CSPCWG 4-09.5A

4th CSPCWG MEETING
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Paper for Consideration by CSPCWG

RACON Wavebands

Submitted by:	UK
Executive Summary:	A charted Racon without a stated waveband should mean it responds in both 3 & 10cm bands, but may also mean that the information is not available. This can be confusing to the chart user.
Related Documents:	M4, INT1.
Related Projects:	None

Introduction / Background

At present INT 1 lists the following:

Racon(D) (3 cm)	[Racon]…responding within the 3cm (X) band
Racon(D) (10 cm)	…responding within the 10cm (S) band
Racon(Z)	…responding within the 3cm (X) band and the 10cm (S) band

Complete information is unavailable for many Racons. That is, frequency, sector and range information is often missing (eg within China and USA). In these cases the 3 cm and 10 cm wavebands are not depicted on charts, so Racon(Z) can mean either (3 & 10cm) or waveband unknown or not given. This is likely to be confusing for the user, for example, where a chart depicts Racons where the waveband is known and some where it is not.

Analysis / Discussion

M4 specification:

> B-486.3 Identification and response frequencies of racons. The morse identification letter may be added in parentheses, eg. 'Racon (Z)'. Racons emit a signal in the 3 cm (X), the 10 cm (S), or both marine radar bands. The signal will thus produce an image on the ship's radar display working in the band concerned. Racons operating in the 3 cm band only shall be charted as 'Racon (3cm)'; those in the 10 cm band as 'Racon (10 cm)'; and Racons operating in both bands simply as 'Racon'.

This specification was amended in 1995 (IHO CLs 40/94 and 40/95 refer). Research into old CSC files reveals that France and Sweden suggested charting Racons operating in both bands as simply Racon. (This suggestion was in response to IHO CL 40/1994 and is detailed in a letter between Michel Huet and David McPherson, former CSC Chairman).

The lack of clarity now caused by a Racon with no waveband indicated could be corrected by reinstating the former '(3&10cm)' indicator. However, we should have regard to the amount of extra work this could generate (on charts, and in correcting M4, INT1, etc), plus chart clutter.

How important is it for the mariner to know the frequency? If a racon he expects to see does not appear on his radar display what will he do? Switch to the other band and check if it then appears? Or look in a publication such as Admiralty List of Radio Signals for further information? It does not seem to be dangerous to imply the racon is (3&10) when it is actually (3) or (10) – just a bit of a nuisance.

A better solution may be to delete all band information from the chart, and just include it in a publication (as we do with other radio/radar information, such as radio frequencies for radio

reporting). The publication could then state whether it is 3, 10, 3&10cm or unknown. Presumably US and China have concluded that there is no need to chart this information.

Conclusions

We should not revert to labeling Racons as (3&10cm) because of the work involved and potential chart clutter. Waveband labeling on paper charts could become obsolete.

Recommendations

Make waveband labeling on charts obsolete.

Justification and Impacts

- It is not dangerous to withhold this information on charts even when known.
- There are many examples where the information is not available.
- Avoids overloading the paper chart which already tends to have cluttered information at navigational aids.
- Need to update M4 and INT1 (possibly will have impact on other IHO publications).

Action required of CSPCWG

The CSPCWG is invited to discuss the above recommendation and decide whether to alter the specification B-486.3 accordingly.