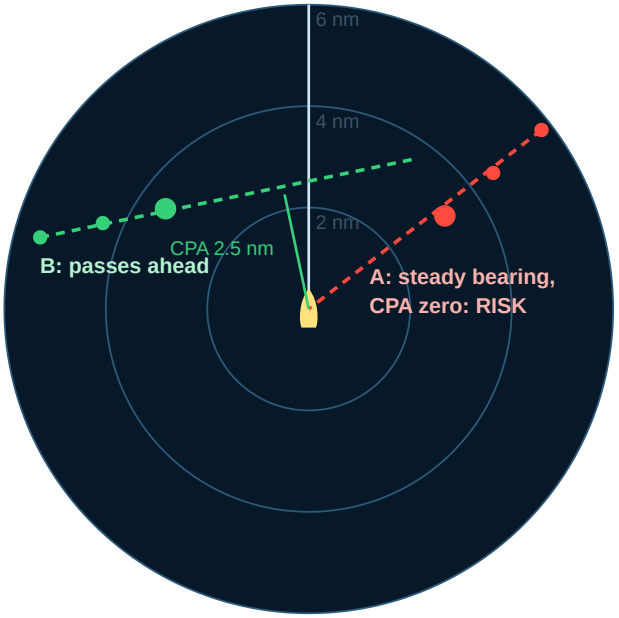
ZULU MARINER DATA CARD

25 RADAR AND COLLISION AVOIDANCE

Plot it, find the CPA, act early. Radar and AIS help you keep the rules; they do not replace a lookout.

READING THE PLOT



Relative motion, 6 nm range, plots every 6 min

1. Mark the target every few minutes.
2. Draw a line through the marks and extend it.
3. CPA: the closest that line comes to the centre.
4. TCPA: time to get there at the same rate.

Bearing steady, range closing: risk of collision (Rule 7).

Relative trails show who is closing.
True trails show what she is doing.

THE RULES THAT MENTION RADAR

5	Lookout by every available means, radar included.
6(b)	Safe speed with radar: its range scale, clutter, small targets and ice it may miss.
7(b)	Proper use: long-range scanning for early warning, and radar plotting.
7(c)	No assumptions on scanty information, especially scanty radar information.
8(b)	Alter enough to be readily apparent to another vessel on her radar.
19(d)	Detected by radar alone, close quarters developing: act in ample time. Forward of the beam: avoid turning to port (except for a vessel being overtaken). Abeam or abaft: avoid turning towards her.

SET IT UP

- Gain: just a speckle of noise. Sea clutter: enough to see inside the clutter, no more.
- Rain clutter only when needed: it can hide weak targets too.
- Use EBL for bearing and VRM for range. Step down the range scale as targets close.
- Check heading line and gyro or compass against a known mark.

LIMITS TO REMEMBER

- Small boats, wood and fibreglass hulls, and kayaks give weak echoes, worst in a sea.
- Shadow sectors behind masts and funnels.
- AIS is not on every vessel, and it can be wrong. Course over ground is not heading.
- Use ARPA trial manoeuvre before you turn, then watch the result.

Big and early. Turn 30° or more, not a nudge of 5°.
Then keep plotting until she is past and clear.

Study aid only. Not for navigation.
Check the current official rules. Card 25 · v1.7 · © Nautical Bridge