

DON'T CURE PREVENT

ISSUE 09 JUNE 2021



**SPEED THROUGH WATER (STW) OR
SPEED OVER GROUND (SOG)?**



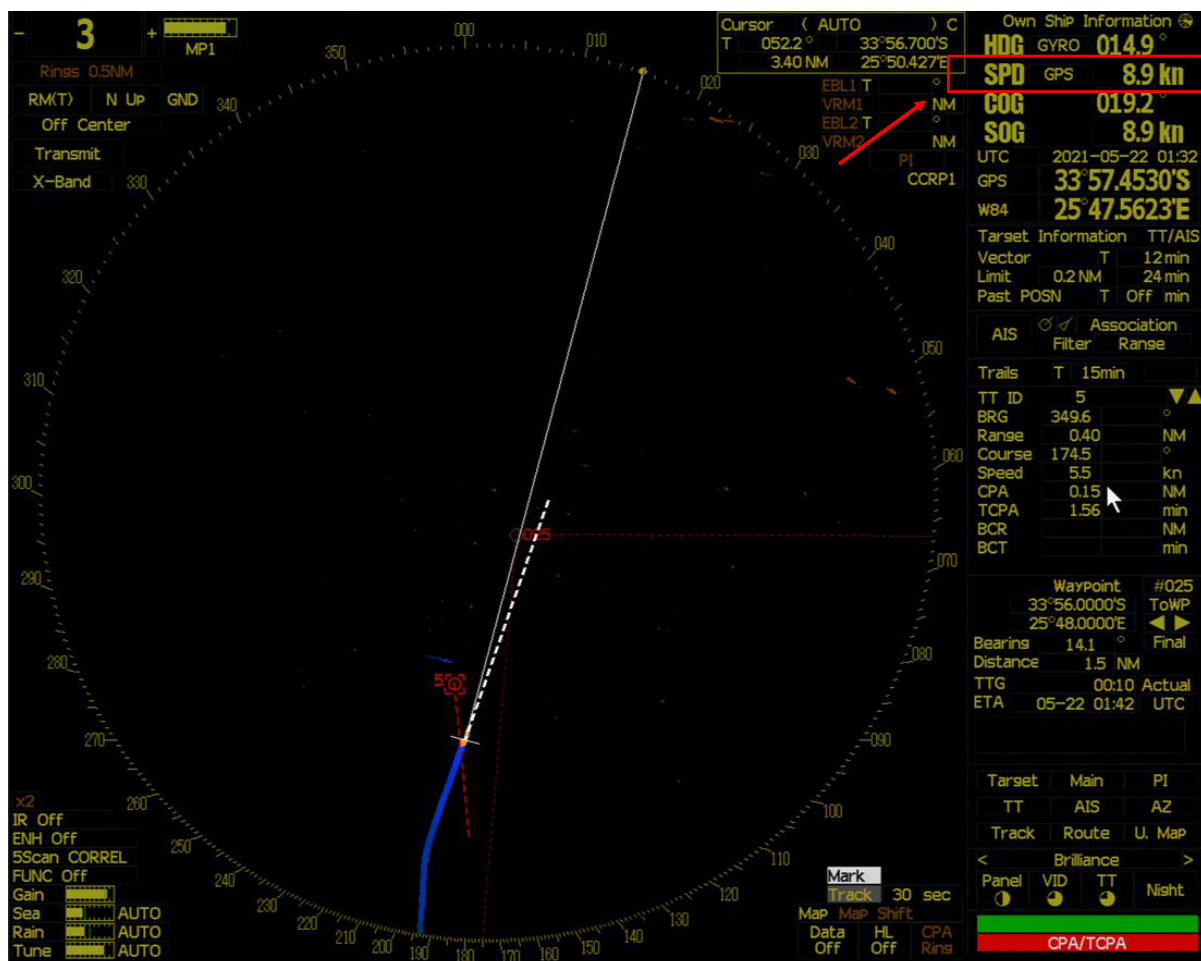
SPEED THROUGH WATER (STW) OR SPEED OVER GROUND (SOG)?



CASE

During a remote Navigational assessment using VDR data, P@S Assessor encountered that speed input was from GPS (Speed Over Ground (SOG)). The P@S Assessor recorded the said finding and highlighted that speed used for Radar Collision Avoidance should be Speed Through Water (STW), since it provides a more accurate indication of vessel's target aspects.

The subject observation comprises a common observation which may lead to complications during PSC inspections, if the speed inputs are provided through GPS.



REGULATORY FRAMEWORK

AS PER BRIDGE PROCEDURES GUIDE 5TH EDITION CH.4.4.1

ARPA is equipped with speed through the water input to determine collision risks and simulate a trial maneuver. In general, STW is used for radar collision avoidance and SOG is used for navigation. Caution should be exercised if SOG is used for collision avoidance as differences can arise in the aspect of a target and its vector particularly due to strong cross tides.

AS PER SOLAS REGULATION V/19.2.3.4

Speed and distance measuring devices on ships of 300 gross tonnage and upwards and passenger ships irrespective of size, shall be fitted for measuring speed *through the water*.



WHAT WENT WRONG?

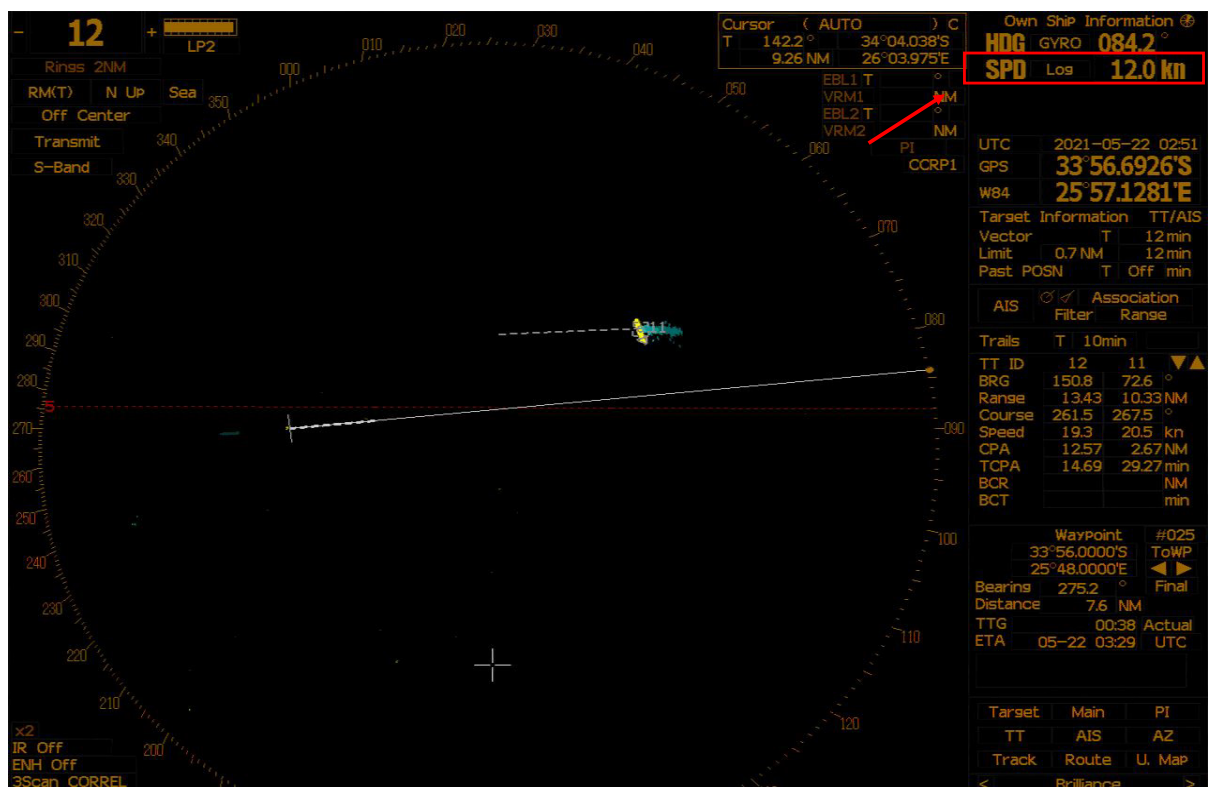
- Lack of knowledge on which speed input should be used during collision avoidance.
- Not relevant instructions were included in Company's Navigation Procedures regarding to Collision avoidance in relation to Radar.



OUR SUGGESTION

We suggest the following actions with the aim to prevent such cases from occurring.

- The Company should have specific procedures concerning the proper settings of the Radars ARPA along with requirements for operational set up, use of speed input through the water, maintenance and relevant training requirements.
- Bridge Team need to use both Speed Over Water as well as Speed Over Ground cautiously. Speed Over Water should only be used for collision avoidance and GPS (SOG) for navigation.



BEST PRACTICE

- ✓ Use of ARPA in ground stabilized mode (GPS) is not in accordance with IMO performance standards and may result in erroneous CPA and TCPA calculations with high risk to be involved in an incident and should be avoided during Collision Avoidance.
- ✓ Bridge Team should be vigilant and proficient in the use of Radars ARPA including setting alarms, blind sectors, use of radar maps and limitations.

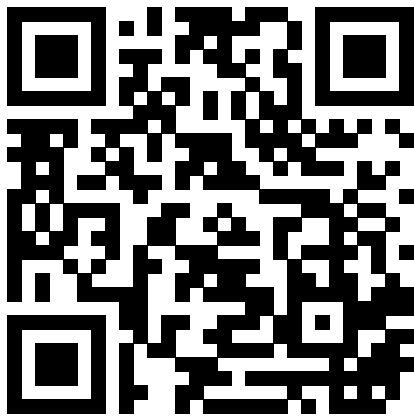
REMEMBER: Speed over water and speed over ground are two distinct tools. One does not replace the other and Navigation Officers should make full use of these tools case by case.



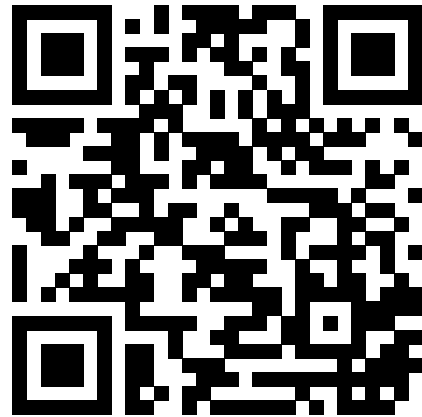
TEST YOUR KNOWLEDGE

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Q&A



SPOT THE DEFICIENCY



 **PREVENTION AT SEA**

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**FOR MORE INFORMATION,
PLEASE DO NOT HESITATE TO CONTACT US.**



Prevention at Sea Ltd
5 Artemidos Avenue, 6th Floor,
Artemidos Tower, 6020
Larnaca - Cyprus

Tel: +357 24819800

Fax: +357 24819881



PREVESEA Ltd
91 Akti Miaouli Str.
Piraeus 18538
Athens - Greece

Tel: +30 210 64 37 637



info@preventionatsea.com



www.preventionatsea.com