - to some extend it belongs to the family of AIS symbols for vessels - a triangle.

To sum it up - there are to my view good arguments for the diamond and the reintroduction of a circle would not fit the purpose and be a step backwards. Similarity between paper chart and ECDIS symbol has ever been a principle of S-52 but not a dogma. There are many practical examples for deviations - the shape of simplified symbols not at the latest.

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