

# Cospas-Sarsat System Overview (Part 2 of 2)

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Cospas-Sarsat Secretariat

ICAO Seminar on Satellite-Aided Distress Tracking

October 2022



# Contents

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SPOC communication matters

---

Beacon Registration and regulations (S.007)

---

SIT 185 – new contents and organization

---

Training resources

---

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# SPOC communication matters

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- **Why SPOC communication tests?**

1- Comm link failures observed by an MCC shall be notified to the RCC/SPOC, and alternative procedures should be used.

2- To identify to IMO and ICAO, SPOCs that are nonresponsive (reports to NCSR and ICAO/IMO JWG meetings).



# SPOC communication matters

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- **Monthly SPOC Comm-tests**

1 => Transmission of a test message from the MCC to the SPOC.

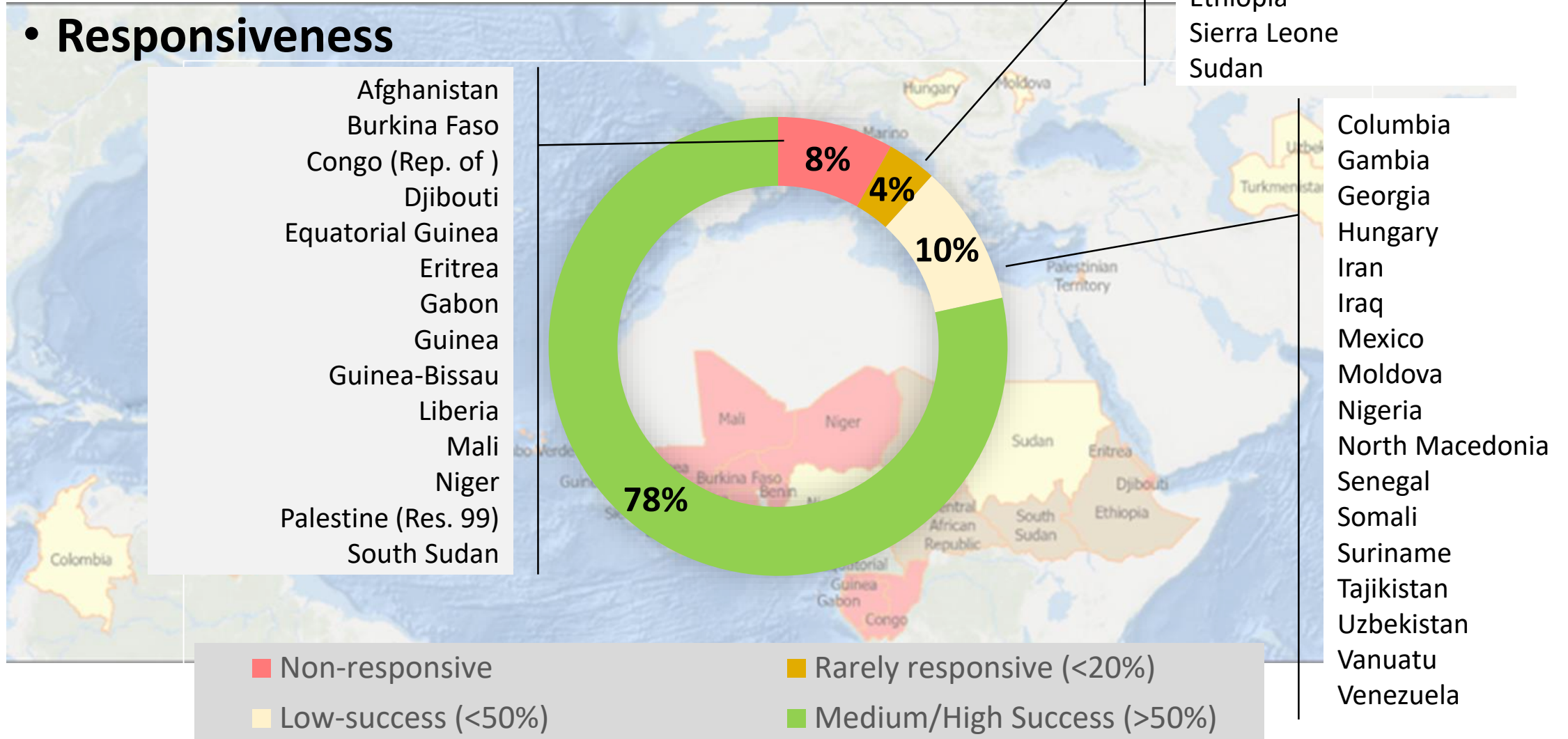
2 => Acknowledgement of the message by the SPOC/RCC within 30 minutes (i.e. an automatic acknowledgement is not acceptable).

Note: MCC-SPOC communication links that have been successfully used operationally at least once during the month may be reported as already tested.



# SPOC communication matters

## • Responsiveness





# SPOC communication matters

- **Contact details**

[www.cospas-sarsat.int](http://www.cospas-sarsat.int)

<a href="#">select all</a>	Name	City	Country	Associated MCC	DDR	Last revision	Details
<input type="checkbox"/>	MRCC Gris Nez	Audinghen, France	France	FMCC	Central DDR	2022-01-31	▼

- Country/Region Code (MID): 226
- National Beacon Regulation: (S.007)
- Primary telephone: +33 (0)3 21 87 21 87
- Facsimile: +33 (0)3 21 87 78 55
- Telex: (042) 130680
- AFTN: LFINZPZX
- Primary email: [gris-nez@mrccfr.eu](mailto:gris-nez@mrccfr.eu)
- Mailing Address: MRCC Gris-Nez
- City: Audinghen, France
- ZIP code: 62179
- Comments: MRCC Griz-Nez is SPOC for EPIRBs. (ARCC Lyon is SPOC for ELTs and PLBs.)

Click [here](#) to update this contact detail.

The screenshot shows the COSPAS-SARSAT website header with navigation links for 'SYSTEM', 'BEACONS', 'DOCUMENTS', 'MEETINGS', and 'CONTACT LISTS'. The 'CONTACT LISTS' menu is expanded, showing 'SAR Points of Contact (SPOCs) (24/7)' selected. Below this, there are options to 'Show instructions', 'export selection as PDF', 'export selection as CSV', and 'export selection in a printable format'. An orange arrow points from the 'Details' column of the table in the previous image to the 'SAR Points of Contact (SPOCs) (24/7)' dropdown menu.

# SPOC communication matters

- **Formal SPOC agreements**

To address the issue of poor SPOC communications, the Cospas-Sarsat and ICAO Secretariats jointly developed in 2015 a draft model agreement for use by MCCs and their SPOCs, based on existing agreements provided by some MCC operators.

The screenshot shows the COSPAS-SARSAT.INT website. The header includes the logo, navigation links for 'Français' and 'Русский', and a 'COSPAS-SARSAT REGULAR' button. A red navigation bar contains links for 'SYSTEM', 'BEACONS', 'DOCUMENTS', 'MEETINGS', and 'CONTACT LISTS'. The main content area is titled 'Templates and Forms' and lists various documents. The 'MCC/SPOC Model Agreement Template' link is highlighted in red. Below the list, a text box provides details about the new template, and a 'Read More +' button is visible.

**COSPAS-SARSAT.INT**  
INTERNATIONAL SATELLITE SYSTEM FOR SEARCH AND RESCUE  
406 MHz DISTRESS ALERTING SERVICE

Home | Français | Русский

COSPAS-SARSAT REGULAR ▶

SYSTEM ▼ BEACONS ▼ DOCUMENTS ▼ MEETINGS ▼ CONTACT LISTS ▼

Templates and Forms

Meeting Documents Beacon Type Approval Forms Commissioning Templates  
Glossary Changes IBRD Access Requests **MCC/SPOC Model Agreement Template**  
Sample Meeting Letters Letters to RCCs and SPOCs System Monitoring  
Annual Reporting

A new template has been made available to provide a MCC/SPOC Model Agreement to address the distribution and reception of Cospas-Sarsat distress alert data between Cospas-Sarsat Mission Control Centres and their supported search and rescue points of contact.

**MCC/SPOC Model Agreement**

Read More +

# SPOC communication matters

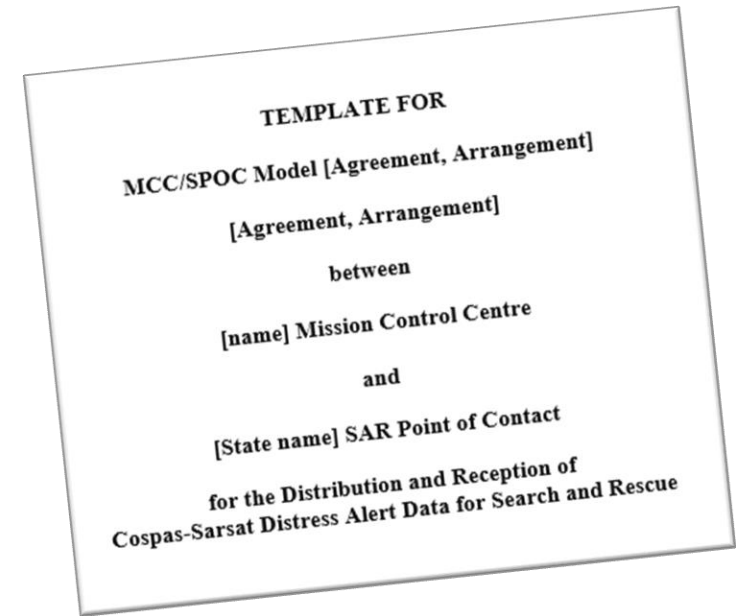
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- **Formal SPOC agreements**

## Definitions

1. Purpose
2. Introduction
3. Objectives
4. **Procedures**
5. Depositary (C/S – ICAO – IMO)
6. Entry into force, renewal and termination

## Annex. **Points of Contact**





# Beacon Registration and regulations (S.007)

- What is S.007?
  1. A **summary of regulations** issued by **Cospas-Sarsat Participants** and **international organizations** regarding the carriage of 406 MHz beacons.
  2. Practical **information on coding and registration** regulations in each country/region, where such information was made available to the Cospas-Sarsat Secretariat (80 stand-alone sections).



## 2.3 PLB Coding Methods

Country Code(s)	USER PROTOCOLS		LOCATION PROTOCOLS				
	Serial User	User Location	Standard Location	National Location	RLS (Return Link Service)		
	TAC & S/N	TAC & S/N		S/N Assigned by Competent Administration	National RLS Number	TAC & S/N	RLS MMSI
279	Y	Y		N	N	Y	Y

# Beacon Registration and regulations (S.007)

- **Why having a stand-alone page?**

Carriage and coding of 406 MHz beacons are evolving rapidly (e.g., RLS-capable beacons, ELT(DT)s, SGBs).

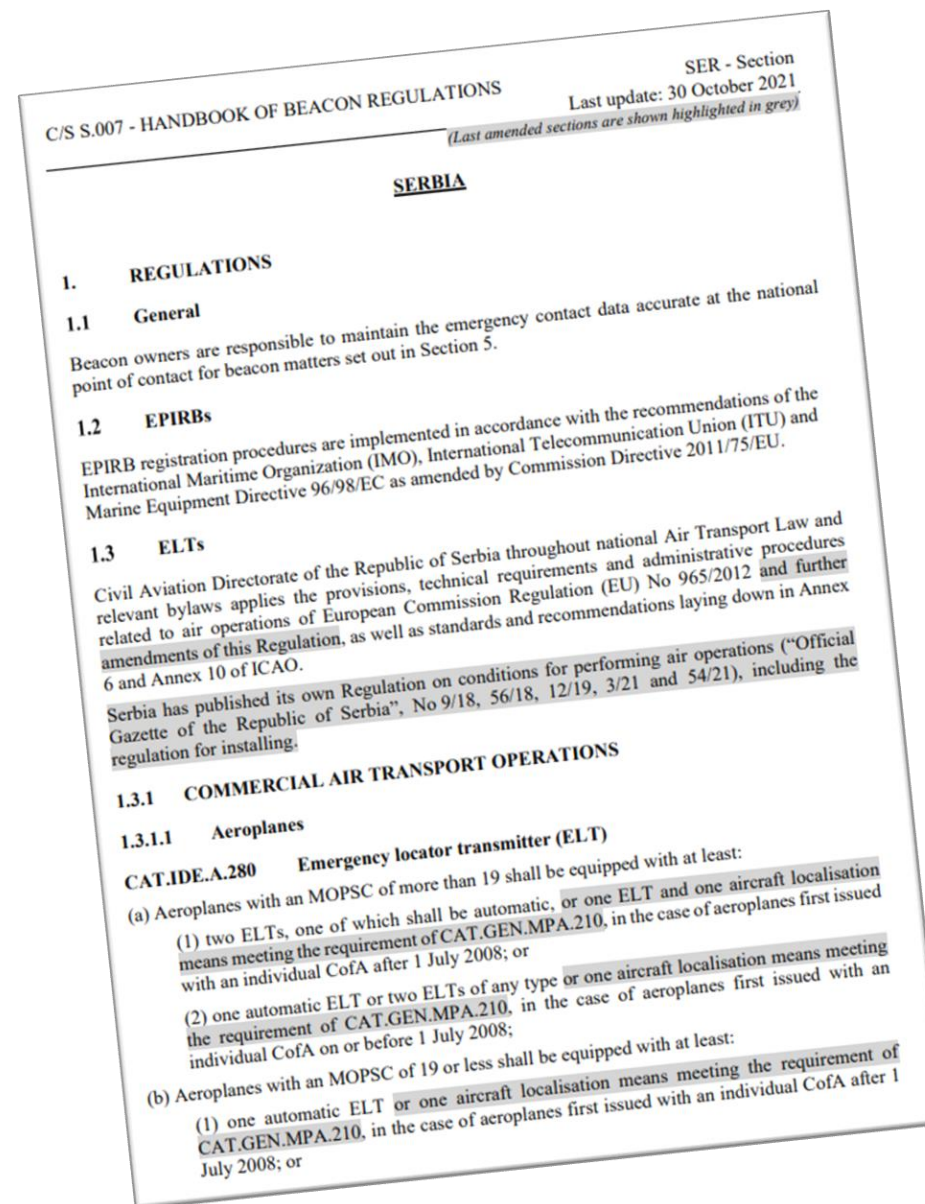
Importance for beacon manufacturers and retailers of having a place where to refer when coding a beacon for a specific country code (MID) due to multiple national regulations.



# Beacon Registration and regulations (S.007)

- **How to create/update an S.007 page?**

1. Download/Fill the template from the Handbook of Beacon Regulations webpage (MS Word)
2. Send it to:  
[mail@cospas-sarsat.int](mailto:mail@cospas-sarsat.int)
3. Provide any revision by email
4. => Publication within 2 days



# SIT 185 – new contents and organization

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- **Why a new SIT 185?**

The distress message (SIT 185) sending alert data to RCCs and SPOCs such as:

- ✓ Time and message stamps
- ✓ Beacon information
- ✓ Vessel/Aircraft information
- ✓ Position information
- ✓ System detection and processing information
- ✓ Other encoded information...

had become too heavy, difficult to read, and possibly confusing.





# SIT 185 – new contents and organization

## • What are the changes?

## 4 main changes:

- Confirmed position  
=> MCC Reference position
- Expected accuracy  
=> Estimated error
- Encoded position  
=> GNSS position (first location)
- Empty fields (i.e., Nil value)  
=> omitted.

### CURRENT MESSAGE

1. DISTRESS COSPAS-SARSAT POSITION CONFIRMED UPDATE ALERT
2. MSG NO 28478 FMCC REF NO 281003
3. DETECTED AT 01 MAY 22 001751 UTC BY MEOSAR
4. DETECTION FREQUENCY 406.0314 MHZ
5. COUNTRY OF BEACON REGISTRATION 227/FRANCE
6. USER CLASS FGB - STANDARD LOCATION - PLB SERIAL NO: 4108 IDENTIFICATION 335/4108
7. EMERGENCY CODE NIL
8. POSITIONS CONFIRMED - 47 02.4N 002 53.7W DOPPLER A - NIL DOPPLER B - NIL DOA - 47 02.4N 002 53.7W EXPECTED ACCURACY 2 NMS ENCODED - 47 04.60N 002 55.06W GNSS ALTITUDE 00160 METRES UPDATE TIME WITHIN 4 HOURS OF DETECTION TIME
9. ENCODED POSITION PROVIDED BY INTERNAL
10. NEXT PASS / EXPECTED DATA TIMES CONFIRMED - NIL DOPPLER A - UNKNOWN DOPPLER B - UNKNOWN DOA - UNKNOWN ENCODED - NIL
11. HEX ID 1C6EA7A018FFBFF HOMING SIGNAL 121.5 MHZ
12. ACTIVATION TYPE NIL
13. BEACON NUMBER ON AIRCRAFT OR VESSEL NO. NIL
14. OTHER ENCODED INFORMATION ACR ELECTRONICS INC. TAC 335 BEACON MODEL - PLB-400 / PLB-425 ENCODED POSITION UNCERTAINTY : PLUS-MINUS 2 SECONDS OF LATITUDE AND LONGITUDE
15. OPERATIONAL INFORMATION REGISTRATION INFORMATION AT FMCC BEACON REGISTRATION INFO PROVIDED IN A SEPARATE MESSAGE MEOSAR ALERT LAST DETECTED AT 01 MAY 22 001751 UTC
16. REMARKS NIL
- NIL
- END OF MESSAGE

### NEW MESSAGE

1. DISTRESS COSPAS-SARSAT POSITION UPDATE ALERT
2. MSG NO 28478 FMCC REF NO 281003
3. BEACON MESSAGE INFORMATION BEACON TYPE STANDART LOCATION - PLB SERIAL NO 4108 HEX ID 1C6EA7A018FFBFF COUNTRY OF BEACON REGISTRATION 227/FRA HOMING SIGNAL 121.5 MHZ GNSS POSITION PROVIDED BY INTERNAL
4. ALERT POSITION INFORMATION DETECTED AT 01 MAY 22 001751 UTC BY MEOSAR GNSS - 47 04.60N 002 55.06W ALTITUDE 00160 METRES UPDATE TIME WITHIN 4 HOURS OF DETECTION TIME MCC REFERENCE - 47 02.4N 002 53.7W DOA - 47 02.4N 002 53.7W ESTIMATED ERROR 2 NMS ALERT LAST DETECTED AT 01 MAY 22 001751 UTC
5. OTHER INFORMATION REGISTRATION INFORMATION AT FMCC BEACON REGISTRATION INFO PROVIDED IN A SEPARATE MESSAGE TAC 335 BEACON MODEL - PLB-400 / PLB-425 ENCODED POSITION UNCERTAINTY : PLUS-MINUS 2 SECONDS OF LATITUDE AND LONGITUDE DETECTION FREQUENCY 406.0314 MHZ
6. REMARKS NIL
- END OF MESSAGE

All essential data remains



# SIT 185 – new contents and organization

- **New SIT 185**
- 4 main parts:

1. DISTRESS COSPAS-SARSAT POSITION UPDATE ALERT  
2. MSG NO 28478 FMCC REF NO 281003

**MSG ID**

3. BEACON MESSAGE INFORMATION  
BEACON TYPE STANDART LOCATION - PLB  
SERIAL NO 4108  
HEX ID 1C6EA7A018FFBFF  
COUNTRY OF BEACON REGISTRATION 227/FRA  
HOMING SIGNAL 121.5 MHZ  
GNSS POSITION PROVIDED BY INTERNAL

**BEACON INFO**

4. ALERT POSITION INFORMATION  
DETECTED AT 01 MAY 22 001751 UTC BY MEOSAR  
ALERT LAST DETECTED AT 01 MAY 22 001751 UTC  
GNSS - 47 04.60N 002 55.06W  
MCC REFERENCE - 47 02.4N 002 53.7W  
DOA - 47 02.4N 002 53.7W ESTIMATED ERROR 2 NMS

**4D LOCATION**

5. OTHER INFORMATION  
REGISTRATION INFORMATION AT FMCC  
BEACON REGISTRATION INFO PROVIDED IN A SEPARATE MESSAGE  
TAC 335  
BEACON MODEL - PLB-400 / PLB-425  
DETECTION FREQUENCY 406.0314 MHZ  
LUT ID 2272 TOULOUSE, France

**SYSTEM INFO\***

6. REMARKS NIL  
END OF MESSAGE

*\*data extracted directly from the C/S System and not transmitted by the beacon itself*

# Inappropriate Coding for EPIRBs

Per new [ITU-R M.585](#) , vessels may be identified with a specific number corresponding to a 9-digit MMSI, and formatted as:

- **98+MID+XXXX**, if onboard a sister vessel associated to a parent vessel operating in polar regions , or
- **974+XXX XXX**, if the device is AIS capable.

If EPIRBs are directly programmed with such codes, the System will read the MID as being 98“M” or 974, and the alerts will be filtered out, preventing the distress data to be distributed to RCCs and SPOCs because of invalid Country codes.

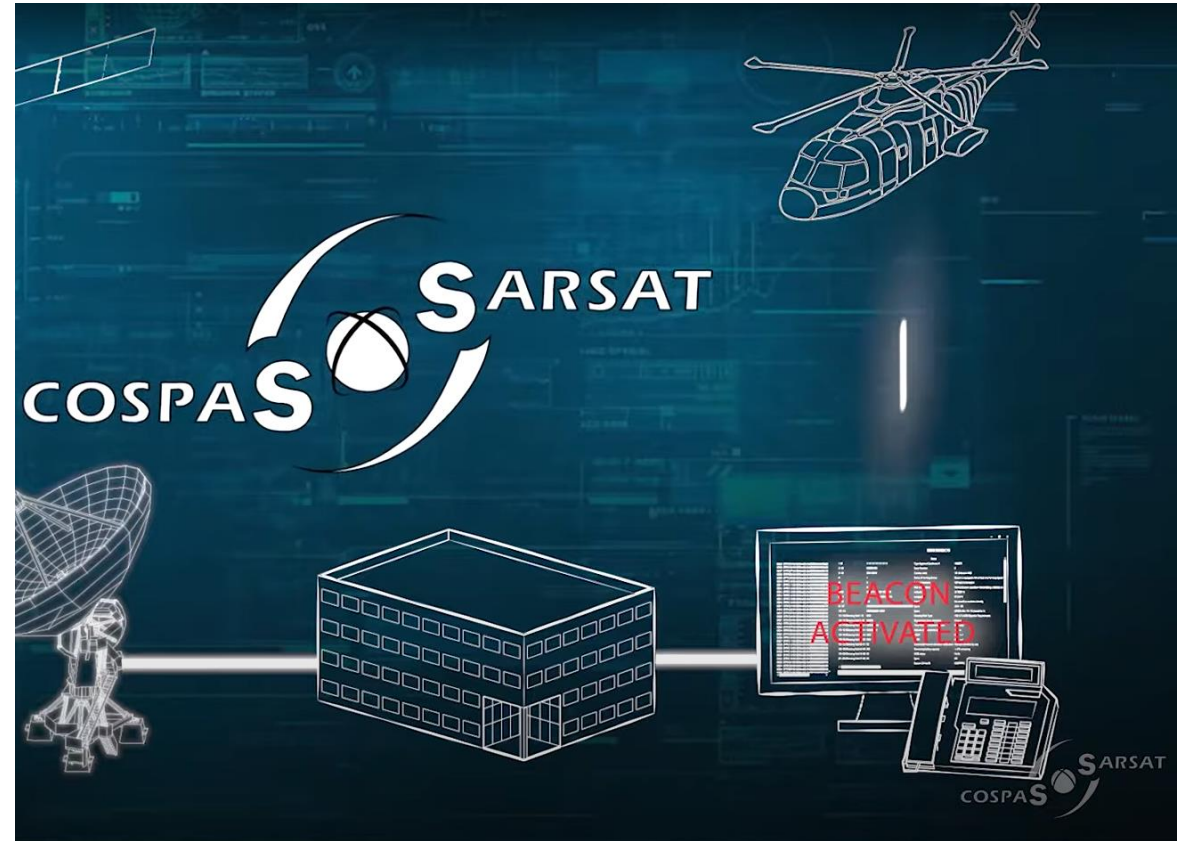
A Cospas-Sarsat Letter CS22/072/F420, F510 was sent in Aug 2022 to request all Administrations to not code EPIRBs with these MMSI options, but instead **refer to document C/S T.001** (FGB Specifications).



# Training resources

- **The “RCC Handbook” (G.007)**
  - helps to understand how the System works
  - explains how to deal with any SIT 185 messages
  - gives examples of SIT 185 messages
  - provides guidance to RCCs and SPOCs to better handle 406 MHz beacon alerts

<https://www.cospas-sarsat.int/en/documents-pro/system-documents> [G.series]for free

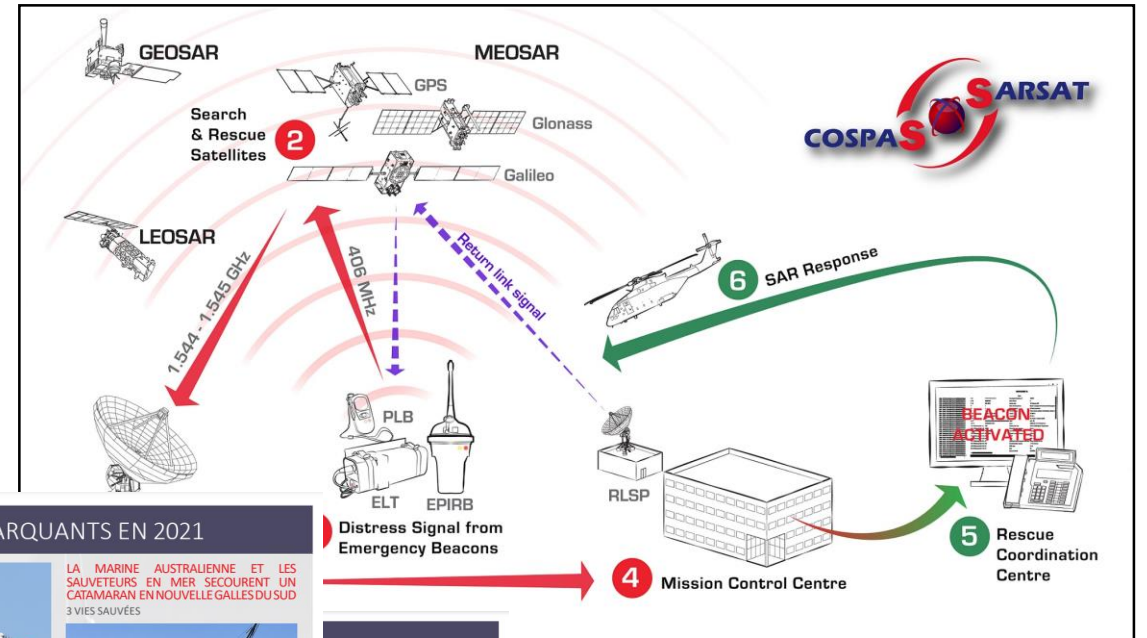




# Training resources

- MS PowerPoint presentations
- Letters to RCCs and SPOCs
- System Graphics
- Image Gallery
- System Data
- Information Bulletin
- Latest News (SAR Stories)
- FAQs
- Guidance...

(<https://cospas-sarsat.int/>)



### SAUVETAGES MARQUANTS EN 2021

**LA MARINE AUSTRALIENNE ET LES SAUVETEURS EN MER SECOURENT UN CATAMARAN EN NOUVELLE GALLES DU SUD 3 VIES SAUVÉES**

© Erik Sienelberg / AirHistory.net  
**ELT – PREMIÈRE ALERTE : CINQ PERSONNES ACCIDENTÉES DANS LE GRAND NORD CANADIEN 5 VIES SAUVÉES**

Le 2 novembre 2021 à 0h53 UTC, un DHC-6 SERIES 300 De Havilland s'écrase à 8 kilomètres au nord de Fort Providence dans les Territoires du Nord-Ouest au Canada. L'ELT de bord émet la première alerte pour cet incident - l'opérateur radio de l'aéroport de Fort Providence n'étant pas au courant que l'avion s'est écrasé.

À 1h01, le JIRCC Trenton charge deux appareils de l'aviation royale canadienne d'intervenir : un CC-138 Twin Otter du 440ème Escadron et un CC-130H Hercules du 435ème Escadron.

Malheureusement, en raison de la distance impliquée, il est estimé que l'Hercules n'arriverait pas sur les lieux avant 5h00 UTC.

Cinq personnes se trouvaient à bord de l'avion et toutes ont survécu, souffrant de blessures mineures. Elles se sont écrasées dans un marais loin de toute route et attendent les secours avec leurs vêtements trempés par des températures de 5 degrés Celsius. Les pompiers de Fort Providence sont partis à 1h56 en direction du site en véhicules tout-terrain et sont arrivés les premiers sur les lieux à 3h10, suivis peu de temps après par le Twin Otter du 440ème Escadron à 3h15.

L'équipe de pompiers a réussi à sortir tous les survivants du marais et les a emmenés à Fort Providence dans leurs véhicules tout-terrain.

© Marine Rescue Uladulla  
L'Autorité australienne de la sécurité maritime (AMSA) a coordonné le sauvetage de trois membres d'équipage après que leur catamaran a chaviré près d'Uladulla le 30 novembre 2021.

La marine australienne a pris soin des naufragés jusqu'à l'arrivée sur les lieux des secours en mer... L'équipage est sain et sauf - Nous remercions toutes les personnes impliquées.

© Marine Rescue Uladulla

### EXPONENTIELLE

A bar chart with 10 bars of increasing height, representing exponential growth. The chart is titled 'EXPONENTIELLE'.

**COSPAS-SARSAT**  
NOUS SAUVONS | WE SAVE | МЫ СПАСАЕМ  
DES VIES | LIVES | ЖИЗНИ ЛЮДЕЙ

**СВЕДЕНИЯ  
О СИСТЕМЕ  
КОСПАС-  
САРСАТ**

№ 47  
декабрь 2021 г.

**COSPAS-SARSAT.INT**  
INTERNATIONAL SATELLITE SYSTEM FOR SEARCH AND RESCUE  
**406<sup>TH</sup> DISTRESS ALERTING SERVICE**

**COSPAS-SARSAT**

Franglais | Русский

COSPAS-SARSAT PROFESSIONALS

BEACON OWNERSHIP | SYSTEM OVERVIEW | MEDIA GALLERY | ABOUT US

# Training resources

- **Videos**

<https://cospas-sarsat.int/en/search-and-rescue/programme-videos-en>

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- YouTube channel:

<https://www.youtube.com/c/InternationalCospasSarsatProgramme>

- Introduction
- Beacon Ownership **FAQ** (playlist)
- How Cospas-Sarsat Works
- Cospas-Sarsat System **FAQ** (playlist)
- MEOSAR
- **RCC Operator Training - Saving Lives** (playlist, complementary to our Handbook for RCCs (G.007))
- MCC Operator Training (playlist and presentation)
- Programme and Administration FAQ (playlist)
- Contributed videos (other)





Any questions?