TIP OF THE MONTH - AUGUST 2021

Human Element Maritime Enhancement Tool (H.EL.M.E.T)

DryBMS Subject Area 21 'Bridge procedures & standards' (Basic & Excellence Level)

- **HELMET ELEMENT 6 'Navigation' – Item 4 'Bridge Equipment and Communication Systems'**
- **Bridge Procedures Guide 5th Edition – 3.18.2 'Routine Tests and Checks', 4.11.1 'Safe use of Radar'**
- **MSC.64(67), Annex 4 – 'Recommendation on Performance Standards for Radar Equipment'**
- **STCW.7/CIRC.14 ISC, Annex B - 'Operational guidance for Officers in charge of a navigational watch'**
- **VIQ 7th Edition - Chapter 4 'Navigation and Communications', Para 4.2**
- **INTERTANKO – Vessels' Practical Guide to Vetting, Ch. 4.2**

FINDING: During a remote Navigational assessment using VDR data, our Assessor noticed that the radars' performance records were marked as **"good working condition".**

Other measurement values, such as transmitter & receiver dB loss (attenuation) and magnetron's current levels (i.e., numeric or percentage) were not recorded.

Date/Time	Ship's Position	Time / Hours				RADAR Performance Check		Remarks (Failures, Maintenance)
		S-BAND		X-BAND		Transmitter	Receiver	
		Run	Total	Run	Total			
UTC	LAT & LONG	5246 Hrs	7345 Hrs	4965 Hrs	7125 Hrs	-6.9dB to +2.0dB	-2.9dB to +3.5dB	Good – Fair – Poor (1-8)

IS THIS IMPORTANT?

According to manufacturers, when the magnetron is aged or near to be expired, distant targets cannot be seen on the display or the measurement's accuracy of their location in range and angle can be misjudged.

As per **Bridge Procedures Guide 5th Edition – 3.18.2 'Routine Tests and Checks' and 4.11.1 – 'Safe use of Radar'**, effectiveness of the radar(s) as measured by the performance monitor(s) should be recorded by the OOW at the end of each watch whenever the radar(s) are operational, to ensure that optimal efficiency is being maintained. A numeric, percentage, graphical, or other measurement value should be recorded.

SUGGESTIONS

We recommend the following actions:

- Bridge team must be familiar with the Radar's operation and limitation and maintain sufficient understanding of attenuation values (dB loss), magnetron current indicator, their limits and performance calculation.
- A poster must be located near the radar according to the manufacture's manual instructions and as per Company's Policy.
- Monitor the Magnetron Current Levels, and the Total / Transmit Time of the Radar on every watch.
- Take Periodic Snapshots of the Radar performance test results and compare them regarding Company's Policy.

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