Port Marine Circular

Port of: **Das Zirku & Mubarraz**

No. DZM/MC/001/2026

Date: 03/03/2026

To: **All Shipping**
Shipping Agents
Port Users
Port Operators

Type of Change: **Temporary**

Subject: **Accuracy of Global Positioning System (GPS)**

This circular brings to the attention of the mariners on the need to ensure that information received by the GPS accurate and correct.

The GPS provides a global positioning capability giving a 95% accuracy in the order of 100 meters. The system is capable of much greater accuracy, but the commercial service is deliberately degraded by Selective Availability (SA). To further increase accuracy, for the merchant shipping the DGPS (Differential Global Positioning System) technology was developed and becoming more widely available. As known the DGPS uses a fixed GPS location (such as a cell tower station) to send information to the GPS receiver where the positional accuracy of better than 5 metres may be possible.

The accuracy of GPS increased considerably in recent years, however there is still a danger that over-reliance on the output from a single item of equipment may lead to an accident. The need to cross-check the vessel's position using other means is as important today as it ever was. Accidents have occurred with ships equipped with the best of equipment where watch-keepers have been over-reliant on the equipment output.

The DGPS stations in our region become out of order from time to time which affect the GPS accuracy due the Selective Availability option, therefore, the positional information must be regularly cross-checked using other equipment, as well as visual aids to navigation.

Furthermore, the electronic chart systems are integrated with an electronic position-fixing system (GPS or DGPS) enabling the vessel's position to be continuously displayed. Therefore, problems may arise on ECDS caused by the possible error on the above fixing system.

The below notes emphasise the need for correct use of navigational equipment by mariners

- Be aware that each item of equipment is an aid to navigation
- Be aware of the dangers of over-reliance on the output from and accuracy of a single Navigational aid

- Use Parallel index techniques, which provide valuable assistance to position monitoring in relation to a pre- determined passage plan and would have helped to avoid accidents.
- Recognise the importance of the correct use of navigational aids and knowledge of their limitations
- Appreciate the need to cross check position fixing information using other methods
- Be aware of the factors which affect the accuracy of position fixing systems such as failure of DGPS stations
- Identify clear reference point (Bearing & distance) to be used when required.

Any clarification related to this Port Marine Circular, may be directed to the Harbor Master using Contact us form on PPA website https://ppa.adnoc.ae/en/contact-us

Harbour Master

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