



AFI/APAC/MID Inter-regional Search and Rescue (SAR) Workshop

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Saudi Arabia

Fahad Alharbi

SAR Manager / SANS



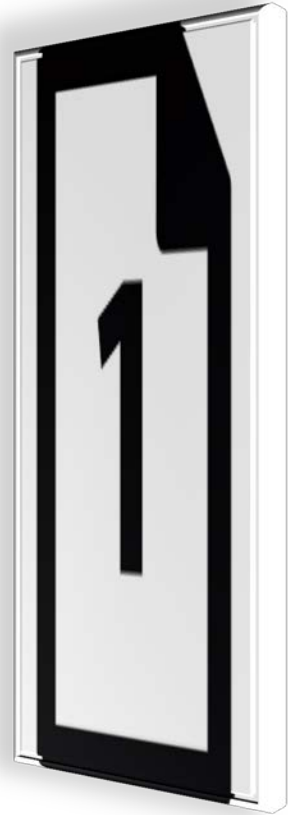
BEACONS REGULATIONS INFORMATION



INTRODUCTION

The International Cospas-Sarsat Programme collects information from Administration including SPOCs* on beacon coding methods, national beacon regulations , beacon databases, points of contact for beacon matters (coding, registration and type approval) and beacon registration forms **FOR INCLUSION IN DOCUMENT C/S S.007 “HANDBOOK OF BEACON REGULATIONS”**

***Note:** *SPOCs (Search and Rescue Points of Contact) are generally MCCs (Mission Control Centres), RCCs (Rescue Coordination Centers) and other established and recognized national points of contact that can accept or assume responsibility for the coordination of the fast and effective transfer of Cospas-Sarsat alert data to enable the rescue of people in distress.*



WHAT IS THE COSPAS-SARSAT S.007 DOCUMENTS?

Cospas-Sarsat Document C/S S.007 is a Handbook of Beacon Regulations that makes available online a summary of beacon regulations issued by Cospas-Sarsat Participants and non-Participants regarding the carriage of 406 MHz beacons.

- This document is based mainly on information provided by Cospas- Sarsat Participants
- Some information was provided by non-Cospas-Sarsat Participants.



TYPES OF BEACONS

The Cospas-Sarsat System provides alerting services for the following four types of beacons:

Emergency Locator Transmitters for Aviation use.



Emergency Position – Indicating Radio Beacons for Maritime use



Personal Locator Beacons (PLBs)



Ship Security Alerting System (SSAS).

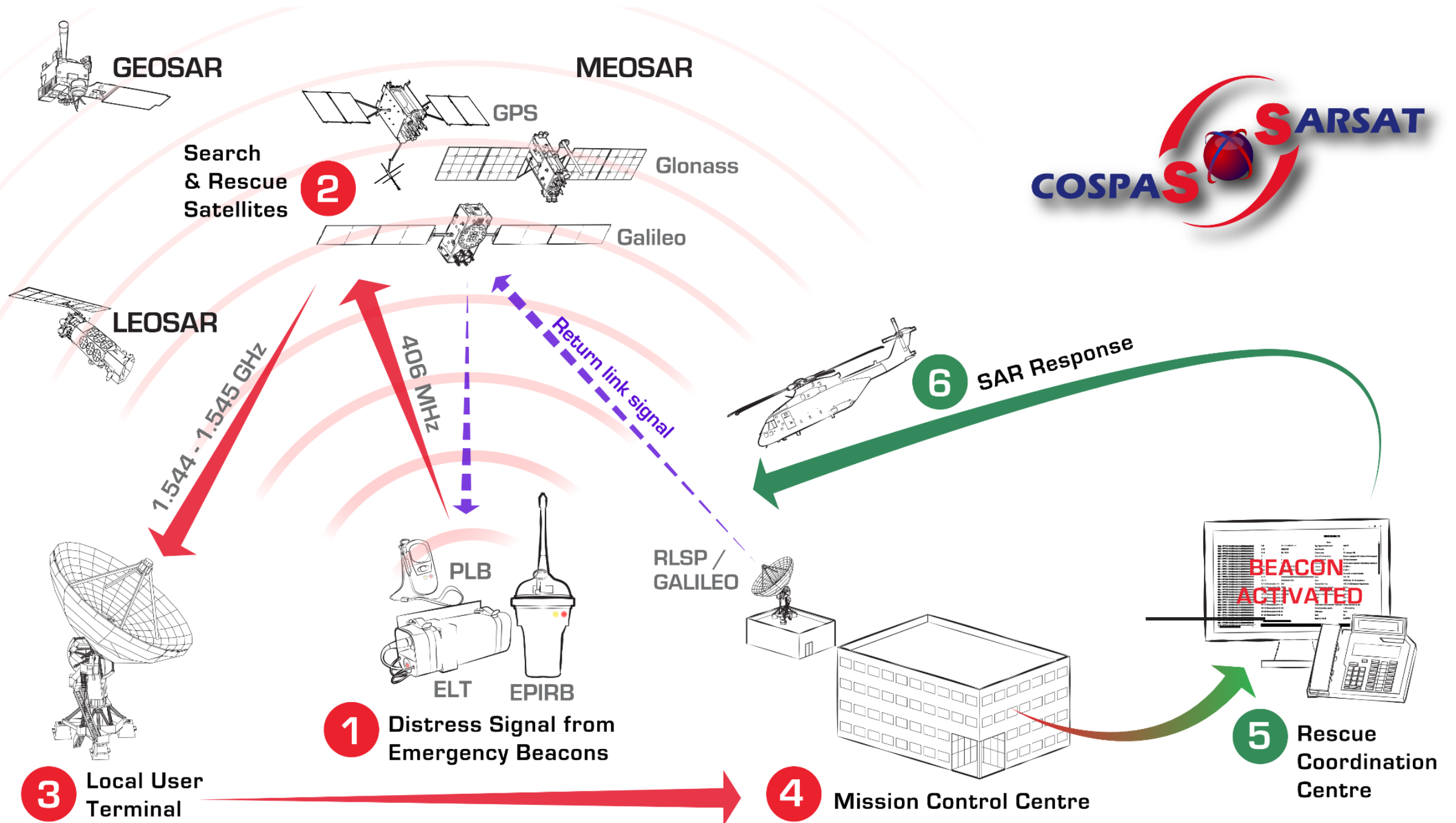




RETURN LINK SERVICE (RLS)

THIS SERVICE IS INTENDED TO

- **PROVIDE Acknowledgement of the reception and the confirmed location of the alert message to persons in distress and is only available for *RLS - Capable* 406 MHz beacons coded to provide a return link messages.**
- **The Return Link Service can be provided to compatible beacons irrespective of satellite (LEO, GEO or MEO) which provided the forward link 406 MHz alert.**
- ❖ **Acknowledgment Service :**
 - **Type 1 Acknowledgment(System Acknowledgment).**
- In the first implementation satop , the interface between the Galileo system and Cospas-Sarsat System will be provided by the RLSP interfacing with the FMCC and the Galileo Mission Segment.**
- **Type 2 Acknowledgement (RCC Acknowledgement) (Still under study)**





BEACONS CODING METHODS



The Cospas-Sarsat provides specification for various coding options which are divided in two groups of coding protocols:

- User Protocols; and
- Location Protocols.

The user protocols can be used for encoding the beacon identification and other data in the digital message transmitted by a 406-MHz distress beacon, but do not allow for encoding beacon position data provided by the beacon GNSS receiver (if any).

The location protocols can be used for encoding beacon position data provided by beacon GNSS receiver (if any) , in addition to the beacon identification data in the digital message transmitted by a 406 MHz distress beacon.

Administrations are invited to select the beacon coding protocols they wish to use in their country.



[COUNTRY NAME]

REGULATIONS

General

[To be reported or Nil].

EPIRBs

[To be reported or Nil].

ELTs

[To be reported or Nil].

PLBs

[To be reported or Nil].



NATIONAL BEACON REGULATIONS FOR SERIAL-CODED PLBS

Country Code	For Terrestrial Applications	In Maritime Environment	On Aircraft	Comments
	Country Recognises PLB Activations	Country Recognises PLB Activations	Country Recognises PLB Activations	
TBD	[Y/N]	[Y/N]	[Y/N]	[as necessary]

Note: This table tells if a SAR response is provided to PLB owners in distress within a particular country which does not allow PLBs to be coded with its country code (e.g., if a Saudi-coded beacon owner is in distress in Spain whereas Spanish-coded beacons are not allowed).



BEACON CODING METHODS

EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location	RLS (Return Link Service)	
	MMSI	Radio Call Sign	Serial Number	Radio Call Sign	MMSI	Serial Number	Radio Call Sign	MMSI	Serial Number	Number Assigned by Competent Administration	National Number	TAC and serial Number
###	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]



BEACON CODING METHODS

ELT Coding Methods



Country Code	USER PROTOCOLS				LOCATION PROTOCOLS									
	Serial User			Aviation User	User Location				Standard Location			National Location	RLS (Return Link Service)	
	Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Number Assigned by Competent Administration	National Number	TAC and serial Number
[###]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]	[Y/N]



BEACON CODING METHODS

PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS			
	Serial User	User Location	Standard Location	National Location	RLS (Return Link Service)
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration	<div>National Number</div> <div>TAC and Serial Number</div>
###	[Y/N]	[Y/N]		[Y/N]	<div>[Y/N]</div> <div>[Y/N]</div>



LIST OF BEACON MODELS TYPE APPROVED BY ADMINISTRATION

[To be reported or Nil].

BEACON TESTING REGULATION

[To be reported or Nil].

POINT OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

The point of contact for beacon matters is:

ELTs: [Official name]

EPIRBs: [Official name]

PLBs: [Official name]



BEACON REGISTRATION

Regulation [To be reported or Nil].

Forms To be reported or Nil].

Note: For an example of Information on coding and registration form you can visit the Cospas-Sarsat website at [:https://cospas-sarsat.int/en/documents-pro/beacon-regulations-handbook](https://cospas-sarsat.int/en/documents-pro/beacon-regulations-handbook)



RECOMMENDATIONS



All SPOCs are invited to provide the Cospas-Sarsat secretariat with the applicable beacon information available in their country contacting mail@cospas-sarsat.int.



If clear guidance for beacon coding is provided in this document for a country/territory, then beacon manufacturers will be able to code beacons accordingly.





BEACONS REGISTRATION

ICAO and IMO require that administrations authorizing the use of 406-MHz beacons make provisions for registering these beacons in a database register that is accessible by SAR services 24 hours a day.

By registering beacons, beacon owners allow search-and-rescue authorities to retrieve crucial information about persons in an emergency, their aircraft or vessel, and relatives who can provide valuable information about persons in distress (emergency contacts).

States shall make arrangements for a 406 MHz ELT register. Register information regarding the ELT shall be immediately available to search and rescue authorities. States shall ensure that the register is updated whenever necessary. (Annex 10 Volume III, Part II, Chapter 5).



BEACONS INFORMATION

The beacon information may include :

- **The beacon's identification (Unique Identification Number (UIN), or Hexadecimal Identifier (Hex ID))**, which is a hexadecimal character string (composed of the characters 0-9 and A-F) found on a label attached to every beacon. Owners will always be asked for this beacon ID because it is the best (and often only) way to uniquely distinguish their beacon from all others.
- Name, address, telephone number and other contact details.
- Identification and description of the aircraft if the beacon is an aviation ELT, or the vessel if the beacon is a maritime EPIRB, and its home port.
- The kinds of survival equipment and communications equipment normally carried.
- Emergency contact information for those organizations or persons who may be able to provide additional details about aircraft/vessel characteristics, travel plans, supplies likely carried by those in distress, etc.



CHOICES OF BEACON REGISTRATION



Depending on choices made by the government associated with the “country code” programmed into the beacon. Registration information can be maintained in databases that are operated by governments as national database ,and/or the Cospas-Sarsat Secretariat – The IBRD.

Note:

The International Beacon Registration Database (IBRD) is provided solely for the purpose of assisting SAR Services in SAR operations and is not intended to fulfil the obligation of National Administrations, as required by IMO or ICAO.

NO information that is placed in the registration databases is made available to commercial entities
NOR is used for any commercial purpose.





BEACON TESTING



- **HOW SHOULD I TEST MY 406 MHZ BEACON?**
- 406 MHz beacons are designed with a self-test capability for evaluating key performance characteristics. Initiating the beacon self-test function will not generate a distress alert in the Cospas-Sarsat System. However, it will use some of the beacon's limited battery power, and should only be used in accordance with the beacon manufacturer's guidance. If you have questions regarding your beacon's self-test mode, contact your beacon manufacturer before attempting a self-test.
- **LIVE BEACON TESTING:**
- In rare circumstances, there may be a need to activate a 406 MHz beacon in its operational mode for test purposes. Requests to conduct a live-beacon test are mandatory and should be directed sufficiently in advance to the Cospas-Sarsat MCC that serves the location in which the test is planned and to the Cospas-Sarsat MCC that supports the country/territory coded in the beacon (if different)