

## CIRCULAR No. 75

### PORTUGUESE MARITIME ADMINISTRATION

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**SUBJECT** | LRIT -GPS Rollover on Thrane & Thrane 3026X terminals after 25.03.2023

**To** | Shipowners, Companies, Operators, Recognized Organizations, Shore Based Maintenance Entities, Surveyors, Masters and Skippers of Portuguese flagged vessels

**DISCLAIMER** | This document is for information only and is not intended to interpret or replace the legal referenced documents published by official sources

**REFERENCES** | SOLAS Convention V/19-1, long range identification and tracking of ships - LRIT;  
EMSA Information - GPS Rollover TT-3026X

#### OBJECTIVE

The aim of this circular is alerting all the addressed to the changes GPS equipment may have that may generate errors in its position, which will have influence on LRIT reporting.

#### 1. INTRODUCTION

The Global Positioning System, GPS, is a satellite navigation system which allows the identification of the geographic positioning of objects. Since its implementation in the early 1980s, date and time of the GPS system have been defined by a standardised counting format. This counting format has a finite period which is reset every 1024 weeks or 19.7 years. The first event (or epoch) where the finite period ended, was in August 1999 and it was widely known as the "year 2000 bug" or "Y2k".

#### 2. IMPACT ON VESSELS OPERATIONS

##### 2.1 REPORTING

LRIT reporting, mandatory for certain type of vessels as defined by SOLAS V/19-1, is conditioned by the correct functioning of GPS. Similarly, the operation and recording of certain equipment

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depends also on the correct and accurate date/time group information transmitted by the GPS receiver. As an example, the following systems require this information:

- ECDIS (Electronic Chart Display and Information System);
- GMDSS;
- VDR (Voyage Data Recorder);
- ODME (Oil Discharge Monitoring System);

### **2.2 ROLLOVER IN TT-3020X**

It has been reported to the national LRIT ([lrit@dgrm.mm.gov.pt](mailto:lrit@dgrm.mm.gov.pt)) that since March 26<sup>th</sup> 00:00 UTC a significant reduction in the number of LRIT position reports processed by the EU LRIT CDC and it has been concluded that this situation was due to a bug in some older Mini-C shipborne equipment.

On further investigations and conclusion of this reduction of positions received and processed it was identified a terminal software issue (GPS rollover) for terminals which were ending life 10 years ago and are not supported anymore by the manufacturer. Unfortunately, the fix is to replace the terminal.

### **3. ACTION / MEASURES TO BE TAKEN**

On Portuguese flagged vessels where LRIT is mandatory 72 (seventy two) abnormal situations were identified in which the terminals stopped reporting due to obsolescence of the shipborne equipment and for which the only possible solution is the replacement.

In every replacement it should be taken into account the content of Circular 46, in its most recent version, paragraphs 6 (LRIT SHIPBORNE EQUIPMENT - REQUIREMENTS AND CONFORMANCE TESTING) and subsequent, which may be downloaded from DGRM's website in <https://www.dgrm.mm.gov.pt/web/guest/circulares>.

The terminals which were identified as having been affected by this rollover are the following:



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Models concerned
TT-3026S
TT-3026M
TT-3026D
TT-3020C
TT-3000SSA (Mini C)
TT-3000SSA
TT-3000LRIT
TT-3000E
SAILOR H3000M SSA
SAILOR 6120
SAILOR 6110 - 3027C
3027LT - SAILOR 6130

The identification of the terminals currently affected is not static, and other terminal's manufacturers / models may be identified later if the problem occurs.

Lisbon, 04.04.2023

The General Director of Natural Resources, Safety and Maritime Services

### More information

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