



Emergency Beacon Activations: A Guide for Local Officials

Prepared by the
Arkansas Wing of the Civil Air Patrol
August, 2007

General information about Emergency Beacons

There are several types of emergency beacons that can transmit signals that are received by satellites monitored by the U.S. Air Force Rescue Coordination Center at Tyndall Air Force Base in Florida. The type most commonly used in Arkansas are Emergency Locator Transmitters (ELTs), which are carried by most aircraft and are designed to activate after a crash. Other types are found on boats (EPIRBs) or are handheld devices (PLBs) carried by hunters or hikers. Currently, most ELTs transmit on 121.5 MHz while EPIRBs and PLBs use 406 MHz as their primary frequency with a low-power signal on 121.5 MHz.

While designed for emergency use, 97% of ELT activations are false alarms caused by situations such as hard landings and mishandling by mechanics and, unfortunately, they do not always activate even when an airplane has crashed. More reliable designs and systems are available, but will not be fully adopted for years.

What does the Air Force do when an Emergency Beacon is activated?

When the Air Force detects the activation they may monitor it for up to 6 hours before starting a response. This allows for the fact that many beacons stop transmitting on their own after a short period and the extra time allows them to obtain better information on the probable location of the transmitter. However, even under ideal circumstances these coordinates are only accurate within a circle up to 15 miles wide.

What happens in Arkansas?

When the Air Force determines that a response is warranted they notify the Arkansas Department of Emergency Management (ADEM) that a beacon is transmitting and they will generally activate the Arkansas Wing of the Civil Air Patrol to search for the beacon. Such missions are routine and there are normally 1-3 beacon activations in Arkansas each month.

What is the Civil Air Patrol?

The CAP is the official volunteer civilian auxiliary of the U.S. Air Force and has 9 fixed-wing aircraft and over 500 members in Arkansas. ADEM has designated CAP as the primary organization responsible for air search operations in the state, such as looking for missing airplanes and responding to emergency beacon activations. While performing these missions CAP members receive liability and medical insurance from the federal government and/or CAP and the U.S. Air Force pays for all mission costs.

The CAP will usually launch a plane that has equipment used to pinpoint the beacon so that they can direct a CAP ground team to the site to deactivate it. If an actual emergency, such as a plane crash, has occurred, they immediately contact local officials to whom they transfer responsibility for the incident.

What should local officials do?

ADEM will usually notify county emergency managers of the activation if the location provided by the Air Force is specific enough to warrant it. Local officials may be asked to contact airport managers to request that they listen to 121.5 MHz to see if the beacon is at the airport. CAP may request assistance from the sheriff or police if they need to contact the owner of a beacon tracked to a locked plane or hanger. Turning beacons off quickly is critical because if too many are active in the US at once, it can seriously hamper real emergency responses elsewhere. Due to the generally non-emergency nature of these activations and the fact that the Air Force is already funding CAP to perform these missions, a more extensive response by local officials is rarely necessary.

Arkansas Wing website: <http://www.arwingcap.org>

Civil Air Patrol website: <http://www.cap.gov>