

What Happens When I Activate My Beacon?

1. User activates beacon



When your beacon is activated, either by a person manually pressing a button, or automatically (e.g., an aircraft ELT activated by a physical shock, such as in a crash, or a ship's EPIRB activated by contact with water) it begins to transmit a series of very short, digitally-coded signals (“bursts”) that indicate that you are in distress. Though the bursts are kept short to prolong the life of the beacon battery, each burst sends a message that identifies the beacon, and may include information about your aircraft or vessel, and your location if that information is available from a navigation device in the beacon or attached to it.

To reach the Cospas-Sarsat satellites the beacon must have a relatively unobstructed view of the sky. A submerged beacon, or one with its antenna blocked by the body of an aircraft or vessel, is unlikely to be received by the satellites. Similarly, it may take longer to detect a beacon activated, for example, in a canyon as there may be a delay before a satellite passes within view overhead.



2. Satellite detects the beacon



Some Cospas-Sarsat satellites only relay the distress message transmitted by the beacon. Other satellites relay the message and also gather details about the signal that will enable computers on the ground to estimate the beacon's location. Different kinds of satellites may be visible from your location at different times and, in remote areas, there can be an additional delay in the distress signal

being relayed to a ground station for processing.



3. Beacon signal is transferred from satellite to

LUT



Once detected by the Cospas-Sarsat System and relayed to a ground station (government-owned dish antennas and associated equipment called a Local User Terminal or LUT, that tracks the satellites), powerful computers analyze the signal from your beacon to estimate its location.



4. LUT transfers the beacon message and location data to its associated MCC



The location estimate calculated by the LUT ground station (along with any location information that may have been transmitted from the beacon in its distress message), and all other information sent in the beacon distress message is sent by the LUT ground station to an associated Mission Control Centre (MCC), which performs the task of routing the distress message and the location estimates to the proper authorities.



5. The MCC transfers the Cospas-Sarsat alert

message to two places:

The Mission Control Centre (MCC) sends the alert message and estimated location to the governmental authority responsible for search and rescue in the area where the beacon is believed to be. The message transmitted from the beacon also includes a “country code” that normally indicates the origin of the beacon. (For a ship or aircraft this normally would be the nation under which it is “flagged”. For a PLB carried by a person, the code normally would be that for the country where the PLB was purchased or where the owner has registered the beacon.) The alert message information and the location estimates also are sent to the government associated with the country code transmitted by the beacon. In this way the authorities closest to the distress are alerted, as are the authorities of the nation of origin of the aircraft, vessel or person.

6. The rescue authorities take action:

All of the information in the beacon distress message, along with the location estimates, ends up at national-government

Search-and-Rescue Points of Contact (SPOCs) that have the responsibility to react to distress alerts. Crucial to the job of launching a rescue effort is knowing as much about the aircraft/vessel/person as possible, and having accurate emergency contact information for organizations or people who may be able to provide additional details about aircraft/vessel characteristics, travel plans, supplies likely carried by those in distress, etc. Rescue authorities retrieve this crucial information from beacon registration databases. **That is why it is extremely important that you ensure that your beacon is properly registered with the correct governmental authorities.** Register your beacon by visiting www.406registration.com.

