



EASA Safety Information Bulletin

SIB No.: 2011-18
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Subject: **Techtest Ltd. Emergency Locator Transmitter (ELT) – Marking and Training Considerations**

Applicability: All aircraft, certificated in any category, that have a Techtest Ltd. (also known as HR Smith) Type 500-12, 500-16, or 500-27 ELT installed as required equipment, or carried onboard by individuals.

Note 1: These Techtest Type 500 devices may be classified as either an ELT-S (Survival) or a Personal Locator Beacon (PLB)

Note 2: Use of acronyms in this SIB: **ELT** – An Aviation Authority approved Emergency Locator Transmitter carried to comply with aircraft operational requirements (e.g. JAR OPS 3.820 and 3.830, EU OPS 1.820, 1.830, 1.835). **PLB** – A personal locator device used for purposes other than to comply with (aircraft) operational requirements.

Description: Following an accident and a subsequent search and rescue operation in the North Sea, it became evident that the users of the affected portable/survival ELTs may not have had sufficient knowledge about the intended operation in general and of the specific functions of the units.

The Techtest type 500 device provides an additional 'multiple beacon' feature that is activated as long as a sufficiently strong signal is received on a frequency of 121.5 Megahertz (MHz) or 243 MHz. This is sometimes referred to as 'SMART functionality'. This function is intended to avoid multiple targets for the homing operation. When a 121.5/243 MHz transmission from any other source with a certain signal level is detected, the location signal transmission on 121.5/243 MHz is suspended and no own homing signal is broadcasted under that condition. However, the received signal swept tone or the received voice transmission is heard in the loudspeaker instead of monitoring the own transmission.

In the accident case, a weak signal from a nearby PLB was sufficient to cause the Techtest Type 500 devices to go into 'multiple beacon' mode and to suppress their 121.5/243 MHz transmissions. This weak active transmitted signal meant that the rescue vessel had difficulty in locating the survivors, as the signal from that PLB was too weak to ensure the homing function, yet strong enough to suspend the transmission of the Techtest Type 500 device. This behaviour delayed the rescue

operation and could have resulted in an inability to locate and rescue the survivors.

The same technical functionality is used to implement the automatic voice reception function. It should be noted that this implementation of the 'multiple beacon'/automatic voice reception function does not meet the current EASA interpretation of the specific CS-ETSO requirements for optional voice capability.

Recommendations: Marking: The antenna should be turned into an upright position and extended for proper operation. Further, the user should take care that the antenna is out of the water to allow proper radiation of the signal.

If the antenna extension action is not already placarded and/or described on the unit – which is the case for units manufactured before mid 2009 – a suitable placard should be installed on the unit.

Training: Operators should ensure that all potential users of the ELT units are familiar with the specific functions of the ELT and are provided with appropriate training, including recurrent training at suitable intervals.

The following should be specifically addressed:

Automatic receiving functionality: To correctly understand the operating status of the ELT (broadcast transmissions versus the 'multiple beacon' receive only mode) the user should understand and be able to distinguish between the received transmissions from other devices near by and his own transmissions. This can be determined by the tones heard in combination with the indicator lamp status. As the behaviour of the unit is quite similar, it will likely be misinterpreted. Refer to the last revision of the Operating Manual for further details.

The voice function is in general only used in the military environment. Consequently, the rescue team will not expect such function and will not consider its availability. The 'multiple beacon' feature will not be expected at all.

Care should be taken when demonstrating the use of the units to avoid erroneous alarms.

Contacts:

For any question concerning the technical content of the recommended actions in this SIB, please contact:

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