DARS Heads Up
Directorate of Aviation Regulation & Safety

1-09

7 January 09

IMPORTANT CHANGES TO AIRCREW EMERGENCY PERSONAL LOCATION BEACONS POST 1 FEB 2009

ISSUE. On 1 Feb 2009, the ***satellite*** monitoring of 121.5 & 243 MHz emergency frequencies will cease. It is important to stress that it is only the satellite detection of 121.5 & 243.0 MHz that ceases; **aircraft in-flight and Air Traffic Control (ATC) use of 121.5 & 243 MHz remains unchanged**. Post 1 Feb 2009, the only satellite monitored distress frequency band will be 406.0 to 406.1 MHz, generically referred to as 406 MHz. **For a variety of reasons, the military 406 MHz Personal Emergency Locating System (PELS) acquisition programme will not be complete by 1 Feb 09 and mitigations are required.**

KEY INFORMATION.

- The new PELS 406 MHz capable emergency beacons transmit on 3 frequencies: 406, 121.5 & 243 MHz.
- PELS is not for Combat use.
- PELS 406 MHz transmissions are detected by orbiting satellites.
- PELS 121.5 & 243.0 MHz transmissions are detectable by UK SAR helicopters (UK SAR helicopters cannot detect / 'home in' on the 406 MHz frequency itself).
- Just over 4500 PELS beacons are required.
- By 1 Feb 2009, only around 100 PELS beacons are expected to be available which will be distributed as per a 'Prioritised Roll Out Plan'. Of highest priority are overseas based aircraft, followed by large fixed wing aircraft, front line helicopter & fast jet units, training aircraft and other users.
- Further PELS beacons will be distributed as they become available from the manufacturer with all beacons expected to have been produced by Jun 09.
- Where crew members are required to carry emergency beacons, if 406 MHz capable beacons are not available, 121.5 / 243 MHz beacons should still be carried. The 121.5 & 243.0 MHz frequencies are detectable by UK SAR aircraft and the UK terrestrial Distress and Diversion triangulation system.
- PELS 'Training the Trainer' courses are running now and Front Line Commands are coordinating follow-on training.
- PELS roll out will be supported by an 'Advanced Information Leaflet', with updated publications by Full Operating Capability.
- Roll out for PELS Initial Operating Capability will be supported by prototype registration database procedures implemented by Stations' Ops and safety equipment personnel.
- Once using 406 MHz capable beacons ensure that the appropriate SOPs (e.g. beacon ID registration) are followed as this will allow the UK Air Rescue Co-ordination Centre & UK Mission Control Centre to take swift and effective action.

P.T.O.

- At the time of writing (Dec 08) various PELS trials are underway with the aim of generating a full release to service. Depending on the progress of the trials, a 'Clearance with Limited Evidence' may be sought as an intermediate step to enable operations to continue in the near term.

DARS COMMENTS. Given the limited number of 406MHz emergency beacons that will be initially available, crews and supervisors must consider ways in which they can maximise safety until they gain access to 406 MHz beacons. The greatest risk to users without 406MHz beacons will be for flights over the sea or in remote/ mountainous terrain outside the line of sight of ground based 121.5/243 MHz radio detectors. The following actions should be considered:

- Filing a flight plan to detail your planned route for sorties operating outside reliable direct ATC communications.

- Report any 121.5 or 243 emergency beacon activity you detect in-flight to an ATC agency as soon as possible to allow them to investigate further.

- Detail your route in the authorization sheet and/or leave copies of your route maps.

- Make extensive use of en-route ATC services.

- For serious deviations from your plan, if practicable, consider attempting to communicate these with your unit and/or an ATC agency.

- Exercise, tanker planners and maritime operators should fully consider the implications of the lack of 121.5 & 243 MHz satellite detection for non-UK deployments and over-sea flights.

ADDITIONAL INFORMATION. For more details about 406 emergency beacons see:

- DARS 'Aviate' Spring 2008 article '406 is Coming'.

- DARS 'Aviate' Summer 2008 article 'Surviving with 406 MHz'.

- DARS 'Aviate' articles are available electronically via the DARS web-site (search via www.mod.uk for 'DARS' and follow the 'Flight Safety' link to 'Aviate').