



Cospas-Sarsat System Overview (Part 2)

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Cospas-Sarsat MCC and SPOC roles: the Importance of Communication

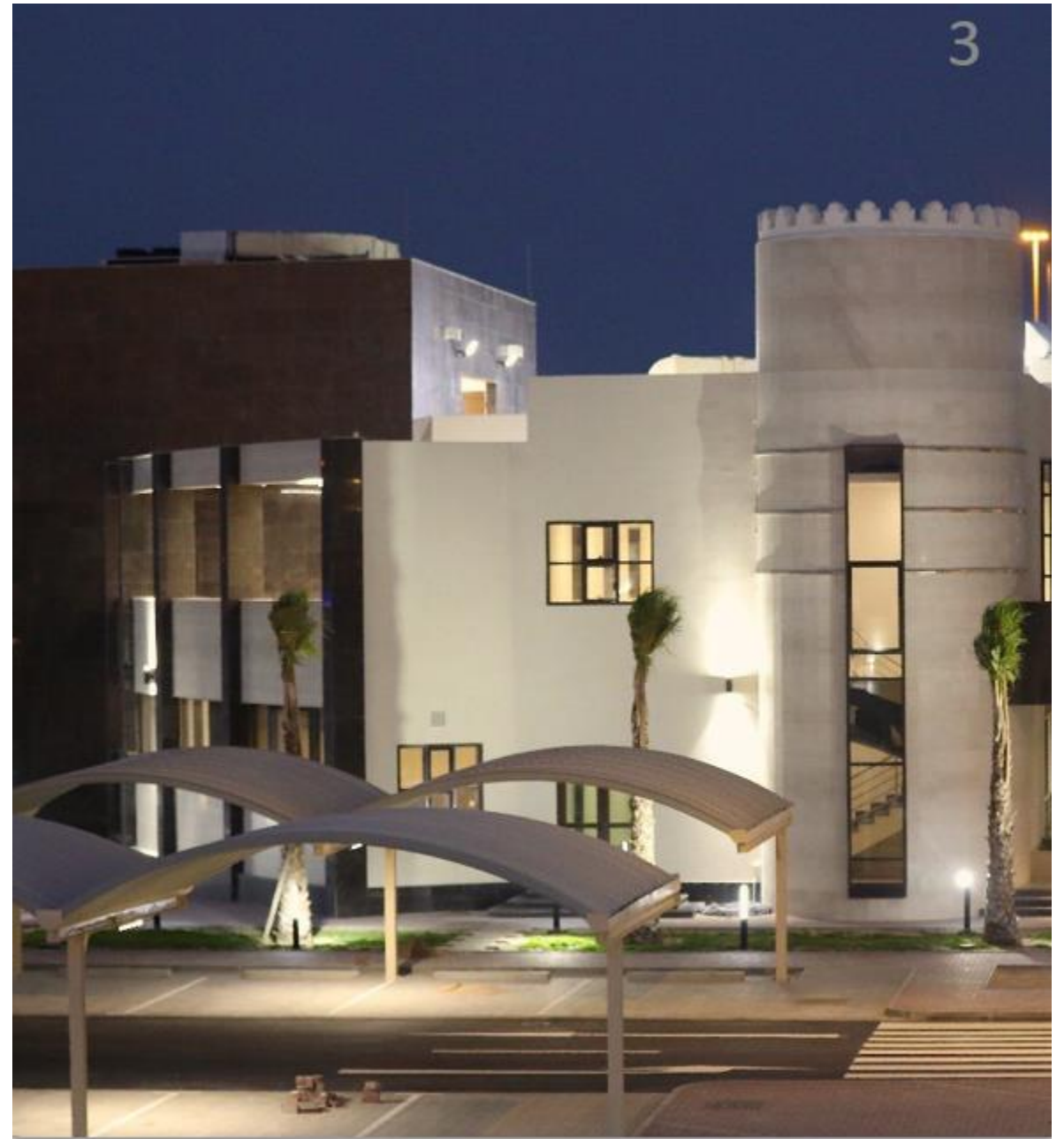




Mission Control Centres

Data processing and distribution hub

An MCC takes responsibility to distribute Cospas-Sarsat alert data to responsible SAR authorities (i.e. RCCs and SPOCs) in a geographic area called its service area

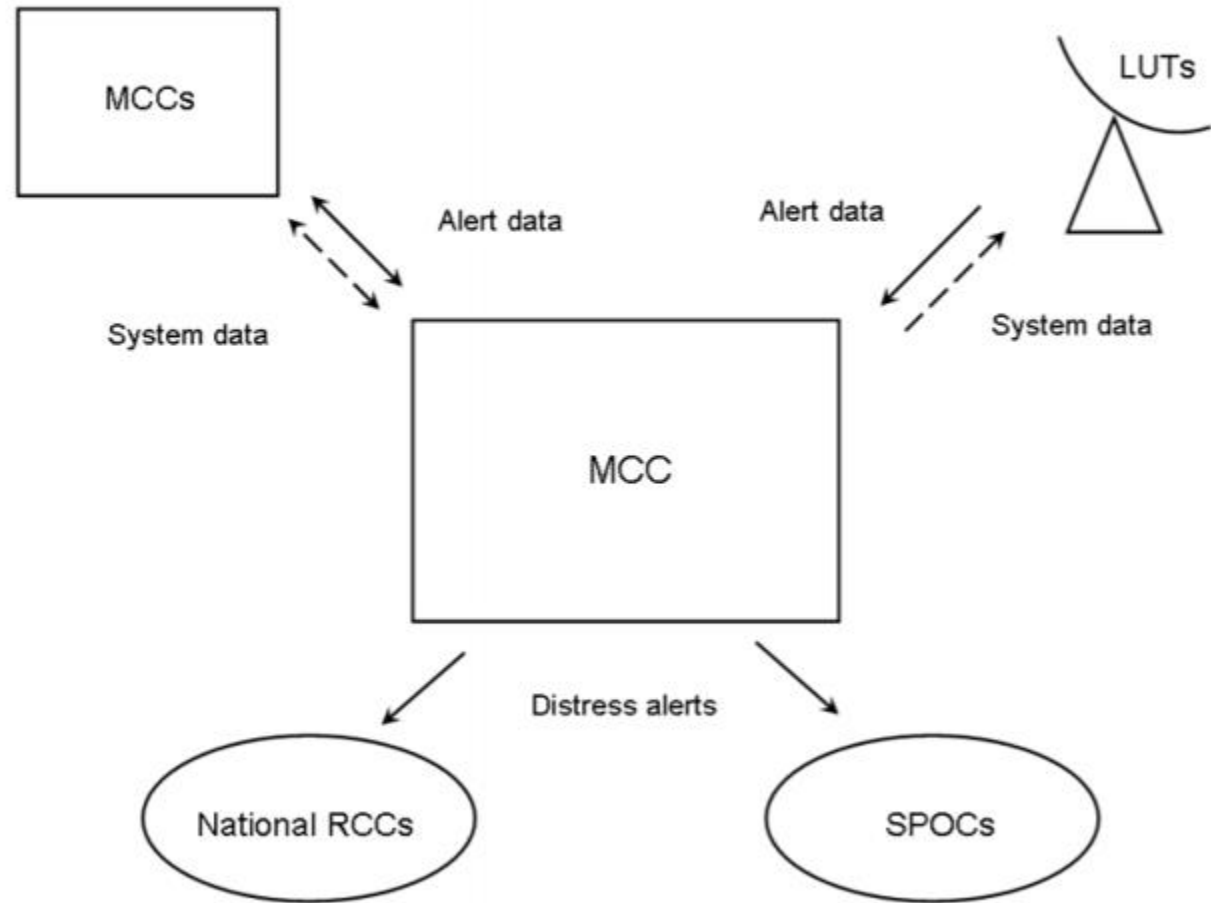




Mission Control Centres (2021)

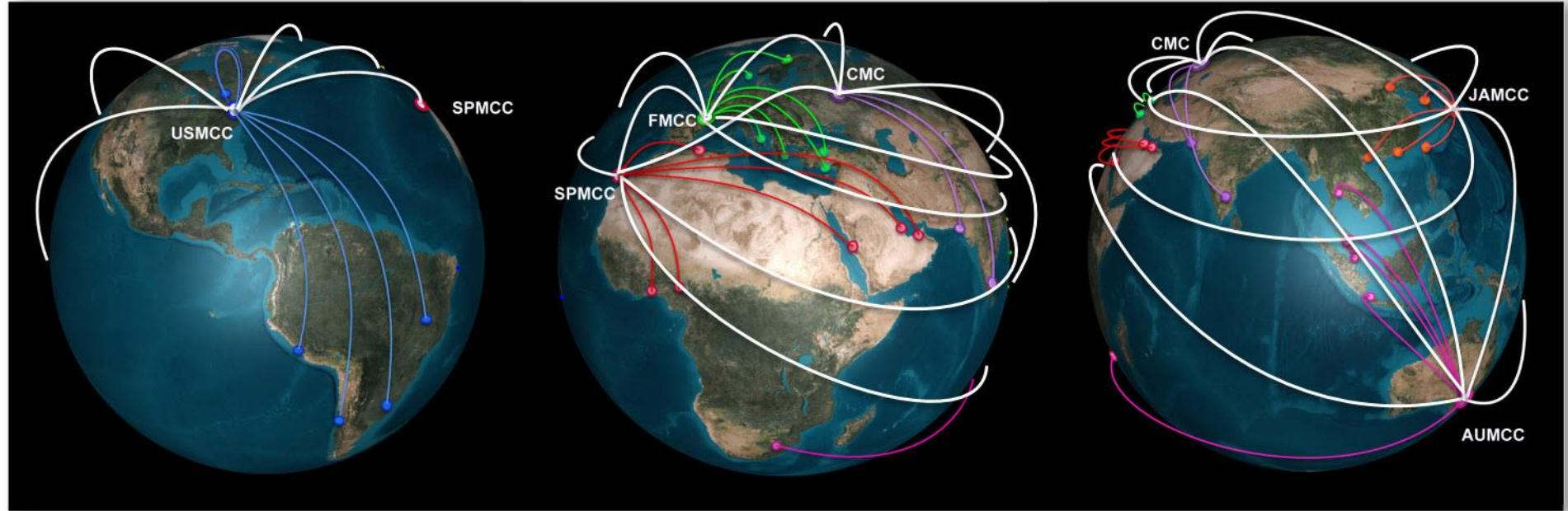


Typical MCC Block Diagram





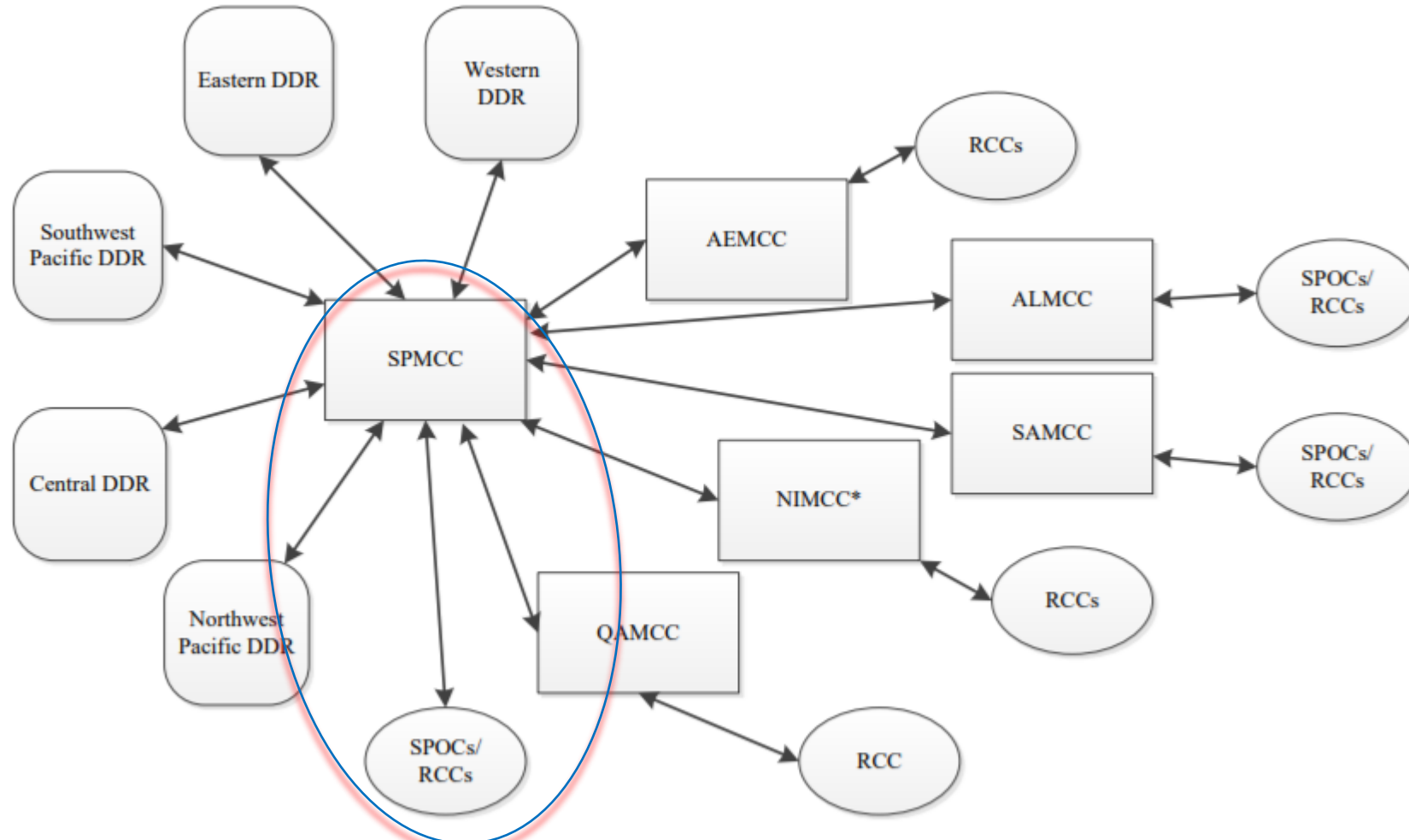
Data Distribution System - NODALs AND MCCs



- | | | | | | | |
|----------------|---|--|--|-----------------------------------|---|--|
| NODALs: | USMCC
(USA) | SPMCC
(Spain) | FMCC
(France) | CMC
(Russia) | JAMCC
(Japan) | AUMCC
(Australia) |
| MCCs: | ARMCC (Argentina)
BRMCC (Brazil)
CHMCC (Chile)
CMCC (Canada)
PEMCC (Peru) | AEMCC (UAE)
ALMCC (Algeria)
NIMCC (Nigeria)
QAMCC (Qatar)
SAMCC (Saudi Arabia)
TGMCC (Togo) | CYMCC (Cyprus)
GRMCC (Greece)
ITMCC (Italy)
NMCC (Norway)
TRMCC (Turkey)
UKMCC (UK) | INMCC (India)
PAMCC (Pakistan) | CNMCC (China)
KOMCC (Korea (Rep. of))
HKMCC (Hong Kong – China)
TAMCC (ITDC)
VNMCC (Viet Nam) | ASMCC (South Africa)
IDMCC (Indonesia)
MYMCC (Malaysia)
SIMCC (Singapore)
THMCC (Thailand) |



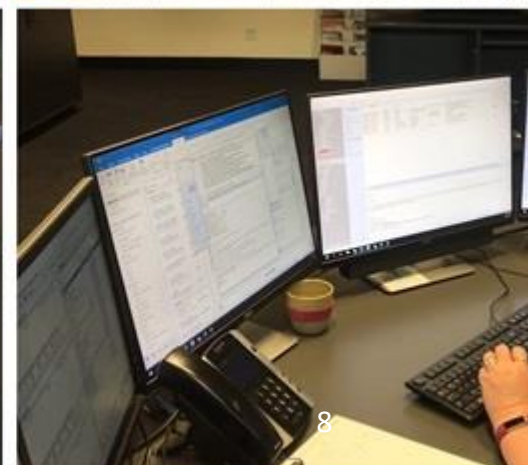
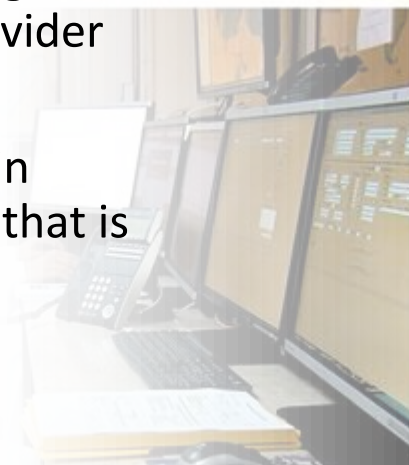
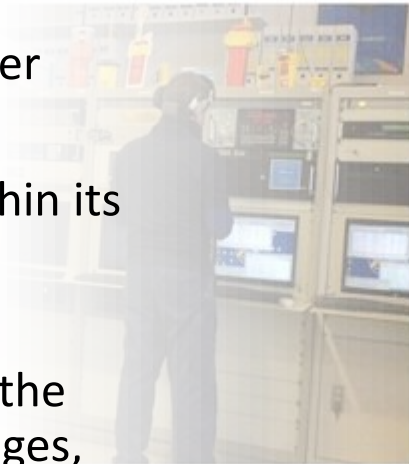
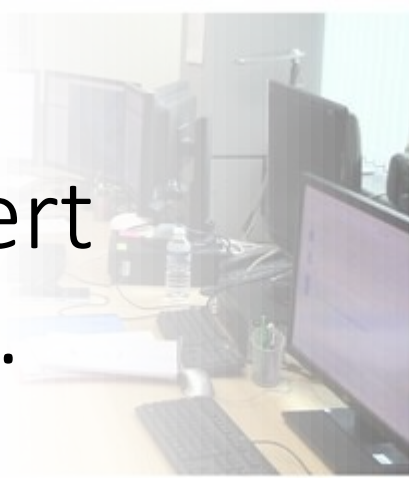
South Central Data Distribution Region



Note: * Commissioned not operational.

MCCs send alert messages to ...

- an MCC operated by another Ground Segment Provider,
- a SPOC or national RCC within its service area,
- the competent authority (designated by a State) for the receipt of SSAS alert messages, the Return Link Service Provider (RLSP),
- the Location of an Aircraft in Distress Repository (LADR) that is maintained for ICAO





SPOC: Search and Rescue Point of Contact

- search and rescue point of contact: RCCs 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
- point de contact SAR : MCC, RCC et autres points de contact national établis et reconnus qui peuvent accepter ou prendre la responsabilité de la coordination du transfert rapide et efficace des données d'alerte Cospas-Sarsat pour permettre le sauvetage des personnes en détresse



MCCs shall...

(per MCC Spec, C/S A.005)

Establish appropriate arrangements with all countries and their SPOCs in its service area on communication networks to be used for the distribution of alert data

If arrangements cannot be made for a particular country in the MCC service area, the MCC shall notify its own SAR authorities of any Cospas-Sarsat alert data in that country's search and rescue region (SRR) for handling in accordance with national SAR procedures



SPMCC – Maspalomas, Spain

The Spanish Mission Control Centre receives alert data from the Maspalomas LEOLUT and GEOLUTs and from other Cospas-Sarsat MCCs in accordance with document C/S A.001. It provides Cospas-Sarsat alert data to the following countries:

Benin	Gabon	Mauritania
Cameroon	Gambia	Nigeria
Cape Verde	Ghana	Sao Tome and Principe
Central African Republic	Guinea	Senegal
Congo	Guinea-Bissau	Sierra Leone
Côte d'Ivoire	Liberia	Spain
Equatorial Guinea	Mali	Togo

ASMCC – Cape Town, South Africa

5.3.5.2 SPOCs SUPPORTED

Angola	Lesotho	Rwanda	Uganda
Botswana	Malawi	South Africa	Zambia
Burundi	Mozambique	St. Helena	Zimbabwe
Democratic Republic of Congo	Namibia	Swaziland	

ALMCC – Algiers, Algeria

5.3.3.2 SPOCs SUPPORTED

ALMCC provides alert data to SPOCs in the ALMCC service area including:

Algeria	Libya
Burkina Faso	Niger
Egypt	



MCCs – SPOC communication

- Three types of messages: REAL and FALSE alerts, and TEST
- C/S links in common use:
 - Aeronautical Fixed Telecommunications Network (AFTN),
 - Air Traffic Services Message Handling Services (AMHS),
 - File Transfer Protocol (FTP),
 - Fax
- Messages to SPOCs are man-readable “SIT 185” messages

COSPAS-SARSAT MISSION CONTROL CENTRES STANDARD INTERFACE DESCRIPTION

C/S A.002
Issue 7 – Revision 5
June 2021



Test messages sent by SPMCC

From: SPMCC- COSPAS/SARSAT Date: 01 July 2021
To: JRCC CAPEVERDE Pages: 01
Subject: MONTHLY COMMUNICATION LINKS TEST

According to COSPAS-SARSAT (Search and Rescue Satellite Aided Program) new regulations, each MCC (Mission Control Center) must check monthly each declared communication link with the SAR points of contact in the countries within its service area.

At present we are using following links to contact you, in English language, as PRIMARY links for Search and Rescue services:

FTPV: (reserved info)
EMAIL: jrcc.cv@gmail.com
FAX: 238.232.4271 (temporarily out of service)

We would appreciate very much if you could confirm these addresses as primary/main or if you prefer us to use others different. Any 24 hours serviced link would be always preferable.

In addition, we have the following contact details:

PHONE: 238.2325555 / 238.5820125 / 238.5820119
EMAIL: jrcc.cv@fa.gov.cv

A successful communication test requires that the manual acknowledgement from the SPOC/RCC, using the same communication link tested, be received within 30 minutes. Please confirm via email the reception on primary and secondary links. If no reply is received, the test will be declared invalid.

For your information, our links are:

AFTN: GCOMPZSZX
FAX: 34.928.727107
PHONE: 34.928.727105
E-MAIL: spmcc@inta.es

Please, acknowledge reception of this message.

Thanks for your cooperation.

Best Regards,

SPMCC (COSPAS-SARSAT Spanish Mission Control Centre)

Answer received via EMAIL at 10:32 UTC

GOOD MORNING.

WE RECEIVED AND ACKNOWLEDGED YOUR MESSAGE.
OUR FAX IS OPERATIONAL NOW.

ALL THE LINKS ARE CORRECT.

HAVE A NICE DAY

SPMCC test
messages to Congo
and Gabon
1 July 2021
(non-responsive
SPOCs)

FROM: SPMCC COSPAS-SARSAT
TO: ACC BRAZZAVILLE - CONGO

SUBJECT: MONTHLY COMMUNICATION LINKS TEST

ACCORDING TO COSPAS-SARSAT (SEARCH & RESCUE SATELLITE AIDED PROGRAM) REGULATIONS, EACH MCC (MISSION CONTROL CENTER) MUST CHECK MONTHLY EACH DECLARED COMMUNICATION LINK WITH THE SAR POINTS OF CONTACT IN THE COUNTRIES WITHIN ITS SERVICE AREA.

AT PRESENT WE ARE USING FOLLOWING LINKS TO CONTACT YOU, IN ENGLISH LANGUAGE, AS PRIMARY LINKS FOR SEARCH AND RESCUE SERVICES:

AFTN: FCCCZRZX
EMAIL: sergentaba(AT)gmail.com

WE WOULD APPRECIATE VERY MUCH IF YOU COULD CONFIRM THESE LINKS AS PRIMARY/MAIN OR IF YOU PREFER US TO USE OTHERS DIFFERENT. ANY 24 HOURS SERVICED LINK WOULD BE ALWAYS PREFERABLE.

IN ADDITION, WE HAVE THE FOLLOWING CONTACT DETAILS:
PHONE: 242.055086131 / 242.069729754

A SUCCESSFUL COMMUNICATION TEST REQUIRES THAT THE MANUAL ACKNOWLEDGEMENT FROM THE SPOC/RCC, USING THE SAME COMMUNICATION LINK TESTED, BE RECEIVED WITHIN 30 MINUTES. IF NO REPLY IS RECEIVED, THE TEST WILL BE DECLARED INVALID.

FOR YOUR INFORMATION, OUR LINKS ARE:

AFTN: GCMPZSZX
FAX: 34.928.727107
PHONE: 34.928.727105
E-MAIL: SPMCC(AT)INTA.ES

PLEASE, ACKNOWLEDGE RECEPTION OF THIS MESSAGE.

THANKS FOR YOUR COOPERATION.

BEST REGARDS,
SPMCC (COSPAS-SARSAT SPANISH MISSION CONTROL CENTRE)

FROM: SPMCC COSPAS-SARSAT
TO: RSC LIBREVILLE - GABON

SUBJECT: MONTHLY COMMUNICATION LINKS TEST

ACCORDING TO COSPAS-SARSAT (SEARCH & RESCUE SATELLITE AIDED PROGRAM) REGULATIONS, EACH MCC (MISSION CONTROL CENTER) MUST CHECK MONTHLY EACH DECLARED COMMUNICATION LINK WITH THE SAR POINTS OF CONTACT IN THE COUNTRIES WITHIN ITS SERVICE AREA.

AT PRESENT WE ARE USING FOLLOWING LINKS TO CONTACT YOU, IN ENGLISH LANGUAGE, AS PRIMARY LINKS FOR SEARCH AND RESCUE SERVICES:

AFTN: FOOLCYX

WE WOULD APPRECIATE VERY MUCH IF YOU COULD CONFIRM THESE LINKS AS PRIMARY/MAIN OR IF YOU PREFER US TO USE OTHERS DIFFERENT. ANY 24 HOURS SERVICED LINK WOULD BE ALWAYS PREFERABLE.

IN ADDITION, WE HAVE THE FOLLOWING CONTACT DETAILS:
PHONE: 241.732100

WE WOULD ALSO APPRECIATE IF YOU PROVIDE US WITH ANY OTHER COMMUNICATION LINKS SUCH AS A FAX NUMBER AND/OR EMAIL.

A SUCCESSFUL COMMUNICATION TEST REQUIRES THAT THE MANUAL ACKNOWLEDGEMENT FROM THE SPOC/RCC, USING THE SAME COMMUNICATION LINK TESTED, BE RECEIVED WITHIN 30 MINUTES. IF NO REPLY IS RECEIVED, THE TEST WILL BE DECLARED INVALID.

FOR YOUR INFORMATION, OUR LINKS ARE:

AFTN: GCMPZSZX
FAX: 34.928.727107
PHONE: 34.928.727105
E-MAIL: SPMCC(AT)INTA.ES

PLEASE, ACKNOWLEDGE RECEPTION OF THIS MESSAGE.

THANKS FOR YOUR COOPERATION.



SPOC Communication Testing

Testing has been continuously conducted since 2008 with the goal of identifying non-responsive SPOCs to the C/S Council, and to IMO and ICAO

	2016	2017	2018	2019	2020	
					Number	Percent
Number of SPOCs tested by MCCs	163	157	154	161	165	
Non-responsive SPOCs (no response to tests)	7.98%	11.46%	8.44%	8.70%	12	7.27%
Rarely responsive SPOCs (less than 20% successful tests)	7.36%	8.28%	6.49%	5.59%	9	5.45%
SPOCs with low success ratio (between 20 and 50% successful tests)	7.98%	5.09%	10.39%	9.94%	13	7.88%
Insufficiently responsive SPOCs	23.32%	24.84%	25.32%	24.22%		20.6%



SPOC Test Requirements

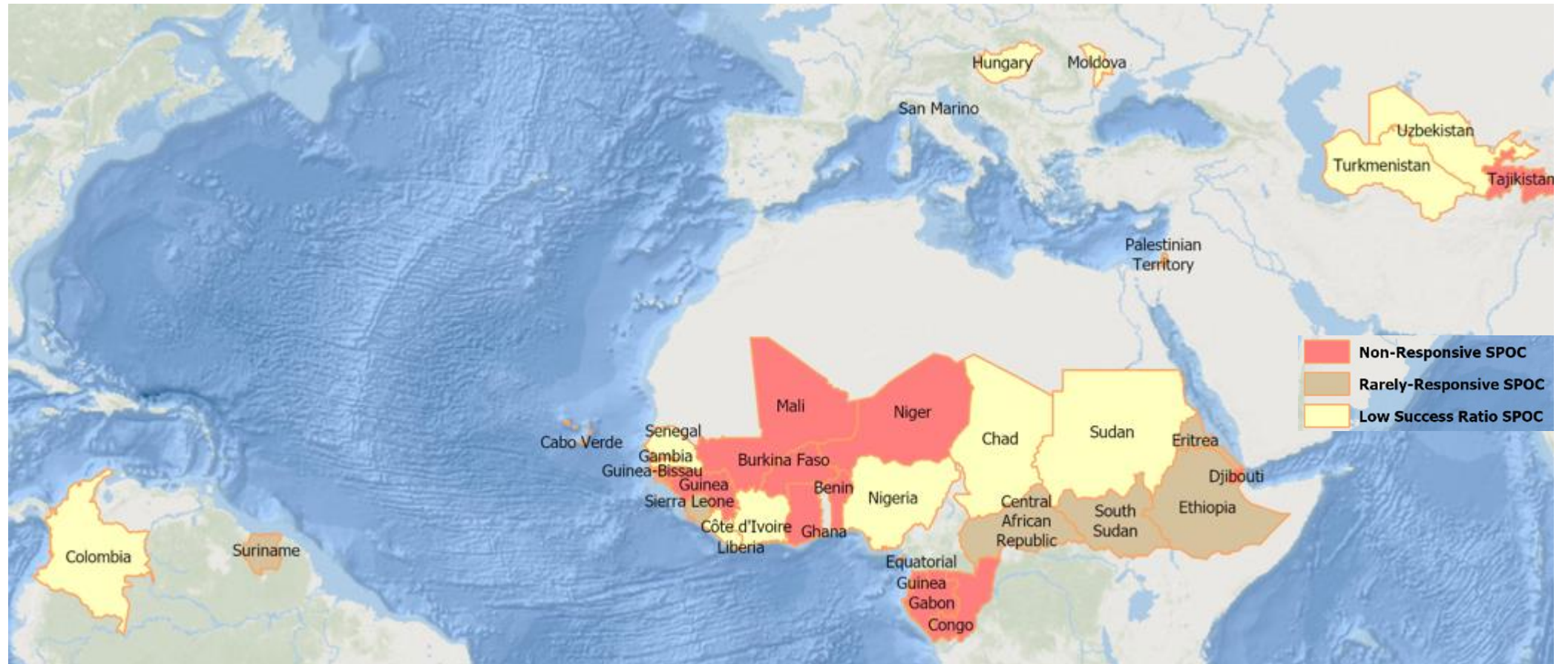
Each MCC shall perform a monthly communication test with each SPOC in its service area

- The test shall include a transmission of a test message from the MCC to the SPOC and an acknowledgement of the message by the SPOC/RCC operator (i.e. an automatic acknowledgement is not acceptable) to the MCC

A successful communication test requires that the manual acknowledgement from the SPOC/RCC be received within 30 minutes



SPOC Test Results (2020)





SPOC Responsibilities During Testing

- Send an acknowledgement of the test message to the MCC (an automatic acknowledgement is not acceptable)
- Send the manual acknowledgement within 30 minutes
- Keep contact details up-to-date



Possible causes for poor response rate

- We hold incorrect contact information
 - Change in personnel not notified
- Lack of understanding of required response
 - Responding by automated means not acceptable
- SAR resources inadequate to attend to incoming message traffic
- Alert is not properly distributed from the delivery address to the appropriate authority
- Other?





How to update contact details: SPOC Contact Database

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

COSPAS-SARSAT

Franglais | Русский

COSPAS-SARSAT REGULAR ▶

SYSTEM ▼ BEACONS ▼ DOCUMENTS ▼ MEETINGS ▼ CONTACT LISTS ▼

Contact Lists

Show instructions

export selection as PDF export selection as CSV export selection in a printable format

SPOC ▼

SPOC - SAR Points of Contact

Filter: search this table -- All Country/Region -- -- All DDRs -- Reset



SPOC Contact Database: Ghana

SPOC - SAR Points of Contact

Filter: [Reset](#)

select all	Name	City	Country	Associated MCC	DDR	Last revision	Details
<input type="checkbox"/>	ARCC - CAA Accra	Accra, Ghana	Ghana	SPMCC	South Central DDR	2021-06-10	▲

- Country/Region Code (MID): 627
- Primary telephone: +233 302 773 283
- Secondary telephone: +233 20 816 0590
- Third telephone number: +233 302 776 171
- Facsimile: +233 302 769 401
- Secondary fax: +233 302 773 293
- AFTN: DGAAZQZX
- Primary email: ghana.spoc@caa.com.gh
- Mailing Address: Ghana Civil Aviation Authority, Private Mail Bag, Kotoka International Airport
- City: Accra, Ghana
- Comments: Other contact details: +233 302 777 320 / AFTN: DGAAIFYX, DGAAZQZT

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



Sends email to the Secretariat for further review and updates



MCC SPOC Agreements

- Have been useful in improving communications
MCC->SPOC
- Model agreement/arrangement can be found on the
Cospas-Sarsat website ([406.org/en/documents-pro/document-templates](https://www.406.org/en/documents-pro/document-templates))
- Can be used to describe unique arrangements
between the supporting MCC and a SPOC, e.g., use
of WhatsApp for communication
- Recommended by ICAO and IMO



Completed MCC- SPOC Agreements

Chilean MCC – Republic of Paraguay

France MCC – CROSS Gris-Nez

France MCC – JRCC Tahiti

France MCC – La Reunion

France MCC - RCC Münster, Germany

France MCC – Tunis ACC

Italian MCC – Republic of North
Macedonia

Italian MCC – Republic of Serbia

Italian MCC – Sudan Civil Aviation
Authority

Norwegian MCC – Swedish Maritime
Administration

Saudi Arabia MCC - Lebanon

UK Maritime and Coast Guard Agency – Irish
Coast Guard

USA MCC - Corporación Centroamericana de
Servicios de Navegación Aérea (COSESNA)

USA MCC - Government of Bermuda

USA MCC – Republic of Ecuador

USA MCC – Republic of Haiti

USA MCC – Trinidad and Tobago

USA MCC - Dominican Republic

USA MCC – Dutch Caribbean Coastguard

USA MCC - Republic of Panama

Vietnam MCC – Cambodia

Vietnam MCC - Laos

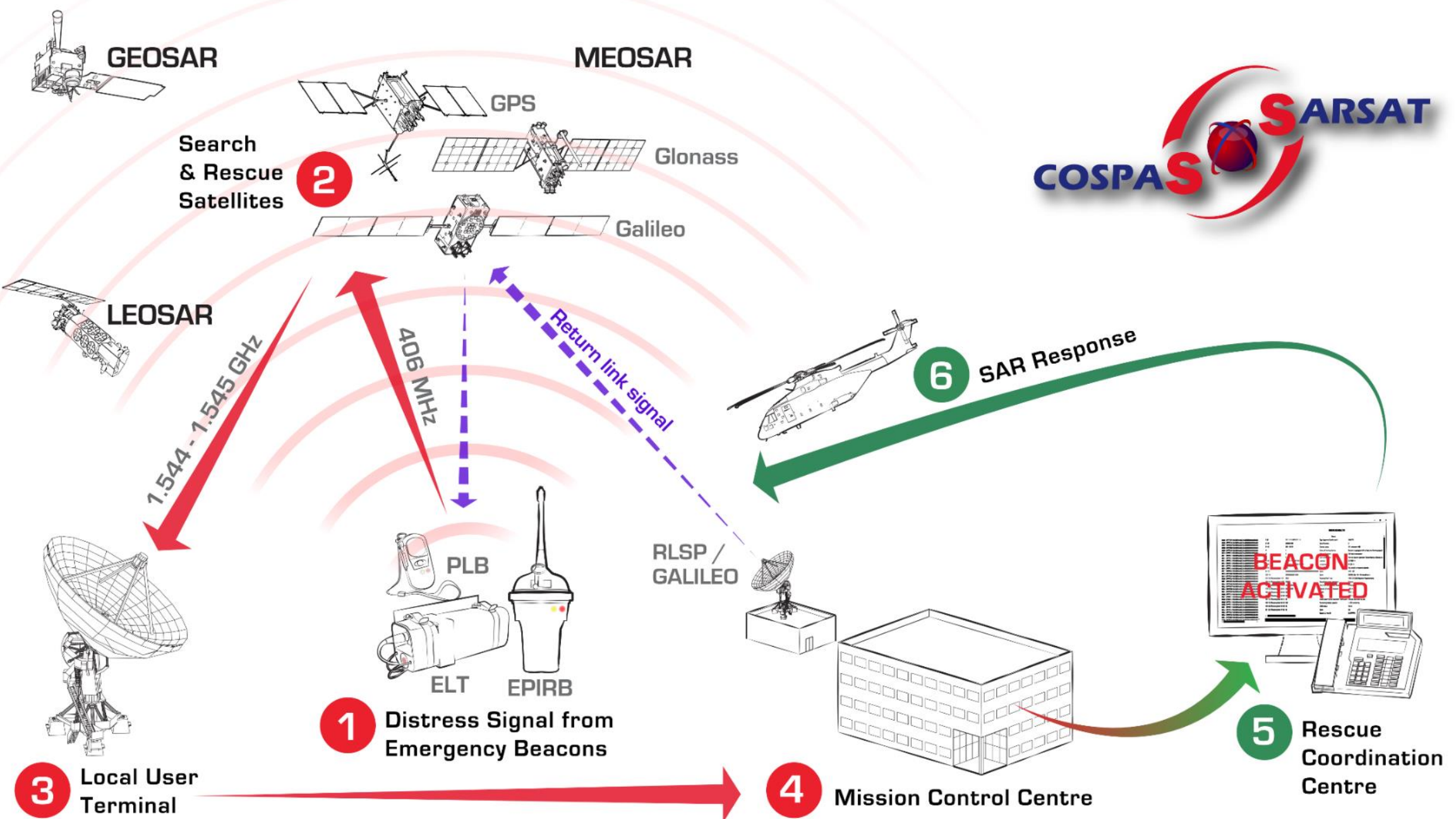
Recommended actions for SPOCs

- Work with supporting MCC to establish MCC-SPOC agreement using the model available on the Cospas-Sarsat website
- Once signed, deposit the agreement with the Secretariat
- Response:
 - Respond as required to comm tests from supporting MCC
 - Conduct SAR actions for real alerts and share successes by reporting back to MCC
- Review the RCC Handbook for further advice

**HANDBOOK ON DISTRESS ALERT MESSAGES
FOR
RESCUE COORDINATION CENTRES (RCCs),
SEARCH AND RESCUE POINTS OF CONTACT (SPOCs)
AND
IMO SHIP SECURITY COMPETENT AUTHORITIES**

C/S G.007
Issue 2 – Revision 3
March 2021





GEOSAR

MEOSAR

Search & Rescue Satellites

GPS

Glonass

Galileo

LEOSAR

1.544 - 1.545 GHz

406 MHz

Return link signal

6 SAR Response

PLB

RLSP / GALILEO

ELT

EPIRB

BEACON ACTIVATED

3 Local User Terminal

1 Distress Signal from Emergency Beacons

4 Mission Control Centre

5 Rescue Coordination Centre