HANDBOOK
OF BEACON REGULATIONS

C/S S.007
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HANDBOOK OF BEACON REGULATIONS

History

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Note: This document is provided for information only: up-to-date details on beacon regulations should be obtained from the relevant authorities.

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4. Coding Methods Used by Other Countries (non-Cospas-Sarsat Participants)

1. INTRODUCTION

1.1 Scope of Document

This document provides a summary of regulations issued by Cospas-Sarsat Participants regarding the carriage of 406 MHz beacons. It also includes practical information on coding and registration requirements in each country, where such information was made available to the Cospas-Sarsat Secretariat.

It also includes the following information:

- the list of type approved beacons;
- details on points of contact for beacon matters; and
- beacon test facilities information.

Examples of beacon registration cards are not included in the document, but are available at the Secretariat and can be provided on request.

This document is based mainly on information provided by Participants at Cospas-Sarsat meetings and in reports on System status and operations. Some information was provided by non-Cospas-Sarsat Participants. However, regulations are likely to evolve and the attached information should not be regarded as an official record of their current status. Participants are invited to provide the Cospas-Sarsat Secretariat with updates as appropriate.

1.2 Default Beacon Coding Schemes

If clear guidance for beacon coding is not provided in this document for a country, then beacon manufacturers should code beacons with associated country codes using a protocol that contains:

a) a readily available vessel or aircraft identification; or

b) a serial number, where the Cospas-Sarsat TAC number is encoded in the beacon ID.

User Protocols

Beacon	Default 1	Default 2
EPIRB	Maritime User - MMSI	Serial User
ELT	Aviation User	Serial User - Aircraft 24-Bit Address
PLB	Serial User	No second default

Location Protocols

Beacon	Default 1	Default 2
EPIRB	Standard Location EPIRB – MMSI	Standard Location Serial Location EPIRB
ELT	Standard Location ELT 24-Bit Address	Standard Location Serial ELT
PLB	Standard Location Serial Location PLB	No second default

The manufacturer/agent/dealer may use either Default 1 or Default 2, neither has precedence.

1.3 Testing Your 406 MHz Beacon

1.3.1 Introduction

Activating a 406 MHz beacon for even a very short time will generate a Cospas-Sarsat distress alert message that will be relayed to Search and Rescue Services for their immediate action. 121.5 / 243 MHz distress beacons can be activated for test at defined time periods. 406 MHz beacons are digitally coded and transmit distress signals without delay. Therefore, 406 MHz beacons should not be activated except in real distress situations or unless special prior arrangements have been made with the Cospas-Sarsat Mission Control Centre (MCC) that services your region.

Warning!!! Activating a beacon for reasons other than to indicate a distress situation or without the prior authorization from a Cospas-Sarsat MCC is considered an offence in many countries of the world, and could result in prosecution.

1.3.2 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.

If you inadvertently activate the beacon in its operational mode, contact the appropriate Rescue Coordination Center (RCC) or the nearest Cospas-Sarsat MCC as soon as possible and cancel the distress alert.

1.3.3 Live Beacon Testing

In rare circumstances there may be a need to activate a 406 MHz beacon in its operational mode for test purposes. Regardless of the beacon's location or the duration of activation, a

406 MHz beacon will be detected by at least one GEOLUT and it might also be detected by every LEOLUT in the System. The resulting distress alert message will be routed to every MCC in the Cospas-Sarsat System. Consequently, a great deal of coordination is required to ensure that all MCCs throughout the world are aware of test transmissions from beacons in their operational mode and that they have programmed their equipment to respond accordingly.

Requests to conduct a live beacon test should be directed to the Cospas-Sarsat MCC that services the location in which the test is planned and the Cospas-Sarsat MCC that *supports* the country coded in the beacon (if different).

There are more than 1 million Cospas-Sarsat 406 MHz distress beacons in operation. In view of the number of beacons in service, coupled with the effort and resources required to coordinate a live beacon test, beacon owners should be aware that authorization to activate a beacon for testing will only be granted in exceptional circumstances.

1.3.4 Aircraft Cockpit Testing of Distress Beacons by Aircraft Maintenance Facilities

Generally remote cockpit activations are performed on initial installation and during ongoing maintenance of the ELT. Aerial shielding of the beacon antenna should be considered prior to the live test.

Operational testing of a 406 MHz ELT from the cockpit may be undertaken provided the test duration is no longer than 5 seconds. The nearest RCC and the Air Traffic Services (ATS) Centre for the location of the test must be advised of this live test.

The test duration shall be restricted to 5 seconds so that there is no potential for an operationally coded 406 MHz digital burst transmitting and thus generating a false alert. The duration of the 121.5/243 MHz homing transmission, which will also be activated as part of this test, must also be restricted so as not to generate false alerts.

Some countries have regulations that are more restrictive, please check with appropriate regulatory authority regarding time and duration of test.

The Australian Maritime Safety Authority and the NOAA Satellite and Information Service (USA) provide comprehensive information on beacon testing.

1.4 International Regulations

1.4.1 EPIRBs and ELTs

Regulations usually reflect the specific application in each country/region of regulations (i.e., Recommendations, Resolutions, etc.) issued by the following international organizations:

- the International Civil Aviation Organization (ICAO),

- the International Maritime Organization (IMO),
- the International Telecommunication Union (ITU).

Copies of the relevant IMO Assembly Resolutions and Annexes to the Convention on International Civil Aviation are provided at section 6. Other international organizations' documents will be included for information in section 6 as appropriate.

1.4.2 PLBs (Coded with a Serial Number)

A PLB coded with a serial number has a direct link with its registered owner rather than with a mobile unit (e.g., vessel, aircraft). Based on this:

- A PLB should be coded with the country code of the nationality of the registered owner or the country where the registered owner lives; and
- Emergency contacts listed in the registration record of the PLB should speak the official language(s) associated with the country code of the beacon.

1.4.3 PLBs (not Coded with a Serial number)

Some national administrations permit PLBs to be coded with a direct link to a mobile unit (e.g., ship's MMSI number, aircraft 24-bit address or an Aircraft Operator Designator). In these instances the PLB shall be coded in accordance with the relevant rules for the permitted coding scheme.

1.5 Checksum Feature

A checksum feature shall be provided that allows, on an optional basis, the automatic verification of the 15-Hex ID entered by a beacon owner when registering a beacon. The checksum is provided by beacon manufacturers when required by national regulations.

Use of the checksum feature is designed to ensure correct initial registration of beacons and is not designed for checking changes to beacon registrations or changes to the 15-Hex ID that might be implemented in the field (for example to change the Country Code when a beacon changes flag-state).

The algorithm for calculating the beacon checksum and guidelines for its use can be found in document C/S G.005 "Guidelines on 406 MHz Beacon Coding, Registration and Type Approval".

1.6 Reference Documents

1.6.1 Cospas-Sarsat System Documents

The latest issues of theses documents are available on the Cospas-Sarsat website (www.cospas-sarsat.int).

a) C/S G.005 "Cospas-Sarsat Guidelines on 406 MHz Beacon Coding, Registration and Type Approval".

b) C/S G.007 "Handbook on Distress Alert Messages for RCCs, SPOCs and IMO Ship Security Competent Authorities".

c) C/S T.001 "Specification for Cospas-Sarsat 406 MHz Distress Beacons".

d) C/S T.007 "Cospas-Sarsat 406 MHz Distress Beacon Type Approval Standard".

1.6.2 ICAO (Annexes to the Convention on International Civil Aviation)

a) Annex 6: Operation of Aircraft.

b) Annex 10: Aeronautical Telecommunications.

c) Annex 12: Search and Rescue.

1.6.3 IMO (SOLAS Convention, Assembly Resolutions, MSC and COMSAR Circulars)

a) International Convention for the Safety of Life at Sea (SOLAS), 1974.

b) Resolution A.660(16): Carriage of Satellite Emergency Position-Indicating Radio Beacons (EPIRBs).

c) Resolution A.662(16): Performance Standards for Float-Free Release and Activation Arrangements for Emergency Radio Equipment.

d) Resolution A.694(17): General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids.

e) Resolution A.696(17): Type Approval of Satellite Emergency Position-Indicating Radio Beacons (EPIRBs) Operating in the Cospas-Sarsat System.

f) Resolution A.810(19): Performance Standards for Float-Free Satellite Emergency Position-Indicating Radio Beacons (EPIRBs) Operating on 406 MHz.

g) Resolution A.814(19): Guidelines for the Avoidance of False Distress Alerts.

h) Resolution A.887(21): Establishment, Updating and Retrieval of the Information Contained in the Registration Databases for the Global Maritime Distress and Safety System (GMDSS).

i) Resolution MSC.83(70): Adoption of Amendments to the Survey Guidelines Under the Harmonized System of Survey and Certification (Resolution A.746(18)).

j) MSC Circular 861: Measures to Reduce the Number of False Distress Alerts.

k) MSC Circular 863: Recommendation on Prevention of Harmful Interference to 406 MHz EPIRBs Operating with the Cospas-Sarsat System.

l) MSC Circular 1039: Guidelines for Shore-Based Maintenance of Satellite EPIRBs.

m) MSC Circular 1040: Guidelines on Annual Testing of 406 MHz Satellite EPIRBs.

n) MSC Circular 1174: Basic Safety Guidence for Oceanic Voyages by non-Regulated Craft.

o) MSC.1 Circular 1210/Rev.1: Guidance on the Cospas-Sarsat International 406 MHz Beacon Registration Database.

p) COMSAR Circular 32: Harmonization of GMDSS Requirements for Radio Installations on Board SOLAS Ships.

1.6.4 ITU

Recommendation ITU-R M.633-3: Transmission Characteristics of a Satellite Emergency Position-Indicating Radio Beacon (Satellite EPIRB) System Operating through a Low Polar-Orbiting Satellite System in the 406 MHz Band.

1.6.5 Other International / Regional Standards

1.6.5.1 International Electrotechnical Commission (IEC)

International Standard on GMDSS. IEC 61097-2, Ed.3: Cospas-Sarsat EPIRB - Satellite Emergency Position-Indicating Radio Beacons Operating on 406 MHz (Operational and Performance Requirements, Methods of Testing and Required Test Results), 2008.

1.6.5.2 European Telecommunications Standards Institute (ETSI)

These documents are available free-of-charge on the ETSI website at www.etsi.org.

a) ETSI EN 300 066 V1.3.1 (2001-01): Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Float-Free Maritime Satellite Emergency Position Indicating Radio Beacons (EPIRBs) Operating in the 406.0 MHz to 406.1 MHz Frequency Band; Technical Characteristics and Methods of Measurement (see Note 2).

b) ETSI EN 302 152-1 V1.1.1 (2003-11): Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Satellite Personal Locator Beacons (PLBs) Operating in the 406.0 MHz to 406.1 MHz Frequency Band; Technical Characteristics and Methods of Measurement (see Note 2).

1.6.5.3 The European Organization for Civil Aviation Equipment (EUROCAE)

ED-62A (February 2009): Minimum Operational Performance Specification for Aircraft Emergency Locator Transmitters (121.5/243 MHz and 406 MHz).

1.6.5.4 Radio Technical Commission for Maritime Services (RTCM)

a) RTCM Recommended Standards for 406 MHz Satellite Emergency Position-Indicating Radiobeacons (EPIRBs), RTCM 11000.3 published on 12 June 2012.

b) RTCM Recommended Standards for 406 MHz Satellite Personal Locator Beacons (PLBs), RTCM 11010.2 published in July 2008 and Amendment 2 published in June 2012.

c) RTCM Recommended Standards for 406 MHz Ship Security Alert System Beacons (SSASs), RTCM 11020.1 published on 9 October 2009.

1.6.5.5 Radio Technical Commission for Aeronautics (RTCA)

Document No. RTCA/DO-204A (September 6, 2007): Minimum Operational Performance Standards for 406 MHz Emergency Locator Transmitters (ELT).

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2. SUMMARY STATUS OF BEACON REGULATIONS FOR COSPAS-SARSAT PARTICIPANTS

ALGERIA

ALG.1 REGULATIONS

ALG.1.1 General

New regulations, which entered into force on 28 August 2000, made it compulsory for all Algerian 406 MHz beacons to be registered with the Algerian MCC (ALMCC) and clarified the applicable rules with regard to importing 406 MHz beacons in the country.

The carriage of 406 MHz ELT by an aircraft overflying the Algerian air space is mandatory after 2 January 2009.

ALG.1.2 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime Environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Algeria	Y	*[Y / N / R]*	Y	TBD in maritime invironment.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

ALG.2 CODING METHODS

ALG.2.1 EPIRB Coding Methods

Country Ccode	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
605	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

ALG.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
605	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

ALG.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
605	Y	Y		Y

ALG.3 LIST OF MHz BEACON MODELS TYPE APPROVED BY ALGERIA

Not available.

ALG.4 BEACON TESTING REGULATIONS

A message notifying of the test is required to be distributed to all MCCs worldwide. The information listed below (A to D) shall be provided by the person requesting an operational test.

A - TEST OBJECTIF
B - LOCATION OF TEST
C - DATE , TIME AND DURATION OF TEST
D - BEACON ID
E - VESSEL NAME
F - SPECIAL DATA COLLECTION AND PROSSECING REQUIRMENTS
G - POINT OF CONTACT

ALG.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
EPIRBs, ELTs, PLBs, SSAS beacons:		
Centre de Contrôle de Mission BP 428 123 rue de Tripoli Hussein Dey, Alger Algeria	(213.21) 491647 mcc_alger@mdn.dz	(213.21) 491648

ALG.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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ARGENTINA

ARG.1 REGULATIONS

ARG.1.1 EPIRBs

Regulatory responsibilities for requiring ships to carry EPIRBs are in Resolution SC No. 3398/99 of the Communications Secretary of the Argentine Republic, Annex:

AMENDMENTS TO MARITIME MOBILE SERVICE REGULATIONS -RESMMA- Decree No. 2174/84 and modifying regulations

CHAPTER III - STATIONS

SECTION 307: EQUIPMENT.

Par. 12. All craft not subject to the Convention that, on account of their characteristics, should be provided with a boat or life raft portable equipment and that have no such equipment to date, may be exempted from this requirement provided that they are supplied instead with a distress radio beacon (EPIRB) with a capability to either:

12.1. Transmit on 2,182 KHz frequency.

12.2. Transmit on 121.5 MHz and 243 MHz frequencies.

12.3. Transmit on 406 MHz frequency (Cospas-Sarsat Satellite System) and on another frequency established for homing radio. Within the national territory, these radio beacons do not require hydrostatic release devices.

12.4. Transmit on the 1.6 MHz frequency band used by the Inmarsat geostationary satellite system, pursuant to the Annex to IMO Resolution A.812(19). EPIRBs referred to in par. 12.1, 12.2 and 12.3 which are not equipped with a hydrostatic release device as provided for in IMO Resolution A.662(16) shall be in force until 31 December 1999.

Par.13. As from 1 June 1999, all EPIRBs to be mounted aboard shall be satellite radio beacons.

13.1. Two radio beacons supplied with a self-release device are suitable for this purpose: the 406 MHz EPIRB that complies with operating standards not below those specified in Annex to IMO Resolution A.810(19), or the EPIRB used by the Inmarsat geostationary satellite system on 1.6 GHz that complies with operating standards not below those specified in Annex to IMO Resolution A.812(19). For craft sailing on transit or operating exclusively within the area covered by a coastal station authorized for the A1 maritime zone, the satellite radio beacon may be replaced by an EPIRB complying with operating standards not below those specified in Annex to IMO Resolution A.805(19).

13.2. Ships having any type of 406 MHz EPIRB aboard prior to 1 June 1999 shall adjust to operating standards not below those specified in Annex to IMO Resolution A.763(18) by 31 December 1999, provided however that they are not required to be fitted with the 121.5 MHz homing radio beacon as stated in par. 2.3.14. - Part A of the above-mentioned Annex.

ARG.1.2 ELTs

In AIC (Aeronautical Information Circular) A03/97 of Command of Air Regions (CRA) on regulations on installation of emergency locator transmitters (ELT), establishes the requirements for the all large civil aircraft in the National (Argentine) Territory, hereby provides that:

(1) All large aircraft under national or foreign license that are assigned to Regular and Non-Regular Commercial Air Transportation in national companies and that operate within Flight Information Regions (FIR) in the National [Argentine] Territory, including the Higher and Lower Airspace, should incorporate Emergency Locator Transmitters (ELTs) on 406 MHz and 121.5 MHz on an optional basis during 1996 and on a mandatory basis as from 1 July 1997.

(2) All small aircraft under national or foreign license that are assigned to Regular and Non-Regular Commercial Air Transportation in national companies and that operate within Flight Information Regions (FIR) in the National [Argentine] Territory, including the Higher and Lower Airspace, should incorporate Emergency Locator Transmitters (ELTs) on 406 MHz and 121.5 MHz on an optional basis during 1996 and on a mandatory basis as from 1 January 1998.

(3) All General Aviation aircraft under national license that operate within Flight Information Regions (FIR) in the National [Argentine] Territory, including the Higher and Lower Airspace, should incorporate Emergency Locator Transmitters (ELTs) on 406 MHz and 121.5 MHz on an optional basis during 1996 and 1997, and on a mandatory basis as from 1 July 1998.

(4) Aircraft owners or operators shall register Emergency Locator Transmitters (ELTs) on board their aircraft with the Emergency Locator Transmitter National Registry, National Airworthiness Directorate.

ARG.1.3 PLBs

PLBs on Cospas-Sarsat standards are allowed for private or military use in Argentina. However, PLBs are not to replace ELTs or EPIRBS on aircrafts or vessels. According with local rules, manufacturers, distributors and sellers should assure that their items contain attached enough information about the registry obligation and related registry templates. When sold or distributed, local sellers and distributors should send ARMCC all owners' details and the final use of PLBs declared on the registration template. Other situations or special agreements of registry should be complied directly with ARMCC.

ARG.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Argentina	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

ARG.1.4 Beacon Database

The Argentine 406 MHz beacon database supports EPIRBs and ELTs. The registration of 406 MHz EPIRBs and ELTs is mandatory by national regulations.

The Argentina Mission Control Centre (ARMCC) performs registration of all Cospas-Sarsat beacons and maintains the 406 MHz beacon database register.

ARG.2 CODING METHODS

ARG.2.1 EPIRB Coding Methods

Country Code	EPIRB Coding Methods		
	Serial Number	MMSI	Call Sign
701	Y	Y	Y

The National EPIRB Administration (Comision Nacional de Comunicaciones - CNC) is working on the local Beacon Coding Method to be updated in a near future.

ARG.2.2 ELT Coding Methods

ELT Type	Protocol Type	Coded with	Decision Made by Argentina over those Bits with a National Use and Control Option
Non-Location Protocols	Serial User Protocol	Unique beacon serial number allocated by beacon manufacturer and Cospas-Sarsat type approval certificate number.	Bit 43 set to 1 and C/S Type Approval Certificate number encoded in bits 74 to 83. Bits 64-73 set all to 0s.
		Aircraft operator designator and a Serial number and Cospas-Sarsat type approval certificate number.	Bit 43 set to 1 and C/S Type Approval Certificate number encoded in bits 74 to 83.
		Aircraft 24-bits Address and Cospas-Sarsat type approval certificate number.	Bit 43 set to 1 and C/S Type Approval Certificate number encoded in bits 74 to 83. Quantity of additional ELTs carried on same aircraft and encoded with same 24-bits address, in bits 68-73 in binary code.
	Aviation User Protocol	Aircraft Nationality and Registration Marking.	Aircraft Nationality and Marking format for Argentina civil aircraft is 6 characters long, i.e. LV-XXX or LQ-XXX with X being a letter from A to Z.
	National User Protocol	Encoding data assigned by the 406 MHz ELT National Registration Authority of Argentina.	Bits 40-85, 107 and 109-112 are assigned by National Registration Authority of Argentina upon request.
			Bits 40-85, 107 -132 are assigned by National Registration Authority of Argentina upon request.
	Test User Protocol	Test beacon data assigned in coordination with 406 MHz ELT National Registration Authority of Argentina for the purpose of conducting beacon tests, demonstrations, type approval tests, training exercises, etc.	Bits 40-85 and 107-112 have to be assigned in coordination with 406 MHz ELT National Registration Authority of Argentina.
			Bits 40-85 and 107-132 have to be assigned in coordination with 406 MHz ELT National Registration Authority of Argentina.
Location Protocols	User Location Protocol	Unique beacon serial number allocated by beacon manufacturer and Cospas-Sarsat type approval certificate number.	Bit 43 set to 1 and C/S Type Approval Certificate number encoded in bits 74 to 83. Bits 64-73 all set to "0"s.
		Aircraft operator designator and a Serial number and Cospas-Sarsat type approval certificate number.	Bit 43 set to 1 and C/S Type Approval Certificate number encoded in bits 74 to 83. Bits 64-73 all set to "0"s.
		Aircraft 24-bits Address and Cospas-Sarsat type approval certificate number.	Bit 43 set to 1 and C/S Type Approval Certificate number encoded in bits 74 to 83. Quantity of additional ELTs carried on same aircraft and encoded with same 24-bits address, in bits 68-73 in binary code.
		Aircraft Nationality and Registration Marking.	Aircraft Nationality and Marking format for Argentina civil aircraft is 6 characters long, i.e.: LV-XXX or LQ-XXX with X being a letter from A to Z.
	Test User Location Protocol	Test Beacon identification data coordinated with 406 MHz ELT National Registration Authority of Argentina for the purpose of conducting beacon tests, demonstrations, type approval tests, training exercises, etc.	Bits 40-85 have to be assigned in coordination with 406 MHz ELT National Registration Authority of Argentina.
	Standard Location Protocol	Unique beacon serial number allocated by beacon manufacturer and Cospas-Sarsat type approval certificate number.	In accordance to document Cospas Sarsat Specification for Cospas-Sarsat 406 MHz Distress Beacons, Issue 3 - Revision 8 (C/S T.001).
		Aircraft operator designator and a Serial number.	
		Aircraft 24-bits Address **NOTE**: Only one ELT with this protocol per aircraft	
	Standard Test Location Protocol	Test Beacon identification data coordinated with 406 MHz ELT National Registration Authority of Argentina while conducting beacon tests, demonstrations, type approval tests, training exercises, etc.	Bits 41-64 have to be assigned in coordination with 406 MHz ELT National Registration Authority of Argentina.
	National Location Protocol	An eighteen bits number and a six bits number allocated by the 406 MHz ELT National Registration Authority of Argentina.	Bits 41 to 58 and bits 127 to 132 have to be assigned by National Registration Authority of Argentina upon request. Bit 110 set to 1 and delta position data is encoded in bits 113 to 126.
	National Test Location Protocol		

ARG.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	Nacional Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
701	Y	Y		N

ARG.3 LIST OF BEACON MODELS TYPE APPROVED BY ARGENTINA

Not available.

ARG.4 BEACON TESTING REGULATIONS

All operational 406 MHz Cospas-Sarsat Beacons should be activated only for real or imminent distresses. For testing or training purposes the activation should be authorized by ARMCC following the Cospas-Sarsat National Agency (SASS) orders and reglamentations. Entities and owners can find all related information on the web (http://www.sass.gov.ar/txt/prueba406.html).

ARG.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	TELEX	FAX
Coding and Registration (EPIRBs): Comisión Nacional de Comunicaciones (CNC) Perú 103 (C1067AAC) Ciudad Autónoma de Buenos Aires Buenos Aires, Argentina	(54) 08003333344 www.cnc.gov.ar		
Coding and Registration (ELTs): Registro Nacional de Radiobalizas de Localización de Emergencia Junín 1060, Piso 7 (C1113AAF) Buenos Aires, Argentina	(54.11) 45766414 seguvu@fibertel.com.ar	-	(54.11) 45766408
Coding and Registration (PLBs): Servicio de Alerta de Socorro Satelital - ARMCC Ira Brigata Aerea - G.III.COM Av. Matienzo e Itacumbu S/N El Palomar, Buenos Aires, Argentina	(54.11) 47512935 armcc@sass.gov.ar	-	(54.11) 46512935

ARG.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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AUSTRALIA

AUS.1 REGULATIONS

AUS.1.1 Specifications

See Australian / New Zealand Standards on "406 MHz satellite distress beacons", Ref. AS/NZS 4280.1, as amended for EPIRBs and AS/NZS 4280.2, as amended for PLBs.

These Standards are available at http://infostore.saiglobal.com/store/

Vessels operating under the Navigation Act of Australia are required to carry 406 MHz EPIRBs that meet the requirements of Marine Orders, Part 25 - Equipment - Lifesaving and 406 MHz EPIRBs that meet the requirements of Marine Orders, Part 27 - GMDSS Radio Equipment.

In July 2010, the Australian Maritime Safety Authority delegated the approval of material and equipment, including EPIRBs, to nine approved Classification Societies (ABS, CCS, KR, CCS, DV, DNV, GL, LR and NKK). Approval was undertaken as per SOLAS requirements and/or Australian Marine Orders.

Amendment 4 of AS/NZS 4280.1 (EPIRBs) was released on 12 September 2013. The amendment describes the use of checksums to assist in the registration process.

Amendment 4 of AS/NZS 4280.2 (PLBs) was released on 12 September 2013. The amendment describes the use of checksums to assist in the registration process and specifies that PLB casing shall provide buoyancy in fresh water.

AUS.1.2 Status Report on the Australian States' Legislation for the Carriage of EPIRBs

All Australian States and Territories have legislated for the mandatory registration of EPIRBs with AMSA. All vessels operating more than 2 nm offshore will be required to carry a 406 MHz beacon, except for the State of South Australia, where the requirement is 3 nm.

AUS.1.3 PLBs

Yachting Australia - YA Special Regulations Part 1 for Racing Boats and Recommended for Cruising Boats including Monohulls, Multihulls and Trailables.

A 406 MHz Personal Locator Beacon registered with a National Registration Authority and for Australian registered PLBs shall have a current registration label attached, shall be carried by or attached to each member of the crew when on deck for all Category 1 and 2 races.

PLBs shall be:

a) within battery life;

b) regularly tested to ensure they are in working condition; and
c) registered in the users' name.

Category 1: Offshore races of long distance and well offshore, where boats must be self-sufficient for extended periods of time, capable of withstanding heavy storms and prepared to meet serious emergencies without the expectation of outside assistance.
Category 2: Offshore races of extended duration along or not far removed from shorelines or in large unprotected bays or lakes, where a high degree of self-sufficiency is required of the boats.

AUS.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Australia	Y	R	R	In maritime environment, a PLB cannot be used as a substitute for an EPIRB required by regulation. On aircraft, see Civil Aviation Regulation 252A for rules concerning PLBs in aircraft.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

AUS.1.4 ELTs

Civil Aviation Regulation 252A

252A Emergency locator transmitters

(1) The pilot in command of an Australian aircraft that is not an exempted aircraft may begin a flight only if the aircraft:

(a) is fitted with an approved ELT:

(i) that is in working order; and

(ii) whose switch is set to the position marked 'armed', if that switch has a position so marked; or

(b) carries, in a place readily accessible to the operating crew, an approved portable ELT that is in working order.

Penalty: 25 penalty units.

Note For the maintenance requirements for emergency locator transmitters, see Part 4A. See also subsection 20AA (4) of the Act.

(1A) An offence against subregulation (1) is an offence of strict liability.

Note For ***strict liability***, see section 6.1 of the *Criminal Code*.

(2) Subregulation (1) does not apply in relation to a flight by an Australian aircraft if:

(a) the flight is to take place wholly within a radius of 50 miles from the aerodrome reference point of the aerodrome from which the flight is to begin; or

(b) the flight is, or is incidental to, an agricultural operation; or

(c) CASA has given permission for the flight under regulation 21.197 of CASR; or

(d) the aircraft is new and the flight is for a purpose associated with its manufacture, preparation or delivery; or

(e) the flight is for the purpose of moving the aircraft to a place to have an approved ELT fitted to the aircraft, or to have an approved ELT that is fitted to it repaired, removed or overhauled.

(3) Subregulation (1) does not apply in relation to a flight by an Australian aircraft if, when the flight takes place:

(a) an approved ELT fitted to the aircraft, or an approved portable ELT usually carried in the aircraft, has been temporarily removed for inspection, repair, modification or replacement; and

(b) an entry has been made in the aircraft's log book, or approved alternative maintenance record, stating:

(i) the ELT's make, model and serial number; and

(ii) the date on which it was removed; and

(iii) the reason for removing it; and

(c) a placard stating 'ELT not installed or carried' has been placed in the aircraft in a position where it can be seen by the aircraft's pilot; and

(d) not more than 90 days have passed since the ELT was removed.

(4) For an emergency locator transmitter, emergency position indicating radio beacon or personal locator beacon to be an eligible ELT, it must meet the following requirements:

(a) it must, if activated, operate simultaneously:

(i) in the frequency band 406 MHz–406.1 MHz; and

(ii) on 121.5 MHz;

(b) it must be registered with the Australian Maritime Safety Authority;

(c) if it is fitted with a lithium-sulphur dioxide battery — the battery must be of a type authorised by the FAA in accordance with TSO-C142 or TSO-C142a.

(5) To be an approved ELT, an eligible ELT must meet the following requirements:

(a) it must be automatically activated on impact;

(b) it must be of one of the following types:

(i) a type authorised by the FAA in accordance with:

(A) TSO-C91a for operation on 121.5 MHz; and

(B) TSO-C126 for operation in the frequency band 406 MHz–406.1 MHz;

(ii) a type that CASA is satisfied:

(A) is operationally equivalent to a type mentioned in subparagraph (i); and

(B) performs at a level that is at least equivalent to the level of performance of a type mentioned in subparagraph (i).

(6) To be an approved portable ELT, an eligible ELT must meet the following requirements:

(a) it must be portable;

(b) it must be of one of the following types:

(i) an emergency position indicating radio beacon of a type that meets the requirements of AS/NZS 4280.1:2003;

(ii) a personal locator beacon of a type that meets the requirements of AS/NZS 4280.2:2003;

(iii) a type authorised by the FAA in accordance with:

(A) TSO-C91a for operation on 121.5 MHz; and

(B) TSO-C126 for operation in the frequency band 406 MHz–406.1 MHz;

(iv) a type that CASA is satisfied:

(A) is operationally equivalent to a type mentioned in subparagraph (i), (ii) or (iii); and

(B) performs at a level that is at least equivalent to the level of performance of a type mentioned in subparagraph (i), (ii) or (iii).

(7) In this regulation:

approved ELT means an eligible ELT that meets the requirements mentioned in subregulation (5).

approved portable ELT means an eligible ELT that meets the requirements mentioned in subregulation (6).

AS/NZS 4280.1:2003 means:

(a) the standard AS/NZS 4280.1:2003, *406 MHz satellite distress beacons, Part 1: Marine emergency position-indicating radio beacons (EPIRB) (IEC 61097-2:2002, MOD)*, as in force from time to time; or

(b) a later edition of the standard mentioned in paragraph (a), as in force from time to time.

AS/NZS 4280.2:2003 means:

(a) the standard AS/NZS 4280.2:2003, *406 MHz satellite distress beacons, Part 2: Personal locator beacons (PLBs)*, as in force from time to time; or

(b) a later edition of the standard mentioned in paragraph (a), as in force from time to time.

eligible ELT means an emergency locator transmitter, emergency position indicating radio beacon or personal locator beacon that meets the requirements mentioned in subregulation (4).

exempted aircraft means:

(a) a high-capacity regular public transport aircraft; or

(b) a high-capacity charter aircraft; or

(c) a single seat aircraft; or

(d) a turbojet-powered aircraft; or

(e) a balloon; or

(f) an airship; or

(g) a glider.

high-capacity, in relation to an aircraft, means permitted, by the aircraft's certificate of type approval:

(a) to have a maximum seating capacity of more than 38 seats; or

(b) to carry a maximum payload of more than 4,200 kilograms.

single seat aircraft means an aircraft that is equipped to carry only one person.

(8) In this regulation, a reference to a particular TSO is a reference to:

(a) the particular TSO, as in force from time to time; or

(b) a later version of the particular TSO, as in force from time to time.

AUS.1.6 Beacon Database

The Australian beacon database supports EPIRBs, ELTs and PLBs. All Cospas-Sarsat beacon protocols are allowed.
Registration is mandatory for Recreational vessels, SOLAS and ICAO Convention vessels and aircraft respectively.

Registration can be completed via the Online Beacon Register www.amas.gov.au/beacons or by completing and returning the Distress Beacon Registration form via Mail, Fax or Email.

Once an EPIRB or PLB is registered with AMSA the beacon owner will be issued with a proof of registration sticker to be affixed to the beacon. The registration sticker is valid for 2 years.

AUS.1.7 Distress Beacon Information

Further information about distress beacons, the Australian Online 406 Beacon Register and conditions of carriage can be found at: www.amsa.gov.au/beacons.

A copy of the Australian/New Zealand beacon registration form and the beacon disposal form can also be obtained from www.amsa.gov.au/Forms/sar.asp.

All enquiries about distress beacons in the Australian region can be directed to: ausbeacon@amsa.gov.au.

AUS.2 CODING METHODS

AUS.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
503	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: (1) If national serial numbers, as provided by Australia's national authority, AMSA (e-mail: ausbeacon@amsa.gov.au), are to be used, the Cospas-Sarsat type approval number (TAC) should **NOT** be inserted and bit 43 should be set to "0". If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.

(2) Do not program an EPIRB as another beacon type of ELT or PLB.

AUS.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
503	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: (1) If national serial numbers, as provided by Australia's national authority, AMSA (e-mail: ausbeacon@amsa.gov.au), are to be used, the Cospas-Sarsat Type Approval Number (TAC) should NOT be inserted and bit 43 should be set to "0". If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.

(2) If programming the ELT with the aircraft Registration marking do not insert extraneous characters such as '/1' or '/2' after the aircraft registration marking to indicate multiple ELTs on board the same aircraft.

(3) Do not program an ELT as another beacon type of EPIRB or PLB.

(4) An ELTs installed in an aircraft connected to a dongle must ensure the Hex ID programmed into the dongle matches the ID coded in the ELT and vice versa.

AUS.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
503	Y	Y		Y

Notes: (1) If national serial numbers, as provided by Australia's national authority, AMSA (e-mail: ausbeacon@amsa.gov.au), are to be used, the Cospas-Sarsat Type Approval Number (TAC) should **NOT** be inserted and bit 43 should be set to "0". If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.

(2) Do not program a PLB as another beacon type of ELT or EPIRB.

(3) PLBs programmed with the Australian country code shall not transmit the letter 'P' in Morse code over the homing frequency of 121.5MHz. This is not permitted under Australian Standards.

AUS.3 LIST OF BEACON MODELS TYPE APPROVED BY AUSTRALIA

Australia has a policy of self-regulation with regard to meeting the requirements of the Australian Standard 4280.1 for 406 MHz EPIRBs and 4280.2 for 406 MHz PLBs. The 121.5 MHz homing transmitter referred to in Standard 4280 must be approved by the Australian Communications and Media Authority (ACMA) or by another certified laboratory providing an equivalent service. Manufacturers or distributors selling 406 MHz EPIRBs or PLBs to the general public in Australia shall hold compliance folders that demonstrate the beacon meets the operational and environmental requirements of the Australian Standard and have the C-Tick mark and suppliers number displayed clearly on the beacon's label. The Standard, AS/NZS 4280.1 and 4280.2 is available from Standards Australia (http://infostore.saiglobal.com/store/) and requirements for applying for C-Tick mark are available from ACMA (www.acma.gov.au).

EPIRBs carried by vessels under the Australian Navigation Act must comply with the relevant parts of Marine Orders.

ELTs for sale in Australia are required to comply with Aviation Regulation 252A as provided in section AUS.1.4.

AUS.4 BEACON TESTING REGULATIONS

1. Introduction

Cospas-Sarsat 406 MHz distress beacons should only be activated when a ship, aircraft or person is in distress that is in grave and imminent danger and requiring immediate assistance. In between the manufacturers' recommended maintenance and battery replacement cycles, the beacon can be tested by the owner using the self-test capability to ensure the continued functionality of the beacon.

There is normally no need for the beacon to be tested in an operational mode by a beacon owner.

The information provided in the following sections provides guidance on beacon testing and the procedures required in the unlikely and unusual event that an operational test of a beacon is required. The Australian Maritime Safety Authority (AMSA) does not grant approval for beacon operational tests unless the procedures outlined below have been adhered to.

2. Summary

- All 406 MHz distress beacons can be tested at any time using the self-test functions without any notification to RCC Australia; and

- Any test of a 406 MHz distress beacon in the operational mode requires prior approval from RCC Australia (**Telephone 1800 641 792**) and the requirements set out in Sections 5 and 6 below must be satisfied.

3. Beacon Self-test

All Cospas-Sarsat type approved 406 MHz beacons include a self-test mode of operation. The content of the self-test message always provides the beacon 15 Hex ID, except for location protocol beacons when they are transmitting a self-test message encoded with a GNSS position. The transmission of a self-test GNSS position is optional.
The complete self-test transmission is limited to one burst and is activated by a separate switch position.

The self-test function performs an internal check and indicates that RF power is being emitted at 406 MHz and at 121.5 MHz, if applicable. The beacon will provide an indication of the success or failure of a GNSS self-test. The self-test mode signal is not processed by the satellite equipment.

The manufacturers' instructions on the frequency of performing a self-test and transmission of a self-test GNSS position should be adhered to. This will limit the likelihood of inadvertent activation and battery depletion.

The Australian-New Zealand 406 MHz EPIRB and PLB beacon standard requires that the 121.5/243 MHz transmission during the self-test is restricted to just one second.
There is test equipment available that can facilitate the testing of 406 MHz beacons in the self-test mode and provide technical information on the beacon transmission. An example of such equipment can be obtained from:
www.sartech.co.uk/products/406testequipmentreceivers/406mhzbeacontesters.

This equipment is intended to be used by ship and aircraft inspectors and beacon maintenance personnel.

4. The Reasons why Operational Testing Should be Avoided

The self-test function should accommodate most beacon testing. However, there are some occasions when operational testing may be required. These occasions should be limited to the absolute minimum as they impact the Cospas-Sarsat System.

Other than performing a 406 MHz beacon self-test for evaluating key beacon performance characteristics to ensure operational functionality, other reasons for activating a beacon include:

- Prototype beacon testing;
- New beacon models testing;
- Search and rescue training exercises; and
- Cospas-Sarsat Ground Segment equipment performance.

Beacons activated in the operational or live mode (not using the self-test function) impacts the Cospas-Sarsat Space and Ground Segments and Rescue Coordination Centres (RCCs) worldwide and may inhibit the processing of genuine distress beacon alerts, therefore delaying a response to a distress situation.

Regardless of the beacon's location or the duration of the activation, a 406 MHz beacon will be detected by at least one Geostationary Local User Terminal (GEOLUT) and it might also be detected by every Low Earth Orbit Local User Terminal (LEOLUT) in the Cospas-Sarsat System.

Furthermore, the 121.5 MHz homing signal transmitted during the 406 MHz beacon activation will be heard by overflying aircraft which may impact genuine distress alerts, RCCs and may impact air traffic services at airports.

Given the reasons above there is a need to ensure that beacon testing is undertaken responsibly. Comprehensive coordination will need to be undertaken to ensure that all Cospas-Sarsat Mission Control Centres (MCCs) around the world are informed of any operational beacon testing as well as the local RCC.

5. Operational Testing Requirements

All beacon types (ELTs, EPIRBs and PLBs) can be tested at any time using the self-test function without the need to notify RCC Australia.

Operational testing of any beacon type, including ELTs and irrespective of the duration and location is only permitted with prior approval of RCC Australia (**Telephone 1800 641 792**). Operational testing can only be permitted under the following circumstances:

- beacon to be coded with the TEST protocol;
- 121.5/243 MHz homing signal is disabled;
- two days notice shall be provided to RCC Australia; and
- responses are provided to the questions listed in section 7, A to E, including the Cospas-Sarsat type approval certificate number.

A beacon owner wishing to undertake an operational test of his/her 406 MHz beacon, without the modifications stated above, is normally prohibited as the tests are then dependant upon the Cospas-Sarsat Space and Ground Segments to provide the results of the detection.

6. Operational Testing by Manufacturers and Others

Operational testing of 406 MHz beacons can be performed in screened enclosures to eliminate the risk of false alerts and with the use of test equipment the beacons' performance can be assessed. This type of testing would normally be undertaken by manufacturers, suppliers and other beacon maintenance staff.

There may be occasions when a compelling argument may be put forward by beacon manufacturers, suppliers and the like to allow operational testing of a 406 MHz beacon without a change to the beacon protocol or the disabling of the 121.5/243 MHz homing transmitter. Such exceptional requests will be considered on their merits and the following points should be noted:

- the test will be limited in duration (not more than 15 minutes);
- the objective of the test can be met with very limited beacon bursts being detected by the GEO system;
- RCC Australia has given clearance for the 121.5/243 MHz transmission;
- the location of the test in latitude and longitude must be provided;
- the timing will be dependent upon mutual visibility between the beacon, the LEO satellite and LEOLUT;
- provision of the information in section 7, including the Cospas-Sarsat type approval certificate number;
- two days notice to be provided and;
- the test strategy and the feedback (reports, distress alert, raw LUT data, etc) required has been discussed with AMSA's Cospas-Sarsat Adviser.

6.1 Aircraft Cockpit Remote Activation Switches and Operational Testing by Aircraft Maintenance Facilities

Whilst a functional test of a beacon can be performed via the beacon's self-test capability the use of the remote aircraft cockpit activation switches results in an operational activation of the ELT. Remote cockpit activations are performed on initial installation and during ongoing maintenance of the ELT.

In order to comply with these ELT maintenance requirements, operational testing of a 406 MHz ELT from the cockpit of an aircraft may be undertaken by maintenance facilities, provided the test duration is no longer than 5 seconds and is undertaken within the first 5 minutes of the hour. RCC Australia (**Telephone 1800 641 792**) and the Air Traffic Services (ATS) Centre for the location of the test must be advised of this operational test.

The test duration must be restricted to 5 seconds so that there is no potential for an operationally coded 406 MHz digital burst transmitting and thus generating a false alert. The

duration of the 121.5/243 MHz homing transmission, which will also be activated as part of this test, must also be restricted so as not to generate false alerts via ATS.

7. Beacon Test Coordination Message

A message notifying of the test is required to be distributed to all MCCs worldwide. The information listed below, A to E, shall be provided by the person requesting an operational test.

A. TEST OBJECTIVE:
B. TEST DESCRIPTION:
C. LOCATION OF TEST:
D. DATE, TIME AND DURATION OF TEST:
E. BEACON ID:

8. Reference Documents

The International Maritime Organization (IMO) has published guidelines on the annual testing and shore-based maintenance for Emergency Position-Indicating Radio Beacons (EPIRBs). These guidelines and other international beacon regulations for EPIRBs and Emergency Locator Transmitters (ELTs) are available in document C/S S.007 "Handbook of Beacon Regulations" which is available at www.cospas-sarsat.int.

AUS.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Registration (EPIRBs, ELTs, PLBs):		
Australian Maritime Safety Authority GPO Box 2181 Canberra ACT 2601, Australia	(61.2) 62795766	(61.2) 93326323 ausbeacon@amsa.gov.au

AUS.6 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available at: http://www.amsa.gov.au/forms-and-publications/amsa6.pdf.

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BRAZIL

BRA.1 REGULATIONS

BRA.1.1 EPIRBs

All Brazilian SOLAS ships have to carry 406 MHz EPIRBs. Voluntary carriage of 406 MHz EPIRBs is permitted on Brazilian non-SOLAS ships.

BRA.1.2 ELTs

According to regulations of the National Civil Aviation Agency of Brazil, since 1 January 2009, all ELTs installed on aircraft registered in Brazil must operate on the 406 MHz frequency with auxiliary radio-locating device on the 121.5 MHz frequency.

BRA.1.3 PLBs

The private use of PLBs is permitted in Brazil as part of a survival kit for aircraft. This condition must be mentioned in the PLB 406 MHz Registration Form. All PLBs must be registered in the national beacon database at BRMCC; 406 MHz PLBs manufacturers or distributors shall attach folders on the equipment concerning the resgistry obligation. Other uses depend on a special agreement with the BRMCC.

The SAR national agency issued an Aeronautical Information Circular (AIC13 N/2011) permitting the use of PLB onboard of ultraligth aircraft since registration is made in the BRMCC.

BRA.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Brazil	*[Y / N / R]*	*[Y / N / R]*	*[Y / N / R]*	*TBD*

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

BRA.1.4 Beacon Registration

All 406 MHz beacons carried by Brazilian ships and aircraft must to be registered at BRMCC.

BRA.1.5 Beacon Database

There is a national database for ELTs, EPIRBs and PLBs maintained by BRMCC.

BRA.2 CODING METHODS

BRA.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
710	Y	N	Y	N	N	N	N	Y	Y	N

BRA.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
710	Y	N	Y	Y	N	N	N	N	Y	N	Y	N

BRA.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
710	Y	Y		N

BRA.3 LIST OF BEACON MODELS TYPE APPROVED BY BRAZIL

Not available.

BRA.4 BEACON TESTING REGULATIONS

The Cospas-Sarsat 406 MHz distress beacons should only be activated when a vessel, an aircraft or a person are in distress, i.e., in severe and imminent danger and requiring immediate assistance. However, to ensure that the beacons are working properly, they can be activated for testing or training purposes. To achieve this goal it is emphasized that the users should perform the self-test mode without causing harmful impact to the search and rescue (SAR) system. On the other hand, when these beacons are being tested in operational mode

they can bring on harmful impacts to the SAR system. The following harmful impacts can be highlighted:

- impact to aviation, increasing the amount of messages between pilots and Air Traffic Control;
- impact to the Rescue Coordination Centres (RCCs), increasing the delays in attending real emergencies;
- SAR resources tasked unnecessarily;
- SAR crews put at risk unnecessarily; and
- increase in SAR budget.

Given the above harmful impacts, the testing of beacons in operational mode must be controlled and performed when absolutely necessary. Therefore, when requested by beacon users and approved by national SAR administration, BRMCC will coordinate beacons activation for testing or training purposes. Thus, the following procedures shall be observed:

- ELT, EPIRB and PLB can be tested anytime using the self-test mode. There is no need to notify BRMCC (check the manufacturer's instructions for performing the self-test, as well as for interpreting the test results);
- ELT, EPIRB and PLB can be tested in operational mode within the first five minutes of the hour, provided the following instructions are observed:
    - test of four beacons or less: the user must contact BRMCC at least 24 hours in advance of the time scheduled to perform the test;
    - test of more than four beacons: the user must contact BRMCC at least thirty days in advance of the day scheduled to perform the test;
    - the user shall ensure that the beacons to be tested are registered in BRMCC database;
    - in all cases, the user shall provide the following information:
        - test purpose;
        - test description;
        - test location;
        - test date, time and duration;
        - beacon HEX ID; and
        - point of contact.

Remarks:

- The most common reason for testing an emergency beacon is to ensure that it is operating properly and producing the reliable RF signal. To achieve this without causing the above mentioned harmful impacts, there is a self-test mode in ELT, EPIRB and PLB;
- When the beacon is turned on in the self-test mode, usually, there are lights and/or sounds that indicate proper beacon operation. In the self-test mode, the beacon radiates an encoded message which will be ignored by the Cospas-Sarsat System, and

the 121.5 MHz signal will be transmitted during one second or less, assuring that the SAR system will not be alerted.

- When in operational mode, preferably perform the ELT test inside hangars. Do not perform the test in remote regions where there are no easy communications, such as farm strips;
- When in operational mode, the duration of the test shall be limited to 5 seconds in order to minimize the possibility of generating a false alert.
- Art. 58 of the Brazilian Aeronautical Code establishes that "Whoever, by recklessness, negligence or transgression, causes unnecessary movement of SAR resources will be required to reimburse the Brazilian Federal Administration, even if there were no danger to life or request for help."

BRA.5 POINTS OF CONTACT FOR 406 MHZ BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
CINDACTA1 / BRMCC SHIS QI 05 Lago Sul - Area Especial 12 CEP-71615-600 Brasilia - DF, Brazil	(55.61) 33648395 brmcc@cindacta1.aer.mil.br www.brmcc.aer.mil.br	(55.61) 33652964

BRA.6 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available at: www.brmcc.acr.mil.br.

CANADA

CAN.1 REGULATIONS

CAN.1.1 EPIRBs

Carriage Requirements

Since 2001, most commercially-operated vessels, including fishing vessels, vessels that carry passengers and vessels over 8 metres in length are required to be equipped with a 406 MHz EPIRB. Specific regulations are found in Ship Station (Radio) Regulations, 1999.

Canadian pleasure craft operators are encouraged to carry a 406 MHz EPIRB.

Performance and Certification

EPIRBs must meet technical certification as specified in Ship Station (Radio) Technical Regulations, 1999. Transport Canada maintains a list of EPIRBs approved for use in Canada which can be accessed at http://wwwapps.tc.gc.ca/Saf-Sec-Sur/4/APCI-ICPA/eng/catalogues/list.

Importation, use or sale of an EPIRB that operates only on 121.5 MHz or 243 MHz is prohibited by Industry Canada's Radio Standard Specification 287.

Operation

A radio operator's licence is not required to use an EPIRB in Canada.

The only authorized digital coding protocols for EPIRBs in Canada are the Serial User Protocol and Standard Location-Serial Number protocol as described by Cospas-Sarsat document C/S G.005 Cospas-Sarsat Guidelines on 406 MHz Beacon Coding, Registration and Type Approval.

Registration

All Canadian-coded EPIRBs operating in 406 MHz are required by regulations be registered with the Canadian Beacon Registry at www.cbr-rcb.ca.

CAN.1.2 PLBs

Use of PLBs in Canada

PLBs are permitted to be used at all times and all places in Canada. Canada allows the use of Class 1 and Class 2 PLBs.

PLBs are not permitted to substitute when regulations require use of ELT or EPIRB. PLBs may be used to compliment the required beacons. When a PLB is routinely used in the

marine or aeronautical environment, users are encouraged to provide any associated vessel or aircraft information when the PLB is registered.

National Beacon Protocols for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Canada	Y	R	R	Response to terrestrial PLB alerts is responsibility of the Province / Territory. PLB may not substitute for required carriage of ELT or EPIRB. PLB may only be used as supplementary alerting device in this case. Users are encouraged to make notes linking PLBs used in maritime and aviation environments to relevant vessel/aircraft data during the registration process.

Similar information is available in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

Performance and Certification

PLBs for sale in Canada must have a Cospas-Sarsat Type Approval Certificate and be approved for use by the National Search and Rescue Secretariat and Industry Canada.

An updated list of PLBs approved for use in Canada will soon be available on the NSS website at www.nss.gc.ca. In the interim those requiring more information are requested to contact NSS at 613-614-3923 or 1- 800-727-9414.

Importation, use or sale of a PLB that operates only on 121.5 MHz or 243 MHz is prohibited by Industry Canada's Radio Standard Specification 287.

All PLBs must transmit distress information on 406 MHz and transmit a homing signal on 121.5MHz as required by Radio Standard Specification 287.

Operation

A radio operator's licence is not required to use a PLB in Canada.

PLBs in Canada should be coded using the Serial User Protocol, User-location Protocol or Standard Location Protocol as described by Cospas-Sarsat document C/S G.005 Cospas-Sarsat Guidelines on 406 MHz Beacon Coding, Registration and Type Approval.

Registration

Canadian PLBs should be registered with the Canadian Beacon Registry at www.cbr-rcb.ca.

CAN.1.3 ELTs

Carriage Requirements

Generally, most powered aircraft operated in Canada are required to equip with an ELT. The ELT may transmit on either

1. 121.5 MHz only, if the ELT was certified prior to March 2014; or
2. 121.5 MHz and 406 MHz.

Specific ELT carriage requirements are found in Canadian Aviation Regulations article 605.38.

Performance and Certification

Generally, ELTs must meet TSO-C91, TSO-C91a, or TSO-C126. Transport Canada maintains a list of ELTs approved for use in Canada which can be accessed at http://www.tc.gc.ca/eng/civilaviation/certification/elt-65.htm.

Starting March 2014 new ELT models submitted for certification must transmit on 406 MHz as required by Radio Standard Specification 287.

The Airworthiness Manual article 551.104 provides detailed information on ELT certification requirements. Furthermore, certified installation, maintenance, battery replacement and inspection of ELTs is governed by various other regulations and Airworthiness Directives.

Operation

A radio operator's licence is not required to use an ELT in Canada.

Canadian coded ELTs must be coded using either the Serial User (24-bit Aircraft Address) or Standard Location (24-bit Aircraft Address) Protocols as described by Cospas-Sarsat

document C/S G.005 Cospas-Sarsat Guidelines on 406 MHz Beacon Coding, Registration and Type Approval. The 24-bit address for Canadian registered aircraft can be found by contacting Transport Canada or by searching the Canadian Civil Aircraft Register.

Registration

All Canadian-coded ELTs operating in 406 MHz are required by regulations to be registered with the Canadian Beacon Registry at www.cbr-rcb.ca.

CAN.1.4 Beacon Registration

Registering ELTs, PLBs, and EPRIBs provides the vital link between the digital code in your beacon and the information about how a beacon is used. Accurate registration information permits Search and Rescue personnel to provide assistance as quickly as possible.

All Canadian coded ELTs, PLBs, and EPIRBs must be registered with the Canadian Beacon Registry at www.cbr-rbc.ca/cbr/ or by calling 1-877-406-76871(toll free). Registering a beacon with Canadian Beacon Registry is free of charge. Canadian coded beacons cannot be registered elsewhere.

The Canadian Beacon Registry internet portal allows users to manage multiple beacons, multiple aircraft, multiple vessels and multiple emergency contacts. Users create links between beacons, vessels/aircraft and emergency contacts so that Search and Rescue personnel have up-to-date information should a distress situation arise.

Registration with the Canadian Beacon Registry does not expire. Users need to update their registration information when necessary such as when they obtain a new vessel/aircraft, purchase or sell a beacon or need to change information for emergency contacts. It is recommended that registrations be verified at least once per year.

The Canadian Beacon Registry supports the Checksum feature used to verify Beacon coding upon initial registration. Use of the Checksum is optional when registering a beacon.

All Canadian Beacons Registration Information:
online: www.cbr-rcb.ca
by email: cbr@sarnet.dnd.ca
by fax: (1.613) 9654648, (1.877) 4063298
by telephone: (1.613) 9654929, (1.877) 4067671
by mail: Canadian Beacon Registry
c/o CMCC Trenton
P.O. Box 1000 Stn Forces
Astra, ON K0K 3W0
Canada

CAN.2 EPIRB CODING METHODS

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
316	N	N	Y	N	N	N	N	N	Y	N

CAN.3 ELT CODING METHODS

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
316	N	N	Y	N	N	N	N	N	N	N	Y	N

CAN.4 PLB CODING METHODS

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
316	Y	Y		N

CAN.5 LIST OF BEACON MODELS TYPE APPROVED BY CANADA

For a list of approved EPIRBs go to the following Transport Canada webpage and choose Radio Equipment http://wwwapps.tc.gc.ca/Saf-Sec-Sur/4/APCI-ICPA/eng/catalogues/list.

For a list of approved ELTs go to: http://www.tc.gc.ca/eng/civilaviation/certification/elt-65.htm.

An updated list of PLBs approved for use in Canada will soon be available on the NSS website at www.nss.gc.ca. In the interim those requiring more information are requested to contact NSS at 613-614-3923 or 1- 800-727-9414.

CAN.6 BEACON TESTING REGULATIONS

All EPIRBs, ELTs and PLBs have a self-test capability which provides indication that the beacon is ready for use. PLB owners should follow the manufacturer's instructions regarding how often to perform this self-test. EPIRBs must be tested at least every six months as required by Ship Station (Radio) Technical Regulations, 1999. ELTs installed in Canadian registered aircraft must be inspected at intervals not exceeding 12 months. There is no fine or penalty for accidentally activating a beacon in Canada. In the event of an accidental activation beacon owners should contact Canadian Mission Control Centre at 1-800-211-8107 or 1-613-965-7265, the nearest Joint Rescue Coordination Centre or the nearest NAV

Canada Area Control Centre.

Testing of distress transmission on distress frequencies 121.5 MHz, 243.0 MHz and 406 MHz is forbidden in Canada. 406 MHz beacons coded in the Test Protocol as described by Cospas-Sarsat document C/S G.005 Cospas-Sarsat Guidelines on 406 MHz Beacon Coding, Registration and Type Approval may be tested if the guidelines and procedures set out in Radio Standard Specification 287 are followed. Beacons that transmit only on 121.5 MHz or 243 MHz may be operationally tested during the first five minutes of any hour.

CAN.7 POINTS OF CONTACT FOR BEACON MATTERS (CODING AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Coding and Type Approval (EPIRBs):		
Marine Safety Directorate Transport Canada Place de Ville, 330 Sparks Street, 11th Floor Ottawa, Ontario K1A 0N8, Canada	(1.613) 9913135 (1.855) 8593123 (1.888) 6756863 (Teletypewriter - TTY)	(1.613) 9901879
Coding and Type Approval (ELTs):		
Aircraft Certification Engineering Transport Canada Place de Ville, Tower C 330 Sparks Street, 3rd Floor Ottawa, Ontario K1A 0N8, Canada	(1.613) 9142521	(1.613) 9969178
Coding and Type Approval (PLBs):		
National Search and Rescue Secretariat 275 Slater Street, 4th Floor Ottawa, Ontario K1A 0K2, Canada	(1.613) 6143923 (1.800) 7279414 (Canada only)	(1.613) 9963746

CAN.8 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available at:www.cbr-rcb.ca.

All Canadian Beacons Registration Information:
online: www.cbr-rcb.ca
by email: cbr@sarnet.dnd.ca
by fax: (1.613) 9654648, (1.877) 4063298
by telephone: (1.613) 9654929, (1.877) 4067671
by mail: Canadian Beacon Registry
c/o CMCC Trenton
P.O. Box 1000 Stn Forces
Astra, ON K0K 3W0, Canada

CHILE

CHI.1 REGULATIONS

CHI.1.1 EPIRBs

From 1993, General Directorate of Maritime Territory and Merchant Marine (Dirección General de Territorio Marítimo y Marina Mercante) has done mandatory the carriage of 406 MHz beacon for all ships under SOLAS Convention.

CHI.1.2 ELTs

Document DAN 08-09 regulates the use of ELTs in Chile and is available online at: www.dgac.cl.

According to the Chilean Aeronautical Authority since 2005 it was a mandatory carriage of a 406 MHz emergency beacon for all Chilean aircraft with more than 19 seats and since 1 January 2009 the carriage of this kind of beacon is an obligation for all Chilean aircraft.

According to DAR 06, from 1 January 2007, all aircraft weighing more than 5,700 kg, which are involved in commercial air transport, must have an automatic ELT that meets the requirements and is has to be capable of transmitting on 406 MHz and 121.5 MHz.

All aircraft weighing less than 5,700 kg, or up to 19 passenger seats and performing business operations of commercial air transport and aerial work, must have an ELT according to local regulations.

All aircraft flying on water for more of 30 minutes or a distance greater than 100 nautical miles offshore, must have an approved emergency locator transmitter, survival rate, ELT(s), waterproof, float by itself, be able of transmit in emergency frequency 406 / 121.5 MHz, and that not dependent of the electrical system of the aircraft.

From 1 February 2009, the Chilean aircraft may not perform international flight, if they are not equipped with an ELT operating in the frequencies 406 / 121.5 MHz.

Privates and no commercial aircraft must consider that the 100% of its fleet must have equipped with the equipment ELT 406 / 121.5 MHz from the 1 February 2012.

The operator shall be responsible of the prompt and correct coding of the ELT in accordance to relevant information provided by the General Directorate of Civil Aviation (Dirección General de Aeronáutica Civil, DGAC).

CHI.1.3 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits

properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Chile	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

CHI.1.4 Beacon Database

There are databases for EPIRBs and ELTs.

The EPIRB registration database is maintained by the Chilean General Directorate for Maritime Territories for all vessels which, under the IMO SOLAS Convention, have to carry an emergency beacon.

The ELT registration database is maintained by the Chilean General Directorate for Civil Aviation and is sending a copy of all registrations to the Chilean Mission Control Centre.

CHI.2 CODING METHODS

CHI.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
725	Y	N	N	N	Y	N	N	Y	N	NA

CHI.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
725	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CHI.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
725	Y	Y		N

CHI.3 LIST OF BEACON MODELS TYPE APPROVED BY CHILE

Beacon Manufacturer	Beacon Model	C/S Type Approval Certificate Number	Chilean Type Approval Certificate Number	Comments (Manufacturer Model if Different)
ACR	RLB-23 RLB-24 RLB-27 RLB-28	17 18 83 84	12600/07/93 12600/07/93 12600/19/95 12600/19/95	
CEIS TM	MO56	79	12600/11/94	
Jotron	Tron 30 S mkII	66	12600/02/92	
JRC	JQE-2A JQE-3A	30 80	12600/05/93 12600/17/95	
Litton *	948 952-01	19 73	12600/06/93 5815/03/96	
Lokata	406 H 406 MH(Y) 406 M(Y)	12 63 26	5800/76/89 5800/76/89 5800/76/89	
McMurdo	Locat LDT 61	53	12600/03/92	
MPR **	SATFIND-406TM Survival EPIRB SATFIND-406TM Survival EPIRB SATFIND-406TM M	78 78 43	12600/10/94 12600/18/95 12600/01/92	SATFIND-406 (S-1015) - Float-free SATFIND-406 (S-1010) - Non float-free SATFIND-406 M4
Nova Marine	RT 260M	70	12600/08/93	Newcom NC-270
SERPE-IESM	Kannad 406 S Kannad 406 FH Kannad 406 PH Kannad 406 P Kannad 406 F	13 35 35 14 14	12600/04/92 12600/04/92 12600/04/92 12600/04/92 12600/04/92	

Notes: * On January 31, 1996 Litton Special Devices sold the design and production rights for EPIRB Models 948 and 952 to Guest Company, Inc. (USA).

** On July 3, 1996 Northern Airborne Technology Ltd. purchased the designs from MPR Teltech and production from Alden Electronics for SATFIND-406 TM Pocket PLB (Certificate No.71) and SATFIND-406 TM Survival EPIRB (Certificate No.78).

CHI.4 BEACON TESTING REGULATIONS

Not available.

CHI.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Coding / Registration:		
Regulatory Administration / Maritime: Direccion General del Territorio Maritimo y de Marina Mercante / DGTM y MM, Errazuriz 537 Valparaiso, Chile	(56.32) 2208637 2208638 2208639 mrccchile@directemar.cl	(56.32) 2208662
Regulatory Administration / Aviation: Dirección General de Aeronáutica Civil DGAC (DPA-DA) Santiago, Chile	(56.2) 4363779 4392684 4363769 hcortes@dgac.cl jgarate@dgac.cl aprado@dgac.cl www.dgac.cl	(56.2) 4368139

CHI.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

CHINA (PEOPLE'S REPUBLIC OF)

CHN.1 REGULATIONS

CHN.1.1 EPIRBs

Not available.

CHN.1.2 ELTs

Not available.

CHN.1.3 PLBs

CHN.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
China (P. R. of)	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

CHN.2 CODING METHODS

CHN.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
412,413	Y	N	N	N	Y	N	N	Y	N	N

CHN.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
412,413	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CHN.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
412	Y	Y		N

CHN.3 LIST OF BEACON MODELS TYPE APPROVED BY CHINA

Not available.

CHN.4 BEACON TESTING REGULATIONS

Not available.

CHN.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	TELEX	FAX
Maritime Safety Administration 11 Jianguomennei Avenue Beijing 100736 People's Republic of China	(86.10) 65292218	222258 CMSAR CN	(86.10) 65292245

CHN.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

CYPRUS

CYP.1 REGULATIONS

CYP.1.1 EPIRBs

Cyprus flagged SOLAS vessels are required to carry a 406 MHz satellite EPIRB.

Recreational vessels are encouraged to carry an EPIRB on a voluntary basis.

CYP.1.2 ELTs

Aircraft operating in the Republic of Cyprus must adhere to the provisions of Annex 6, Parts I, II and III of the ICAO Convention, as applicable.

Aircraft operating under EU-OPS AOC, must adhere to the provisions of EU-OPS.

CYP.1.3 PLBs

406 MHz PLBs are allowed for use in the Republic of Cyprus provided the user has registered his/her PLB beacon to JRCC Larnaca and the PLB conforms to the COSPAS-SARSAT standards.

CYP.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Cyprus	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

CYP.1.4 Beacon Registration

A registration is required to operate any type of beacon in Cyprus.

CYP.2 CODING METHODS

CYP.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
209, 210, 212	Y	N	N	N	Y	N	N	Y	N	N

CYP.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
209	N	N	Y	Y	N	N	Y	Y	N	N	Y	N

CYP.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
209	N	N		Y

CYP.3 LIST OF BEACON MODELS TYPE APPROVED BY CYPRUS

Not available.

CYP.4 BEACON TESTING REGULATIONS

Not available.

CYP.5 POINTS OF CONTACT FOR BEACON MATTERS (Coding, Registration and Type Approval)

NAME & ADDRESS	TELEPHONE/ E-MAIL/ WEBPAGE	FAX
EPIRB Coding / Registration/ Type approval / Licensing:		
Department of Merchant Shipping P.O. Box 56193 3305 Lemesos Cyprus	(+357) 25848100 maritimeadmin@dms.mcw.gov.cy http://www.mcw.gov.cy/mcw/dms/dms.nsf/index_en/index_en?opendocument	(+357) 25848200
ELT Coding / Registration/ Type approval / Licensing:		
Department of Civil Aviation 27 Pindarou Street 1060 Nicosia Cyprus	(+357) 22404122 mioannou@dca.mcw.gov.cy http://www.mcw.gov.cy/mcw/dca/dca.nsf/DMLindex_en/DMLindex_en?OpenDocument	(+357) 22304708
PLB Coding / Registration/ Type approval / Licensing:		
Joint Rescue Coordination Centre 50, Spyrou Kyprianou Avenue Irida No 3, 11th Floor 6057 Larnaca Cyprus	(+357) 24643005 jrcc_cyp@cytanet.com.cy http://www.mod.gov.cy/mod/CJRCC.nsf/index_en/index_en?OpenDocument	(+357) 24643254

CYP.6 BEACON REGISTRATION CARDS

There are 3 different registration cards, one for each type of beacon, which are downloadable from the above mentioned web sites of the competent authorities.

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DENMARK

DEN.1 REGULATIONS

DEN.1.1 General

All Danish 406 MHz EPIRBs/PLBs/ELTs shall be equipped with a homing transmitter on 121.5 MHz.

DEN.1.2 EPIRBs

All Danish passenger vessels, merchant vessels and fishing vessels are required to carry a float-free 406 MHz EPIRB.

All Danish SOLAS-vessels are normally required to carry both a float-free and a manual 406 MHz EPIRB on the bridge.

Pleasure craft may carry 406 MHz EPIRBs on a voluntary basis.

DEN.1.3 ELTs

Denmark follows the recommendations and standards laid down by the ICAO and the European Joint Airworthiness Authority (JAA) on the carriage of ELTs on 406 MHz.

Additionally, regulations for any kind of aircraft regardless of the State of Registry intending to traverse the Sondrestrom Flight Information Region require the carriage of an ELT operating on 406 MHz capable of continuous operation for 24 hours at temperatures down to minus 40 degrees Celsius.

DEN.1.4 PLBs

406 MHz PLBs are allowed for use in Greenland provided the user has been licensed by the Greenland Telecom Administration and the PLB conforms to a type approval which is based on the Cospas-Sarsat type approval.

DEN.1.4.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are not allowed for use in Denmark. For aeronautical or maritime use a PLB must be coded as an ELT or an EPIRB. Owners in possession of a PLB for the use when traveling in countries where the use of a PLB is permitted, such PLBs can be registered in IBRD on C/S homepage. In Greenland PLBs intended for use by an individual person on land is permitted and must be registered at the national radio administration.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Denmark	N	R*	R*	*PLB must be coded as EPIRB (maritime) or ELT (aircraft)
Faroe Islands	N	R*	R*	*PLB must be coded as EPIRB (maritime) or ELT (aircraft)
Greenland	Y	R*	R*	*PLB must be coded as EPIRB (maritime) or ELT (aircraft)

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

DEN.1.5 Registration and Coding

All Danish 406 MHz beacons regardless of type (ELT/EPIRB or PLB) require registration and appropriate coding as per present and future international coding schemes - including the Cospas-Sarsat PLB coding scheme.

PLBs can be registered in IBRD on C/S homepage.

Applicable coding methods:

Maritime = MMSI.

EPIRB coding methods:

Country	EPIRB Coding Methods		
Code (MID)	Serial Number	MMSI	Call Sign
Denmark: 219,220	N	Y	N
Faroe Island 231	N	Y	N
Greenland: 331	N (PLB: Y)	Y	N

ELT coding methods:

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
Denmark: 219,220	N	Y	Y	Y	N	N	N	N	N	Y	Y	N
Faroe Island: 231	N	Y	Y	Y	N	N	N	N	N	Y	Y	N
Greenland: 331	N	Y	Y	Y	N	N	N	N	N	Y	Y	N

PLB in Greenland = Serial.

DEN.1.6 Beacon Database

The Danish 406 MHz beacon registry is compiled by three agencies as follows:

- the Danish Transport Authority (DTA) for ELTs;
- the Danish Maritime Authority (DMA) for EPIRBs
- the Chief Constable of Police or the Danish Polar Centre for PLBs in Greenland; and
- IBRD for PLB to be used outside Denmark in countries that allow the use of PLBs

The registry complies with both the IMO and the Danish national requirements. It is located at the Danish SPOC covering Denmark, the Faroe Islands and Greenland.

DEN.2 BEACON TESTING REGULATIONS

The Danish Maritime Authority (DMA) for EPIRBs are referring to the IMO Guidelines in circulars MSC/Circ.1039 and MSC.1/Circ.1040/Rev.1, as provided in this handbook on page 7-29 and 7-35.

In connection with check-up and maintenance of ELTs, installed in aircraft, an occasional need for a functions check is necessary.
The Danish Transport Authority therefore allows that such checks are carried out on the following conditions:

Tests of automatic ELTs, installed in aircraft, may only take place on the ground and only during the first 5 minutes of every full hour in accordance with the following guidelines:

- The VHF-receiver of the aircraft is tuned to the civilian emergency frequency 121.500 MHz.

- The ELT is activated - the activation switch is shifted from OFF to ON for 1 second or 3 sweep (tone cycles), while the function is monitored on the VHF-receiver (mentioned above).

DEN.3 POINTS OF CONTACT FOR BEACON MATTERS (CODING AND REGISTRATION)

Beacon Registration in Denmark, Faroe Islands and Greenland

Denmark:

Country Code	219, 220	219, 220	219, 220
Country	Denmark	Denmark	Denmark
Contact Name	Søfartsstyrelsen / Danish Maritime Authority	Trafikstyrelsen/ Danish Transport Authority	Joint Rescue Coordinatio Centre
Contact Types	Registration	Registration	Registration
Beacon Type	EPIRB	ELT	PLB
Telephone	(45) 91376000	(45) 72218800	(45) 8943 3206
Facsimile	(45) 91376001	(45) 7262 6790	N/A
Email	mrb@dma.dk	info@trafikstyrelsen.dk	opsstaff@sok.dk
Mailing Address	Carl Jacobsens Vej 31 DK - 2500 Valby	Edvard Thomsens Vej 14 DK-2300 Copenhagen S	Box 1483 DK-8220 Brabrand
Remarks			For use outside Denmark only

Faroe Islands:

Country Code	231	231	231
Country	Faroe Islands	Faroe Islands	Faroe Islands
Contact Name	Fjarskiftiseftirlitid/ Telecommunications Authority	Trafikstyrelsen/ Danish Transport Authority	Joint Rescue Coordination Centre
Contact Types	Registration	Registration	Registration
Beacon Type	EPIRB	ELT	PLB
Telephone	(298) 356020	(45) 72218800	(45) 8943 3099
Facsimile	(298) 356035	(45) 7262 6790	N/A
Email	fjarskiftiseftirlitid@fjarskiftiseftirlitid.fo	info@trafikstyrelsen.dk	sok@mil.dk
Mailing Address	SKÁLATRØÐ 20, P.O.BOX 73, FO-110 TÓRSHAVN	Edvard Thomsens Vej 14 DK-2300 Copenhagen S	Box 1483 DK-8220 Brabrand
Remarks			For use outside Faroe Islands only

Greenland:

Country Code	331	331
Country	Greenland	Greenland
Contact Name	Radionik Nakkutilliivik/ Radioforvaltningen/ Telecommunications Authority	Trafikstyrelsen/ Danish Transport Authority
Contact Types	Registration	Registration
Beacon Type	EPIRB, PLB	ELT
Telephone	(299) 643122	(45) 72218800
Facsimile	(299) 643123	(45) 7262 6790
Email	radioforvaltningen@nanoq.gl	info@trafikstyrelsen.dk
Mailing Address	Box 399 GL-3920 Qaqortoq	Edvard Thomsens Vej 14 DK-2300 Copenhagen S
Remarks		

DEN.4 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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FINLAND

FIN.1 REGULATIONS

FIN.1.1 General

According to the Finnish legislation, all transmitters must be licensed. This applies also to the Cospas-Sarsat beacons. Registration mechanism is inbuilt to the licensing system (EPIRBs and PLBs), whenever a radio license is issued, the beacons will also be registered and essential details of beacons and their license holders will automatically be available for SAR authorities over the Internet. All beacons must be coded and registered.

FIN.1.2 EPIRBs

EPIRBs (406 MHz) are mandatory onboard SOLAS vessels as stated in SOLAS Convention. In addition, there are national requirements for certain vessels to carry 406 MHz EPIRBs. Vessels falling outside mandatory requirements may voluntarily be fitted with EPIRB(s). This applies also to pleasure craft.

FIN.1.3 PLBs

The use of 406 MHz PLBs is allowed in Finland. The use and possession of a PLB requires a national radio license. The license procedure takes care of registration and information exchange between the licensing authority and SAR authority. Finnish PLB license has specific license conditions together with information of actions in case of a false alert.

FIN.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Finland	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

FIN.1.4 ELTs

The use of the ELT is not mandatory in Finnish aircraft, but it is highly recommended. There should be no "only 121.5 MHz" ELTs left aboard Finnish aircraft. The Finnish Communications Regulatory Authority keeps a registry of the Emergency Locator Beacons for Finnish aircraft. The register is kept of the 406 MHz ELTs of the aircraft and their liferaft.

FIN.2 CODING METHODS

FIN.2.1 EPIRB Coding Methods

EPIRBs shall be programmed with the ship's MMSI number. MMSI number includes the country code "230" (=MID). The recommended user protocol is any of the international protocols, which makes the highest position accuracy utilization possible. The preference is "Maritime User protocol with MMSI". The Finnish Communications Regulatory Authority (FICORA) as licensing authority does not watch the programming/coding result.

FIN.2.2 ELT Coding Methods

ELT coding methods in Finland are described in the table below. The recommended protocol is any of the allowed international protocols, which makes the highest position accuracy utilization. The operator or manufacturer/service provider is in charge of defining the code according the protocol being used.

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
230	N	Y*	Y	Y	N	Y*	Y	Y	N	Y*	Y	N

Note: * Only when used in liferaft or portable ELTs.

FIN.2.3 PLB Coding Methods

PLB fitted with internal position device (such as GPS) must be programmed according to the National Location protocol. Coding must include the country code "230" and a unique national serialized number from the database of the FICORA.

PLB with no internal position device must be programmed according to the Serial User protocol. Coding must include the country code "230" and a unique national serialized number from the database of the FICORA.

FIN.3 LIST OF BEACON MODELS TYPE APPROVED BY FINLAND

There is no type approval activity left in Finland regarding beacons. Finland accepts Cospas-Sarsat type approval or conformity assessment procedure in accordance with European Community regulations.

FIN.4 BEACON TESTING REGULATIONS

Not available.

FIN.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Licensing and Registration (EPIRBs, PLBs, ELTs):		
The Finnish Communications Regulatory Authority (FICORA) P.O. Box 313 FI-00181 Helsinki Finland	(358.0) (0) 295390100 6966883 info@ficora.fi www.ficora.fi	-

FIN.6 BEACON REGISTRATION FORMS

Electronic beacon registration/license application for PLBs: https://www.viestintavirasto.fi/en/ourservices/licencescertificatesnumbersanddomainnames/radiolicence/huntingandotherrecreationalactivities.html (requires strong identification, for example bank identifier for private persons).

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FRANCE

FRA.1 REGULATIONS

FRA.1.1 EPIRBs

French regulation is issued from ministerial decree of 23 November 1987[1].

Carriage of 121.5 MHz EPIRBs is not allowed on French ships.

a) Passenger's ships (reference section 219 & 221 from ministerial decree):

GMDSS[2] A1 area:
At least one 406 MHz EPIRB [depending others equipment installed].
Relaxation for 4th and 5th category[3].
GMDSS A1 & A2 area and less than 200 passengers:
At least one 406 MHz EPIRB.
GMDSS A1, A2 & A3 area and less than 200 passengers:
At least one 406 MHz EPIRB [one more depending others equipment installed].
GMDSS A1, A2, A3 & A4 area and/or more than 200 passengers:
At least one 406 MHz EPIRB [one more depending others equipment installed].
From French Overseas territories and less than 200 passengers:
At least one 406 MHz EPIRB.

b) Cargo Ship (reference section 219 & 221 from ministerial decree):

GMDSS A1 area:
At least one 406 MHz EPIRB [depending others equipment installed].
Relaxation for 4th category (less than 12 metres) and 5th category.
GMDSS A1 & A2 area:
At least one 406 MHz EPIRB.
GMDSS A1, A2 & A3 area:
At least one 406 MHz EPIRB [one more depending others equipment installed].
GMDSS A1, A2, A3 & A4 area:
At least one 406 MHz EPIRB [one more depending others equipment installed].
From French Overseas territories:
At least one 406 MHz EPIRB.

[1] Decree of 23 November 1987 on the safety of ships.
[2] GMDSS: Global Maritime Distress and Safety System.
[3] 4th category: no more than 5 miles from the limit of the sheltered sea areas of the port of departure.
5th category: navigation inside sheltered sea areas.

c) Fishing vessel (reference section 219 & 228 from ministerial decree):

GMDSS A1 area:
At least one 406 MHz EPIRB [depending others equipment installed].
Relaxation for 4th category (except trawler) and 5th category.
GMDSS A1 & A2 area:
At least one 406 MHz EPIRB [one more depending others equipment installed].
GMDSS A1, A2 & A3 area:
At least one 406 MHz EPIRB [one more depending others equipment installed].
GMDSS A1, A2, A3 & A4 area:
At least one 406 MHz EPIRB [one more depending others equipment installed].
From French Overseas territories:
At least one 406 MHz EPIRB.
Relaxation for 4th category (except trawler) and 5th category.

d) Pleasure vessel (reference section 240, 241 & 242):

Pleasure craft with a hull shorter than 24 metres [private use]:
Carriage of a 406 MHz EPIRB on a voluntary basis.
Charter craft with a hull shorter than 24 metres [commercial use]:
At least one 406 MHz EPIRB if sailing more than 20 miles from the nearest land.
Pleasure yacht of 24 metres and upwards [private & commercial use]:
At least one 406 MHz EPIRB.

Generally, additional 406 MHz EPIRBs may be carried on a voluntary basis, in addition to the requirements foreseen.

(!) Refer to appropriate section of ministerial decree to have more information or see section "FRA.4 Point of Contact for beacon matters" to have a contact in order to have more information for the French maritime regulation.

FRA.1.2 ELTs

121.5 MHz
From 1 February 2009, all 121.5 MHz ELTs onboard aircraft must be deactivated (§7 of departmental order dated 26 December 2008). Furthermore, all 121.5 MHz ELTs must be removed from aircraft by 1 February 2010 (same reference).

406 MHz
Carriage of 406 MHz beacons is mandatory for all type of aircraft (commercial aviation and general aviation). For commercial aircraft, 406 MHz ELTs are mandatory.

For general aviation, 406 MHz PLBs are authorized only if they have an integrated GPS.

FRA.1.3 PLBs

FRA.1.3.1 PLBs on Ships

(reference: section 219 from ministerial decree of 23 November 1987)

a) Cargo ships above 300 GRT and passenger ships:

- Additional 406 MHz PLBs may be carried on a voluntary basis, in addition to the compulsory EPIRB requirements foreseen (FRA 1.1).
- PLBs shall be coded with the MMSI of the ship.

b) Fishing vessels:

- Ships working in GMDSS A1 area, manned with one person only: the competent authority has the possibility to give a dispensation to authorize the replacement of the EPIRB by a PLB. In this case, the crewmember must carry permanently the PLB.
- 3rd category[4] fish farming ships working within 5 miles off the coast and manned with one person only may replace their EPIRB by a PLB. In this case, the crewmember must carry permanently the PLB.
- PLBs shall be coded with the MMSI of the ship.

c) Pleasure craft:

- 406 MHz PLBs may be carried on a voluntary basis.

(!) Refer to appropriate section of ministerial decree to have more information or see section "FRA.4 Point of Contact for beacon matters" to have a contact in order to have more information for the French maritime regulation.

FRA.1.3.2 PLBs on Aircraft

Aircraft belonging to the general aviation are authorized to carry 406 MHz PLBs, but only if they have an integrated GPS.

FRA.1.3.3 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

[4] 3rd category: no more than 20 miles from nearest land.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
France	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

FRA.1.4 BEACON TESTING

Generally, there are two types of tests:

- Self-test (made by a user, ship's inspector, aircraft's inspector, maintenance facilities, etc.);
- Operational testing (made by a manufacturer, an industrial, etc.). There is normally no need for the beacon to be tested in an operational mode by a beacon owner.

FRA.1.4.1 Self-test Requirements

All beacon types (EPIRBs, ELTs and PLBs) – fitted with a self-test function - can be tested at any time, using the self-test function, without the need to notify FMCC and/or (M)RCC.

➔ On this case: follow your beacon manufacturer's procedure to conduct this self-test and for analysis of the result.

In order to comply with ELT maintenance requirements (no self-test function or no remote control in aircraft cockpit) a beacon test could be realised with authorisation of the RCC responsible and the control tower. In any case, the beacon should not be "ON" more than 15 seconds.

FRA.1.4.2 Operational Testing Requirements

For some reasons [e.g., prototype, beacon testing (new model), SAR (Search & Rescue) exercise, calibration/validation of a pathfinder, etc.] an operational testing can be required by manufacturer, industrial, SAR forces, etc.

Any test of a 406 MHz distress beacon in the operational mode requires prior approval from FMCC (ask "Notification form for beacon test" to fmcc@cnes.fr) and the requirements hereafter must be satisfied.

➔ On this case, three conditions must be satisfied simultaneously:
1) the beacon has to be (re)coded with a "test protocol";
2) the homing signal 121.5 MHz and 243 MHz has to be disabled; and
3) a notice shall be provided to FMCC.

FRA.1.4.3 Specification for France

In France SRR (Search & Rescue Region), operational testing with an "operational protocol", for any country codes, is forbidden. All over the world, operational testing with an "operational protocol" and a French country code is forbidden too.

In French legislation, an intentional false alert with operational beacon ("operational protocol") conduct to prosecution with a penalty of 30,000 Euros and two years in jail.

FRA.2 CODING AND BEACON REGISTRATION

FRA.2.1 Beacon Database

FRA.2.1.1 ELT & PLB (coded with a serial number)

FMCC maintains a French Beacon Registration Database (RFBD) for ELTs and PLBs and provides SAR data information extracted from it.

Address of RFBD's website: https://registre406.cnes.fr.

FRA.2.1.2 EPIRB & PLB (coded with a MMSI)

(reference: section 175 from ministerial decree of 23 November 1987)

EPIRBs and PLBs coded with MMSI are registered in the French GMDSS stations register, maintained by the French Authority in charge of the GMDSS licences (Agence Nationale des Fréquences (ANFR)). SAR data information can be supplied on request formulated to MRCC GRIS NEZ or to the FMCC.

FRA.2.2 EPIRBs Coding Methods

(reference: section 175 from ministerial decree of 23 November 1987)

All French EPIRBs must be coded with the MMSI corresponding to the ship, with a "specific beacon number" between 0 to 8.

All French EPIRBs must be registered in the database of the authority in charge of the GMDSS licences (Agence Nationale des Fréquences (ANFR)).

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number assigned by Competent Administration
226,227,228,329,347,361, 501,540,546,578,607, 618,635,660,745	Y(1)	N	N	N	Y(1)	N	N	Y(1)	N	N

(1) With a "specific beacon number" between 0 and 8.

(!) Some "Country Codes" are reserved. See section "FRA.4 Point of Contact for beacon matters" to have the contact of French Administration.

FRA.2.3 ELTs Coding Methods

(reference: departmental order dated 15 April 2009)

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bits Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bits Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bits Address	Serial Number Assigned by Competent Administration
226[3],227, 329,347, 540,546, 578,660, 745	N[2]	N	N[2]	N	N[2]	N	N[2]	N	Y	N	Y	N

[2] User Protocol can be used by derogation in few cases.
[3] Country code reserved for the state aircraft only.

- Standard Location Protocol is to be used for aircraft registered in France.
- Which ever protocol is used, only 24-bits address or beacon serial number (+TAC) are authorized for identification.
- Registration of ELTs to the national database is mandatory (https://registre406.cnes.fr).

FRA.2.4 PLBs Coding Methods

FRA.2.4.1 PLBs on Ships

(reference: section 175 from ministerial decree of 23 November 1987)

FRA.2.4.1.1 PLBs which carriage is mandatory

PLBs, which carriage is mandatory (see section FRA 1.3.1), must be coded with the MMSI corresponding to the ship, with a "specific beacon number" between 9 and 15.

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
226,227,228,329, 347,361,501,540, 546,578,607,618, 635,660,745	N	N	N	N	N	N	N	Y[4]	N	N

[4] With a "specific beacon number" between 9 and 15.

FRA.2.4.1.2 PLBs which carriage is not mandatory

PLBs, which may be carried on voluntary basis, can be coded:

- with the MMSI corresponding to the ship:

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
226, 227, 228, 329, 347, 361, 501, 540, 546, 578, 607, 618, 635, 660, 745	N	N	N	N	N	N	N	Y(4)	N	N

(4) With a "specific beacon number" between 9 and 15.

- with a Serial Number:

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
226,227,228,329,347, 361,501,540,546,578, 607,618,635,660,745	Y	Y	Y	N

All PLBs on ships must be registered (reference: section 175 from ministerial decree of 23 November 1987):

- on the French 406 MHz database (https://registre406.cnes.fr) for the PLBs coded with a serial number;
- on the database of the Authority in charge of the GMDSS licences (Agence Nationale des Fréquences (ANFR)) for the PLBs coded with MMSI.
- (!) Some "Country Codes" are reserved. See section "FRA.4 Point of Contact for beacon matters" to have the contact of French Administration.

FRA.2.4.2 PLBs on Aircraft (reference: departmental order dated 15 April 2009)

- Standard Location Protocol only is to be used.
- Only 24 bits address or beacon serial number (+TAC) are authorized for identification.
- Registration of PLBs to the national database is mandatory (https://registre406.cnes.fr).

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bits Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bits Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bits Address	Serial Number Assigned by Competent Administration
226(3),227, 329,347, 540,546, 578,660, 745	N	N	N	N	N	N	N	N	Y	N	Y	N

(3) Country code reserved for the state aircraft only.

FRA.3 LIST OF BEACON MODELS TYPE APPROVED BY FRANCE

- **ELTs:** All 406 MHz beacons which are type approved by Cospas-Sarsat.
- **EPIRBs:** All 406 MHz beacons which are type approved by Cospas-Sarsat.
- **PLBs which carriage is compulsory on ships**: Models which are type approved by Cospas-Sarsat and certified in accordance with the directive 99/5/CE (directive R&TTE) and with the standard ETSI EN 302 152-1.
- **Other PLBs**: All 406 MHz beacons which are type approved by Cospas-Sarsat.

FRA.4 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	TELEX	FAX
Regulatory Administration / Maritime (EPIRBs and PLBs Used at Sea):			
Ministère de l'Ecologie, du Développement Durable et de l'Energie (MEDDE) Direction Générale des Infrastructures des Transports et de la Mer (DGITM) Direction des Affaires Maritimes (DAM) Bureau de la Réglementation et du Contrôle de la Sécurité des Navires (DAM/SM2) La Grande Arche, Arche Paroi Sud 92055 La Défense Cedex, France	(33.1) 40816353	-	(33.1) 40818236
Regulatory Administration / Aviation (ELTs and PLBs on Aircraft):			
Direction Générale de l'Aviation Civile (DGAC) 50 rue Henry Farman 75720 Paris, Cedex 15, France	(33.1) 58094601	200142 AVIACIV	(33.1) 58094369
Registration (ELTs / PLBs:			
FMCC 18, avenue Edouard Belin 31401 Toulouse, Cedex 9, France	(33.5) 61274636 fmcc@cnes.fr	-	(33.5) 61274878
Registration (EPIRBs and PLBs Coded with MMSI):			
Agence Nationale des Frequences (ANFR) 4 rue Alphonse Matter 88100 Saint Die des Vosges, France	(33.3) 29422000 licence@anfr.fr	-	(33.3) 29422010

FRA.5 BEACON REGISTRATION FORMS

Online beacon registration forms (ELTs and PLBs (coded with a serial number)) are available at: https://registre406.cnes.fr (e-mail address: fmcc@cnes.fr).
For EPIRBs and PLBs (coded with a MMSI) the following e-mail address is available: licence@anfr.fr.

GERMANY

GER.1 REGULATIONS

GER.1.1 EPIRBs

German SOLAS vessels and comparable fishing vessels are required to carry a satellite EPIRB.

Vessels falling outside mandatory requirements may voluntarily be fitted with EPIRBs. This applies also to pleasure craft.

GER.1.2 ELTs

According to German aviation regulations, a 406 MHz beacon is required to be carried on any aircraft.

GER.1.3 PLBs

Maritime:
The usage of PLBs is only allowed after conversion to an EPIRB-like device by entering an MMSI. In official language use, it is not determinated as "PLB".

Such equipment is only authorized for maritime usage on board German vessels which are not under IMO carriage requirement or for usage as additional equipment on board vessels under IMO carriage requirement. Such equipment has to be programmed with an MMSI. Other codings (e.g. serial number) are not possible because Germany does not maintain an appropriate registration database.

Aviation:
As PLBs does not comply with the applicable certification requirements, they are not accepted in aviation.

GER.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Germany	N	N	N	PLBs are not allowed in Germany.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

GER.1.4 Beacon Database

Germany maintains two national databases for registering EPIRBs and ELTs.

EPIRBs are registered by the German Telecommunications Authority and that database is directly accessible by MRCC Bremen.

ELTs are registered by the Civil Aviation Authority which gives frequent updates directly to RCC Münster.

A license is required to operate any type of beacon in Germany.

GER.2 CODING METHODS

GER.2.1 EPIRB Coding Methods

The Federal Network Agency (BNetzA), branch Hamburg maintains a database on the assignment of MMSIs to EPIRBs.

Country Code	EPIRB Coding Methods		
	Serial Number	MMSI	Call Sign
211,218	N	Y	N

GER.2.2 ELT Coding Methods

Aircraft operators have to maintain a database on the assignment of ELTs to aircraft. The database has to be accessible to SAR services 24 h / 7 days a week.

Country Code	ELT Coding Methods			
	Serial User Protocol			Aviation User Protocol
	Serial Identification Number	24-Bit Aircraft Address	Aircraft Operator Designator and a Serial Number	Aircraft Nationality and Registration Marking
218	Y	Y	Y	Y

GER.2.3 PLB Coding Methods

Not available.

GER.3 LIST OF BEACON MODELS TYPE APPROVED BY GERMANY

EPIRBs: All 406 MHz beacons which are type approved by Cospas-Sarsat.

ELTs: All 406 MHz beacons which are approved by EASA.

PLBs**:** For maritime usage onboard German vessels which are not under IMO carriage and programmed with MMSI - models which are type approved by Cospas-Sarsat and certified in accordance with the directive 99/5/CE (directive R&TTE) and the standard ETSI EN 302 152.

GER.4 BEACON TESTING REGULATIONS

Not available.

GER.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
RCC Germany Postfach 4820 48145 Muenster Germany	(49.251) 9364381 SAR-Leitstelle-Land@bundeswehr.org	(49.251) 9364339
Coding / Registration (EPIRBs): Federal Network Agency (BNetzA) Branch Hamburg Sachcenstr. 12+14 20097 Hamburg Germany	(49.40) 23655250 seefunk@bnetza.de	(49.40) 23655182
Coding / Registration (ELTs): Luftfahrt-Bundesamt Verkenhrszulassung Postfach 30 54 38020 Braunschweig, Germany	(49.531) 23550	(49.531) 2355765

GER.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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GREECE

GRE.1 REGULATIONS

GRE.1.1 EPIRBs

All Greek SOLAS Convention ships have to carry 406 MHz EPIRBs.

Greece also fits some categories of non-SOLAS vessels with GMDSS equipment including EPIRBs (passenger ships, fishing vessels, cargo vessels over 100 GRT, tug boats, yachts on international voyages).

The administrations designated for coding, registration, type approval and licensing of 406 MHz EPIRBs are presented in section GRE.7. The original or validated photocopies of type approval certificates from Cospas-Sarsat or relevant authorities, together with the test results and technical manuals, must be attached to the application form.

Installation and operation licensing procedures are described in Greek M.D. 835A/05.10.1995. EU Dir. 96/98/EU is used as an approval standard for SOLAS vessels while EU Dir. 1995/5/EU is used as a national approved standard for non-SOLAS vessels.

All 406 MHz EPIRBs are coded using the MMSI.

GRE.1.2 ELTs

The Hellenic Civil Aviation Authority applies the relevant provisions, recommendations and standards of ICAO (Annex 6 & 10) and EASA (EU OPS). In addition, Greece has imposed mandatory ELT carriage for all general aviation aircraft.

For civil aircraft of Greek registration, ELTs are coded in accordance with ICAO Annex 10 (1. Aircraft Nationality and Registration Marking & 2. Aircraft 24-bit Address - Standard Location).

GRE.1.3 PLBs

This Administration is working on a proposal of legislation for the use and register of 406 MHz Personal Locator Beacons on the national territory.

GRE.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether

they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Greece	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

GRE.1.4 Beacon Database

Two identical databases for MMSIs are locally maintained. One is located at the Piraeus Joint RCC operating on a 24-hour basis. The other one is located at the Merchant Ship Inspectorate / Radiocommunication Department of the Ministry of Shipping, Maritime Affairs and the Aegean.

The Civil Aviation Authority maintains a database for civil aircraft equipped with ELTs, providing the same information to the Piraeus Joint RCC and also to the GRMCC.

Greek MCC maintains a database for civilian PLBs, providing information to the Piraeus Joint RCC.

GRE.2 CODING METHODS

GRE.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
237,239,240,241	Y	N	N	N	N	N	N	Y	N	N

GRE.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
237,239, 240	Y	N	N	Y	N	N	N	Y	N	N	Y	N

GRE.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
237,239,240	Y	Y		Y

GRE.3 LIST OF BEACON MODELS TYPE APPROVED BY GREECE

Beacon Manufacturer	406 MHz Beacon Model	C/S Type Approval Certificate Number	Greek Type Approval Certificate Number	Comments (Manufacturer Model if Different)
ACR ELECTRONICS INC.	RLB36 CAT.I RLB36 CAT.II RLB37 CAT.I RLB37 CAT.II	189 213 234	BSH/4612/5061395/09/20-10-2009	
ACR ELECTRONICS INC.	GLOBALFIX Ipro CAT.I GLOBALFIX Ipro CAT.II GLOBALFIX PRO CAT.I GLOBALFIX PRO CAT.II	-	BSH/4612/5061395/09/20-10-2009	
ACR ELECTRONICS INC.	RLB32 SATELLITE2 406 CAT.I RLB32 SATELLITE2 406 CAT.II	107	BSH/4612/5061499/09/18-12-2009	
ACR ELECTRONICS INC.	RLB38 CAT.I RLB38 CAT.II	189 213 234	BSH/4612/5061677/10/03-5-2019	
JOTRON ELECTRONICS A.S	TRON 40GPS MKII TRON 40S MKII TRON 40S	185 095	BSH/4612/5060868/08/04-4-2008 BSH/4612/5061003/08/13-10-2008	
JOTRON ELECTRONICS A.S	TRON 40S / TRON 40S GPS	222	MED-B-12033/30-3-2012	
JRC LTD	JQE-103 (S/N: GP40001-GX40001)	164	QQ-MED-10/11-02/21-9-2011	TAIYO MUSEN COMPANY LTD
KANNAD	SAFELINK AUTO+GPS SAFELINK MANUAL+GPS	201	22441/AO EC/02-4-2010	
MCMURDO LTD	KANNAD MARINE AUTOMATIC EPIRB KANNAD MARINE MANUAL EPIRB	-	QQ-MED-18/09-04/18-2-2010	MCMURDO LTD
MCMURDO LTD	MCMURDO E5 SMARTFIND: 406 MHz EPIRB	163	QQ-MED-18/09-01/13-10-2009	
MCMURDO LTD	SIMRAD EP50 EPIRB , V2 SIMRAD EG50 GPS EPIRB, V2	-	QQ-MED-05/11-02/8-7-2011	
MCMURDO LTD (OROLA LIMITED)	MCMURDO SMARTFIND E5 EPIRB, V2 MCMURDO SMARTFIND G5 EPIRB, V2 KANNAD MARINE	-	BABT-MED001055/25-4-2012	

Beacon Manufacturer	406 MHz Beacon Model	C/S Type Approval Certificate Number	Greek Type Approval Certificate Number	Comments (Manufacturer Model if Different)
	AUTO EPIRB, V2 KANNAD MARINE MANUAL EPIRB,V2			
OCEAN SIGNAL LTD	SAFESEA E100 SAFESEA E100G	211	QQ-MED-17/10-01/31-12-2010	
STANDARD COMMUNICATIONS PTY LTD	GME - MT400 GME - MT401 GME - MT401FF GME - MT402 GME - MT403 GME - MT403FF GME - MT403FG GME - MT403G	139 186	13686/BO EC/22-7-2009	

GRE.4 BEACON TESTING REGULATIONS

GRE.4.1 EPIRBs

Every month the beacon should be checked using the built-in TEST function. This check should be documented in the Radio Communications Log.

The beacon should be checked annually according to the MSC.1/Circ.1040/Rev.1/25 May 2012 and an Annual Test Report should be issued.

The beacon should be maintained from an approved SBM provider at internals not exceeding five years according to the MSC/Circ.1039/28 May 2002 and a Shore Based Maintenance Report should be issued.

GRE.4.2 ELTs

ELT can be tested in self-test mode or in operational mode (this test should be avoided as they impact the Cospas-Sarsat System).
Any test in operational mode requires prior approval from Greek-MCC (Tel +30 2104082690/2 Fax +30 2104082870).

Both tests can be carried out between a combination of aircraft manufacturer's scheduled maintenance, ELT manufacturer's scheduled maintenance & operator's scheduled maintenance (MPD- maintenance planning document) approved from Hellenic CAA.

Relevant Aeronautical information circulars (AIC) have been disseminated regarding carriage of ELT 406 MHz (Ref. ICAO Annexes 6 & 10 - EASA) and details on points of contact for beacon matters. Registration card is available at C-S secretariat & HCAA relevant division.

HCAA has at times issued several instructions to ELT owners to avoid activating a beacon for reasons other than to indicate a distress situation or without the prior notification to Greek-MCC.

GRE.4.3 PLBs

For maintenance purposes, PLBs should be exclusively tested by choosing the function of "Self-Test" mode, which does not include the transmission of a distress alert. The latter is provided only when the device is turned to an "on" mode function. The aforementioned processes, as well as the recommendations by the manufacturer for appropriate testing of the device, are both underlined in a specific way inside the manual books related. Moreover, specific instructions have been released to the users in order to avoid activating a beacon for reasons other than to indicate a distress situation. Prior notification of the Greek MCC is required when occasions demand activation of a PLB on an "on" mode function.

GRE.5 POINTS OF CONTACT FOR 406 MHZ BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
EPIRB Coding / Registration / Type Approval / Licensing:		
Hellenic Ministry of Shipping, Maritime Affairs and the Aegean Merchant Ships Inspectorate Radiocommunication Department 150 Gr. Labraki Av. 18518 Piraeus, Greece	(30.210) 4191947 4191819 telecoms@yen.gr	(30.210) 4137997
ELT Coding / Registration / Type Approval / Licensing:		
Hellenic Ministry of Transport and Communications Civil Aviation Authority Air Navigation Services Regulatory Authority Division Telecommunication Services Regulatory Framework Section D4/D P.O.Box 70360, GR 16610 Glyfada, Greece	(30.210) 8916420 8916340 d4d@hcaa.gr	(30.210) 8949098
PLB Coding / Registration / Type Approval / Licensing:		
Hellenic Ministry of Shipping, Maritime Affairs and the Aegean Hellenic Coast Guard HG Mission Control Centre Akti Vassiliadi St., Gates E1-E2 18510 Piraeus, Greece	(30.210) 4082690/92 grmcc@hcg.gr	(30.210) 4082870

GRE.6 BEACON REGISTRATION FORMS

GRE.6.1 EPIRBs

A registration form for EPIRBs is not available due to the fact that data for EPIRBs are registered in the appropriate database when issuing or updating a license of installing and operating a telecommunication station in a vessel. Such data are HEX ID, type of beacon and info regarding the ship owner or the representative of the ship, so there is no need for a registration form.

GRE.6.2 ELTs

Online beacon registration form is available on http://www.hcg.gr/sites/default/files/docs/archive/EltRegistrationCard.pdf

GRE.6.3 PLBs

Online beacon registration form is available on http://www.hcg.gr/sites/default/files/docs/archive/PlbRegistrationCard.pdf

HONG KONG, CHINA

HKG.1 REGULATIONS

HKG.1.1 General

EPIRBs, ELTs and PLBs are regarded as means of telecommunications. Every radio station in Hong Kong including mobile radio stations registered in Hong Kong are required to obtain the appropriate licence from the Telecommunications Authority for the establishment, operation and maintenance of its telecommunication means.

HKG.1.2 EPIRBs

Every ship of 300 gross tonnage and above proceeding out to sea shall be fitted with one EPIRB. High Speed Craft (passenger ships) plying in the Pearl River Delta may be granted with an exemption provided the vessels are fitted with a radio installation using Digital Selective Call (DSC) and a Global Positioning System (GPS).

HKG.1.3 ELTs

Hong Kong aircraft issued with a Certificate of Airworthiness or Permit to fly is required to carry ELTs as required in Annex 6 of the ICAO Standards.

These minimum ELT requirements are required to be complied with by Hong Kong registered aircraft to which individual Certificate of Airworthiness was issued:

Applicable aeroplanes	Type of operation	ELT requirements
On all flights for the purpose of public transport	Long-range over-water flight[2]	One automatic ELT and two survival ELTs
On all flights other than public transport	Extended flights over water[1]	One automatic ELT and two survival ELTs
All aeroplanes having a maximum Total Weight authorised of 2730 kg or less	Except as provided for in paragraph (a) and (b)	One automatic ELT
All aeroplanes	Except as provided for in paragraph (a), (b) and (c)	One automatic ELT and one survival ELT
Performance Class 1 and 2 helicopters[3&4] operating on flights	Flight over water at a distance from land corresponding to more than 10 minutes at normal cruise speed	One automatic ELT and one survival ELT in a raft (but not more than a total of two)

Applicable aeroplanes	Type of operation	ELT requirements
Performance Class 1 and 2 helicopters [3&4]	Except as provided for in paragraph (e)	One automatic ELT and one survival ELT
Performance Class 3 helicopters[5] operating on flights	Flight over water beyond autorotational or safe forced landing distance from land	One automatic ELT and one survival ELT in a raft (but not more than a total of two)
Performance Class 3 helicopters[5] having a Maximum Total Weight Authorised of 2730 kg or less	Except as provided for in paragraph (g)	One automatic ELT
Performance Class 3 helicopters[5]	Except as provided for in paragraph (g) and (h)	One automatic ELT and one survival ELT

Definitions:

Extended flight over water [1]: A flight over a route on which the aeroplane may be over water away from land suitable for making an emergency landing at a distance of:

(a) more than 185 km (100NM), in the case of single-engined aeroplanes, and

(b) more than 370 km (200NM), in case of multi-engined aeroplanes capable of continuing flight with one engine inoperative.

Long-range over-water flight [2]: A flight over a route on which the areoplane may be over water and at more than a distance corresponding to:

(a) 120 minutes at cruising speed or 740 km (400NM), whichever is the lesser, away from land suitable for making an emergency landing in the case of aircraft operated in accordance with:

(i) En route - one power-unit inoperative. The aeroplane shall be able, in the event of the critical power-unit becoming inoperative at any point along the route or planned diversions therefrom, to continue the flight to an aerodrome without flying below the minimum flight altitude at any point, or

(ii) Enroute - two power-units inoperative. In case of aeroplanes having three or more power-units, on any part of a route where the location of en-route alternate aerodrome and the total duration of the flight are such that the probability of a second power-unit becoming inoperative must be allowed for if the general level of safety is to be maintained, the aeroplane shall be able, in the event of any two power-units becoming inoperative, to continue the flight to an en-route alternate aerodrome and land.

(b) 30 minutes or 185 km (100NM), whichever is the lesser, for all other aeroplanes.

Performance Class 1 helicopter [3]: A helicopter with performance such that, in case of critical power-unit failure, it is able to land on the rejected take-off area or safely continue the flight to an appropriate landing area, depending on when the failure occurs.

Performance Class 2 helicopter [4]: A helicopter with performance such that, in case critical power-unit failure, it is able to safely continue the flight, except when the failure occurs prior to a defined point after take-off or after a defined point before landing, in which cases a forced landing may be required.

Performance Class 3 helicopter [5]: A helicopter with performance such that, in case of power-unit failure at any point in the flight profile, a forced landing must be performed.

HKG.1.4 PLBs

406 MHz PLBs are allowed for personal use in Hong Kong.

HKG.1.4.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Hong Kong, China			R	The carriage of PLB on Hong Kong registered aircraft shall meet the Civil Aviation Department requirements on Portable Electronic Devices which can be intentionally or unintentionally transmitting.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

HKG.1.5 Beacon Registration

Registration of EPIRBs and PLBs is a safety precaution and not a mandatory requirement. Registration of EPIRBs and PLBs can respectively be made by using form OFCA F210 and form OFCA F321 as supplied by the Office of the Communications Authority.

Registration of ELTs is required even though the ELTs may not be fitted to an aircraft. Registration is to be made using form DCA 406 as supplied by the Airworthiness Office of the Civil Aviation Department.

HKG.2 CODING METHODS

HKG.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
477	Y	Y	N	Y	Y	N	Y	Y	N	N

HKG.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
477	Y	N	N	N	Y	N	N	N	N	N	N	N

HKG.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
477	Y	Y		N

HKG.3 LIST OF BEACON MODELS TYPE APPROVED BY HONG KONG

Beacon Manufacturer	Beacon Model	C/S Type Approval Certificate Number	Hong Kong Type Approval Certificate Number	Comments (Manufacturer Model if Different)
McMurdo	E3	106	RF299165	
	FASTFIND	129	RF202107	
	FASTFIND PLUS	129	RF202108	
Pains Wessex	SOS Rescue 406	106	RF299178	

Note: EPIRB which has been type-approved by Cospas-Sarsat shall be deemed to be approved by Hong Kong, China.

HKG.4 BEACON TESTING REGULATIONS

Not available.

HKG.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Registration (EPIRBs and PLBs):		
Office of the Communication Authority 26/F, Wu Chung House, 213 Queen's Road East, Wan Chai, Hong Kong, China	(852) 29616608 license.mob@ofca.gov.hk	(852) 31550986
Registration (ELTs): Airworthiness Office Civil Aviation Department Headquaters Flight Standards and Airworthiness Division, 1 Tung Fai Road Hong Kong International Airport Lantau, Hong Kong, China	(852) 29106179 awo@cad.gov.hk	-

HKG.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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INDIA

IND.1 REGULATIONS

IND.1.1 EPIRBs

EPIRB carriage requirements is governed by the Merchant Shipping (Distress Safety Radio Communication) Rules 1995 (MSDSRC Rules 1995) which is applicable to any ship and fishing boat registered in India.

All Indian vessels and fishing vessels of more than 20 metres in length operating in EEZ of India will carry one float-free EPIRB (406 MHz).

IND.1.2 ELTs

The Civil Aviation Administration has issued instructions to the Indian aviation industry regarding the use of 406 MHz ELTs.

IND.1.3 PLBs

IND.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
India	Y	Y	Y	Currently, PLBs are in use for land and aviation applications. For marine applications, there are no users yet but as such no restrictions on the usage.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

IND.1.4 Coding and Registration

Coding and registration is mandatory for all EPIRBs placed on merchant ships / fishing vessels registered in India. EPIRBs are to be registered with INMCC at Bangalore using online web-registration system (http://inmcc.istrac.org).

Coding is carried out as per IMO Resolution A.810(19). EPIRBs are coded with trailing 6 digits of the ship's station identity after the country code.

IND.2 CODING METHODS

IND.2.1 EPIRB Coding Methods

See section IND.1.4.

IND.2.2 ELT Coding Methods

All authorised Cospas-Sarsat ELT coding protocols are allowed in India.

IND.2.3 PLB Coding Methods

Not available.

IND.3 LIST OF BEACON MODELS TYPE APPROVED BY INDIA

Not available.

IND.4 BEACON TESTING REGULATIONS

Not available.

IND.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Coding / Type Approval (EPIRBs):		
Nautical Advisor to Government of India Directorate General of Shipping Jahaz Bhavan, W. H.Marg Mumbai 400 001, India	(91.22) 22670863 na@dgshipping.com	(91.22) 22694352
Coding / Type Approval (ELTs):		
Director of Airworthiness Directorate General of Civil Aviation Government of India Opposite Safadarjung Airport New Delhi 110 003, India	(91.11) 24611357 daw@dgca.nic.in	(91.11) 24647369

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Registration (EPIRB/ELT/PLB): Online through Internet using website**:** http://inmcc.istrac.org Contact Authority: Manager, INMCC ISRO Telemetry Tracking and Command Network (ISTRAC) Plot No. 12 and 13, 3rd Main Road 2nd Phase, Peenya Industrial Area Bangalore 560 058, India	(91.80) 28094546/4548 inmcc@istrac.org	(91.80) 28371857

IND.6 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available at: http://inmcc.istrac.org.

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INDONESIA

INO.1 REGULATIONS

INO.1.1 General

The Regulation on the Beacon 406 MHz Implementation is based on the IMO, ICAO and ITU recommendations and complies with the regulations prevailing in Indonesia.

The implementation of 406 MHz beacons is regulated by Ministry of Transportation as follows:

ELT 406 MHz is regulated by Directorate General of Civil Aviation (DGCA).
EPIRB 406 MHz is regulated by Directorate General of Sea Transportation (DGST).
Beacon 406 MHz registration by BASARNAS.

INO.1.2 EPIRBs

All vessels of 300 GRT and above are required to install 406 MHz EPIRB since 1 August 1993, comply with the 1988 amendments to the 1974 SOLAS Convention.

INO.1.3 ELTs

Comply with Annex 10, Vol. 3 of ICAO Convention, ELT should operate on band 406 MHz.

Directorate General of Civil Aviation (DGCA) developed a policy to standardize the use of band 406 MHz for Indonesian civil aircraft.

INO.1.4 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Terrritory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Indonesia	*[Y / N / R]*	*[Y / N / R]*	*[Y / N / R]*	*TBD*

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed /

Restrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

INO.2 CODING METHODS

INO.2.1 EPIRB Coding Methods

Not available.

INO.2.2 ELT Coding Methods

Country Code	ELT Coding Methods			
	Serial User Protocol			Aviation User Protocol
	Serial Identification Number	24-Bit Aircraft Address	Aircraft Operator Designator and a Serial Number	Aircraft Nationality and Registration Marking
525	N	N	N	Y

INO.2.3 PLB Coding Methods

Not available.

INO.3 LIST OF BEACON MODELS TYPE APPROVED BY INDONESIA

Not available.

INO.4 BEACON TESTING REGULATIONS

Not available.

INO.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Head of BASARNAS National SAR Agency of Indonesia Jl. Agkasa Blok B.15 KAV 2-3 Jakarta 10720, Indonesia	(6221) 65701152 3483269 Ext 107 basarnas@basarnas.go.id	(6221) 65701152
ELTs: Directorate of Aviation Safety Directorate General of Civil Aviation Ministry of Transport Karya Building 23rd Fl. Jl. Medan Merdeka Barat No. 8 Jakarta Pusat, Indonesia 10110	(6221) 3507569	(6221) 3507569

INO.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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ITALY

ITA.1 REGULATIONS

ITA.1.1 EPIRBs

ITA.1.1.1 Cargo Ships

The installation of 406 MHz EPIRB is mandatory for all cargo ships under SOLAS Convention (Chapter IV, Regulation 7.1.6), and for cargo ships operating in national waters.

ITA.1.1.2 Passenger Ships

The installation of 406 MHz EPIRB is mandatory for all passenger ships under SOLAS Convention (Chapter IV, Regulation 7.1.6), and for passenger ships operating in national waters.

The passenger ships class "C" and "D" (National Decree 27th of March 2006, n. 169) operating in national waters are exempted to have the additional EPIRB, as provided from the SOLAS Chapter IV, Regulation 6.4, if the EPIRB is used as distress as the secondary means of distress alerting and is not remotely activated.

ITA.1.1.3 Fishing Vessels

The installation of 406 MHz EPIRB is mandatory for all fishing vessels operating over 6 nautical miles from the coast.

ITA.1.1.4 Pleasure Ships

The installation of 406 MHz EPIRB is mandatory for all pleasure ships operating with no limits from the coast. All other ships may install on board a 406 MHz EPIRB for safety purposes.

ITA.1.2 ELTs

In Italy, the installation of ELT aboard aircrafts is regulated distinguishing the commercial and the pleasure flights as below detailed.

ITA.1.2.1 Commercial Aviation

As provided by the Commission Regulation (EU) No. 965/2012 of 5 October 2012:

CAT.IDE.A.280 Emergency locator transmitter (ELT)

a) Aeroplanes with an MOPSC (Maximum Operational Passenger Seating Configuration) of more than 19 shall be equipped with at least:

1) Two ELTs, one of which shall be automatic, in the case of aeroplanes first issued with an individual CofA (Certificate of Airwothiness) after 1 July 2008; or
2) One automatic ELT or two ELTs of any type, in the case of aeroplanes first issued with an individual CofA on or before 1 July 2008.

b) Aeroplanes with an MOPSC (Maximum Operational Passenger Seating Configuration) of 19 or less shall be equipped with at least:

1) One automatic ELT, in the case of aeroplanes first issued with an individual CofA after 1 July 2008; or
2) One ELT of any type, in the case of aeroplanes first issued with an individual CofA on or before 1 July 2008.

c) An ELT of any type shall be capable of transmitting simultaneously on 121.5 MHz and 406 MHz.

CAT.IDE.A.285 Flight over water

a) Aeroplanes operated operating over water at a distance away from land suitable for making an emergency landing, greater than that corresponding to:

1) 120 minutes at cruising speed or 400 NM, whichever is the lesser, in the case of aeroplanes capable of continuing the flight to an aerodrome with the critical engine(s) becoming inoperative at any point along the route or planned diversions; or
2) For all other aeroplanes, 30 minutes at cruising speed or 100 NM, whichever is the lesser;

shall be equipped at least two survival ELTs.

The Rules of the Air by the National Civil Aviation Organization states that aeroplanes and helicopters flying on over the Italian territory under Night VFR (Visual Flight Rules) shall be equipped with an automatic or semiautomatic 406 MHz ELT.

Aeroplanes and helicopters operating during the day under VFR, taking off and landing at Italian airport, without intermediate stop in abroad territory, shall be equipped with an ELT unless they present a flight plan.

ITA.1.2.2 Pleasure Flights

The National Decree on the 9th of July 2010, n. 133, concerning the pleasure flight, provides that the pilot communicates to the departure airport, or to a person responsible for activating the procedure, the route and destination of the flight, in the case of the pleasure aeroplane is not equipped with an ELT, also portable, to be activated in case of emergency with the purpose to aid SAR operations.

ITA.1.3 PLBs

The use of PLBs in Italy is allowed. However, PLBs may not replace the EPIRB or ELT on vessels or aircraft if the carriage of an EPIRB or ELT is mandated.

ITA.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Italy	Y	Y	Y	PLB may not replace EPIRB or ELT on board vessels or aircraft when they are required by national or international rules.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

ITA.1.4 Beacon Registration

The registration of the 406 MHz transmitters is mandatory with the Beacon Register managed by the Italian Satellite Station Cospas-Sarsat in Bari, Italy.

ITA.2 CODING METHODS

ITA.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
247	Y	Y	N	Y	Y	N	Y	Y	N	Y

ITA.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
247	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y

ITA.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
247	Y	Y		Y

ITA.3 LIST OF BEACON MODELS TYPE APPROVED BY ITALY

Not available.

ITA.4 BEACON TESTING REGULATIONS

Not available.

ITA.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
ITMCC Italian Satellite Station Cospas-Sarsat Via Lungomare Starita, 5 70132 Bari, Italy	(39.080) 5341571 5344033 itmcc247@cospas-sarsat-italy.it	(39.080) 5342145

ITA.6 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available at: www.cospas-sarsat-italy.it.

JAPAN

JPN.1 REGULATIONS

JPN.1.1 EPIRBs

JPN.1.1.1 Carriage Requirements

Japanese SOLAS vessels and non-SOLAS vessels specified in the regulations under the Ship Safety Law are required to be equipped with 406 MHz EPIRBs as follows:

a. SOLAS vessels and non-SOLAS vessels specified in the Ship Life-Saving Equipment Regulation

   1 float-free EPIRB + 1 non float-free EPIRB*

   * This is not applied when a float-free EPIRB is installed in the bridge, etc. or controllable from the bridge, etc.

b. Small craft under 20 gross tons specified in the Small Craft Safety Regulation

   1 small craft EPIRB
   (Article 58 of the Small Craft Safety Regulation)

c. Small fishing vessels specified in the Small Fishing Vessels Safety Regulation

   1 small craft EPIRB
   (Article 26 of the Small Fishing Vessels Safety Regulation)

JPN.1.1.2 Performance Standards and Beacon Specifications

Performance standards for EPIRBs (similar to the IMO Resolution A.810(19)) are given in the following regulations under the Ship Safety Law:

a. Performance standards for float-free EPIRBs
   Article 39 of the Ship Life-Saving Equipment Regulation

b. Performance standards for non float-free EPIRBs
   Article 39-2 of the Ship Life-Saving Equipment Regulation

c. Performance standards for small craft EPIRBs
   Article 57-3 of the Small Craft Safety Regulation

Specification for EPIRBs (similar to C/S T.001) are given in the following regulations under the Radio Law:

a. Frequencies for EPIRBs
G1B 406.025 MHz or 406.028 MHz or 406.037 MHz with A3X 121.5 MHz
(Article 12, paragraph 9 of the Regulation for Enforcement of the Radio Law)

b. Requirements for EPIRBs

- Article 45-2, paragraph 1 of the Ordinance Regulating Radio Equipment
- Ministry of Internal Affairs and Communications (MIC) Notice No.1225 in 2005

c. Requirements for small craft EPIRBs

- Article 45-2, paragraph 2 of the Ordinance Regulating Radio Equipment
- MIC Notice No.1225 in 2005

JPN.1.1.3 Type Approval

Type Approval Procedures (similar to C/S T.007) are given in the following regulations:

a. Type Approval under the Radio Law

- Article 37 of the Radio Law
- Radio Equipment Type Approval Regulation

b. Type Approval under the Ship Safety Law

- Article 6-4, paragraph 1 of the Ship Safety Law
- Ship and its Equipment Type Approval Regulation

JPN.1.2 ELTs

JPN.1.2.1 Carriage Requirements

Japanese aircraft are required to be equipped with the following ELTs in accordance with the regulations under the Civil Aeronautics Law:
(Article 150 of the Civil Aeronautics Law Enforcement Regulation)

a. Airplane engaged in business to transport passengers or cargo

(a) authorized to carry more than 19 passengers for which the individual certificate of airworthiness was first issued before 30 June 2008.

1 automatic ELT.

(b) authorized to carry more than 19 passengers for which the individual certificate of airworthiness was first issued before 30 June 2008 and after 1 July 2008.

2 ELTs, one of which shall be automatic.

(c) authorized to carry 19 passengers or less.

1 automatic ELT.

b. Airplane engaged in business to transport passengers or cargo except as provided for in (a), (b), (c).

1 automatic ELT.

c. Multi-engine helicopters engaged in flying over water in a hostile environment at a distance from land corresponding to more than 10 minutes at normal cruise speed.

2 ELTs, one of which shall be automatic and in a raft or life jacket.

d. Single-engine helicopters engaged in flying over water beyond autorotational or safe forced landing distance from land.

2 ELTs, one of which shall be automatic and in a raft or life jacket.

e. All helicopters engaged in flying expect as provided for in c, d.

1 automatic ELT.

f. All aircraft expect as provided for in a, b, c, d, e engaged in flying over water in a hostile environment at a distance from land corresponding to more than 30 minutes or 185 km at normal cruise speed.

1 automatic ELT.

JPN.1.2.2 Beacon Specifications

Specifications for ELTs (similar to C/S T.001) are given in the following regulations under the Radio Law and the Civil Aeronautics Law:

a. Frequencies for ELTs

406 MHz with 121.5 MHz
(Article 150 of the Civil Aeronautics Law Enforcement Regulation)

b. Requirements for ELTs

- Article 45-12-2 of the Ordinance Regulating Radio Equipment

- Ministry of Internal Affairs and Communications (MIC) Notice No.153 in 2003

JPN.1.2.3 Type Approval

Type Approval Procedures (similar to C/S T.007) are given in the following regulations:

a. Type Approval under the Radio Law

- Article 37 of the Radio Law
- Radio Equipment Type Approval Regulation

b. Type Approval under the Civil Aeronautics Law

- Article 152 of the Civil Aeronautics Law Enforcement Regulation

JPN.1.3 PLBs

The use of PLBs for private persons is not permitted in Japan except for PLBs on aircraft, which are optional, as specified in ELT regulations.

Beacon Specifications for PLBs for Aircraft

- Article 45-12-3 of the Ordinance Regulating Radio Equipment
- MIC Notice No.154 in 2003.

JPN.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Japan	N	N	R	The use of PLBs for private persons is not permitted in Japan except for PLBs on aircraft, which are optional, as specified in ELT regulations.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

JPN.1.4 Beacon Registration

- EPIRBs are registered when an application for a radio equipment permission is processed at the Ministry of Internal Affairs and Communications (MIC), since the MIC administers the MMSI numbers in Japan.

- The owners of 406 MHz ELTs and PLBs are requested to submit a registration form to the Tokyo Airport Office, Rescue Coordination Centre (e-mail: hnd-rcc@cab.mlit.go.jp).

JPN.2 CODING METHODS

JPN.2.1 EPIRB Coding Methods

The following codings are permitted for use in accordance with the MIC Notice No.1225 in 2005. (Note: Actually, protocols coded with Radio Call Sign and a Unique Beacon Serial Number have never been used so far - see document C/S T.001 on each protocol's detail.)

- Maritime User Location coded with MMSI
- Maritime User Location Protocol coded with MMSI
- Maritime User Location Protocol coded with Radio Call Sign
- Serial User Location Protocol coded with a Unique Beacon Serial Number

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
431,432	Y	N	N	N	Y	N	N	Y	N	N

JPN.2.2 ELT Coding Methods

The following codings are permitted for use in accordance with the MIC Notice No.153 in 2003. (See C/S T.001 on each protocol's detail.)

- Aviation User Protocol coded with the Aircraft Nationality and Registration Marking
- Aviation User Location Protocol coded with the Aircraft Nationality and Registration Marking
- Serial User Protocol coded with a Unique Beacon Serial Number
- Serial User Protocol coded with the Aircraft Operator Designator & a Serial Number
- Serial User Protocol coded with the Aircraft 24-bit Address
- Serial User Location Protocol coded with a Unique Beacon Serial Number
- Serial User Location Protocol coded with the Aircraft Operator Designator & a Serial Number
- Serial User Location Protocol coded with the Aircraft 24-bit Address

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Llocation				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
431,432	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

JPN.2.3 PLB for Aircraft Coding Methods

The following codings are permitted for use in accordance with the MIC Notice No.154 in 2003. (See C/S T.001 on each protocol's detail.)

- Serial User Protocol coded with a Unique Beacon Serial Number
- Serial User Location Protocol coded with a Unique Beacon Serial Number

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
431,432	Y	Y	N	Y

Note: * Device sererial number assigned by a manugacturer with the Cospas-Sarsat type approval certificate number.

JPN.4 LIST OF BEACON MODELS TYPE APPROVED BY JAPAN

Beacon Manufacturer	Beacon Model	C/S Type Approval Certificate Number	Japanease Type Approval Certificate Number	Commemts (Manufacturer Model if Different)
JRC	JQE-103	164	SE05002	Same as TEB-700
Taiyo Musen	TEB-700	164	SE05001	Same as JQE-103
Taiyo Musen	TEB-720	164	SS05001	
Kaigai Gijutsu	SEP-500	195	SE12001	

JPN.5 BEACON TESTING REGULATIONS

Not available.

JPN.6 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Coding and Registration (EPIRBs):		
Mobile Satellite Communications Division, Ministry of Internal Affairs and Communications 2-1-2 Kasumigaseki Chiyoda-ku, Tokyo 100-8926, Japan	(81.3) 52535816 cospas@ml.soumu.go.jp	(81.3) 52535903
Type Approval (EPIRBs and ELTs):		
Electromagnetic Environment Division Ministry of Internal Affairs and Communications 2-1-2 Kasumigaseki, Chiyoda-ku Tokyo 100-8926, Japan	(81.3) 52535907 cas1@ml.soumu.go.jp	(81.3) 52535914
Ministry of Land, Infrastructure Transport and Tourism, Maritime Bureau Inspection and Measurement Division 2-1-3 Kasumigaseki, Chiyoda-ku Tokyo 100-8976, Japan	(81.3) 52538639	(81.3) 52531644

JPN.7 BEACON REGISTRATION FORMS

Online beacon registration form (ELT) is available at: http://www.cab.mlit.go.jp/tcab/info/406mhzelt.html

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KOREA (REPUBLIC OF)

KOR.1 REGULATIONS

KOR.1.1 EPIRBs

KOR.1.1.1 All Vessels

All ships are required to carry 406 MHz EPIRBs, with the exception of ships which navigate in smooth sea area. [‘Smooth sea area’ means an area that includes in-land waters, port area and specific areas around ports by the domestic regulation.]

KOR.1.1.2 Fishing Vessels

All fishing vessels over 24 meters in length should carry a 406 MHz EPIRB.

KOR.1.2 ELTs

One or more 121.5/243 MHz or 406 MHz ELTs should be installed in:

a) all commercial aircraft; and

b) any aircraft flying over the regions which are subjected to domestic regulations.

KOR.1.3 PLBs

KOR.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet “carriage” requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Korea (Rep. of)	N	N	N	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

KOR.1.4 Beacon Registration

The Ministry of Information and Telecommunication is responsible for registering beacons according to the Radio Regulation. The KOMCC receives the relevant data soon after the registration.

KOR.2 CODING METHODS

KOR.2.1 EPIRB Coding Methods

All 406 MHz EPIRBs are encoded using the MMSI identification of the ship. All 406 MHz ELTs are encoded using the Serial Identification Number with country code set to 440. The KOMCC maintains the database for registered 406 MHz beacons.

Country Code	EPIRB Coding Methods		
	Serial Number	MMSI	Call Sign
440, 441	N	Y	N

KOR.2.2 ELT Coding Methods

Country Code	ELT Coding Methods			
	Serial User Protocol			Aviation User Protocol
	Serial Identification Number	24-Bit Aircraft Address	Aircraft Operator Designator and Serial Number	Aircraft Nationality and Registration Marking
440, 441	Y	N	N	Y

KOR.2.3 PLB Coding Methods

Not available.

KOR.3 LIST OF BEACON MODELS TYPE APPROVED BY KOREA

Beacon Manufacturer	Beacon Model	C/S Type Approval Certificate Number	Korean Type Approval Certificate Number	Comments (Manufacturer Model if Different)
ACR Electronics	RLB-27	83	SE-970003	
CEIS TM	MO56	79	SE-950001	
JRC	JQE-2A JQE-3A JQE-3A-J	30 80	SE-920002 SE-940002 SE-940002	
Jotron	Tron 30 S mkII Tron 40	50 95	SE-940001 SE-980001	
Lokata	406 MH(Y) 406 H 406-2A	63 12 75	SE-930001 SE-930002 SE-940003	
McMurdo	E3	106	SE-990001	
Newcom	NC-270	70	SE960001	
Samyung	SEP-406	78	SA-970002	
Saracom Co. Ltd.	EB-10	94	SE-970001	
Northern Airborne Technology Ltd.	SATFIND-406	78	SE-970002	
SERPE-IESM	Kannad 406 FH	35	SE-920004	

KOR.4 BEACON TESTING REGULATIONS

Not available.

KOR.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	TELEX	FAX
Search and Rescue Division Guard and Rescue Bureau Korea Coast Guard / KOMCC 3-8, SongDo-Dong, YeonSu-Gu, Incheon City komcc1@kornet.net Republic of Korea	(82.32) 8352195 8352594 komcc2@kornet.net	(801) 45502 KOMCC	(82.32) 8352895

KOR.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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NETHERLANDS (THE)

NET.1 REGULATIONS

NET.1.1 EPIRBs

All seagoing vessels to which the Netherlands Shipping Act is applicable (irrespective of the size) shall be equipped with a (Cospas-Sarsat) satellite EPIRB. The EPIRB shall be of a type approved by the Netherlands Shipping Inspectorate. This approval is based on compliance with the European standard ETSI EN 300 066 V1.3.1 (2001-01).

All vessels to which the Netherlands Shipping Act is not applicable, may carry a type-approved EPIRB on a voluntary base provided that other maritime communications equipment is available on board the ship, e.g. VHF, MF, HF or Inmarsat.

Only coding with MMSI is permitted. Purchasing is only possible if a radio license is granted. The Radio Communications Agency (Agentschap Telecom) issues an MMSI number to each ship for all the radio equipment.

The use of an EPIRB as a PLB is prohibited.

NET.1.2 ELTs

International Commercial Air Transport - Aeroplanes

All aeroplanes certified for the transport of more than 19 passengers are equipped with at least one automatic ELT or two ELTs of any type.

All aeroplanes certified after the 1st of July 2008 for the transport of more than 19 passengers are equipped with at least two ELTs of those one ELT is activated automatically.

All aeroplanes certified for the transport of 19 passengers or less are equipped with at least one ELT of any type.

All eroplanes certified after the 1st of July 2008 for the transport of 19 passengers or less are equipped with at least one ELT that is activated automatically.

International General Aviation - Aeroplanes

All aeroplanes are equipped with at least one ELT of any type.

All aeroplanes certified after the 1st of July 2008 are equipped with at least one ELT that is activated automatically.

International Commercial Air Transport - Helicopters

Performance class 1 and 2 helicopters are equipped with at least one ELT that is activated automatically and in case that the flight is conducted over water with at least one ELT that is activated automatically and one ELT(S) in a raft or life jacket.

Performance class 3 helicopters are equipped with at least one ELT that is activated automatically and in case that the flight is conducted over water at normal cruise speed at a distance more than 10 minutes from land with at least one ELT that is activated automatically and one ELT(S) in a raft or life jacket.

International General Aviation - Helicopters

Performance class 1 and 2 helicopters are equipped with at least one ELT, and in case that the flight is conducted over water with at least one ELT that is activated automatically and one ELT(S) in a raft or life jacket.

Performance class 3 helicopters are equipped with at least one ELT that is activated automatically and in case the flight is conducted over water at normal cruise speed at a distance more than 10 minutes from land with at least one ELT that is activated automatically and one ELT(S) in a raft or life jacket.

NET.1.3 PLBs

The use of PLBs in The Netherlands is granted on the strict condition that they are coded according to the "Serial User Protocol" and all relevant data shall be registered with the Radio Communications Agency (for address of the Radio Communications Agency see below).

NET.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On arcraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Netherlands (The)	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed /

Restrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

NET.2 CODING METHODS

All coding must be in accordance with the rules set down in Cospas-Sarsat document C/S T.001 "Specification for Cospas-Sarsat 406 MHz Distress Beacons" (Annex A).

All beacons rgeisterd in The Netherlands shall be coded according to the User Protocol or if the beacon can be programmed with location position data they may use the User Location of Standard Location Protocol.

NET.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
244,245, 246	Y	N	N	N	Y	N	N	Y	N	N

The EPIRBs digital message shall contain the MMSI number of the vessel for identification as issued by the Radio Communications Agency.

Maritimr User Protocol							
Bits	25	26	27 36	37 39	40 81	82 83	84 85
------	0	1	Country Code	0 1 0	MMSI (42 bits)	0 0	R L

RL = Auxiliary radio-locating device (see section A2.1 of C/S T.001)

Section A2.2 of C/S T.001 Maritime User Protocol

The maritime user protocol has the following structure:
Bits Usage
25 format flag (=0)
26 protocol flag (=1)
27-36 country code for The Netherlands; 244 / 245 / 246
37-39 user protocol code (=010)
40-75 trailing 6 digits of MMSI
76-81 specific beacon number
82-83 spare (=00)
84-85 auxiliary radio-locating device type(s)
Bits 40-75 designate the last 6 digits of the 9 digit maritime mobile service identity (MMSI) using the modified-Baudot code shown in Table A3.

NET.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
244,245, 246	N	N	Y	N	N	N	Y	N	N	N	Y	N

The ELT digital message shall contain the 24-bit aircraft address of the belonging aircraft for identification as issued by Directorate-General of Civil Aviation.

The serial user protocol using the aircraft 24-bit address has the following structure:

Serial User Protocol Aircraft 24-bit Address										
Bits	25	26	27 36	37 39	40 42	43	44 67	68 73	74 83	84 85
----	0	1	Country Code	0 1 1	0 1 1	C	Aircraft 24-bit Address	Addirional ELT No.s	C/S certificate Number	R L

Section A2.5.2 of C/S T.001 Serial User Protocol Aircraft 24-bit Address

Bits Usage
25 format flag (= 0)
26 protocol flag (=1)
27-36 country code for The Netherlands; 244 / 245 / 246
37-39 user protocol code (=011)
40-42 beacon type (=011)
43 flag bit for Cospas-Sarsat type approval certificate number
44-67 aircraft 24-bit address
68-73 ELT number of additional ELTs carried on same aircraft
74-83 Cospas-Sarsat type approval certificate number or national use
84-85 auxiliary radio-locating device type(s)
Bits 44-67 are a 24-bit binary number assigned to the aircraft.
Bits 68-73 contain the ELT number, in binary notation with the least significant bit on the right, of additional ELTs carried in the same aircraft or default to 0s when only one ELT is carried.

Aircraft operators replacing ELTs have to install ELTs coded with the “Aircraft 24-bit address” according the “serialized user protocol” or the “standard location protocol”.

The 24-bit address can be obtained with quotation of the registration mark, type and serial number of the aircraft at:

Directorate-General of Civil Aviation
Aeronautical Inspection Directorate
Head of Aircraft Registry,
P.O.Box 575, 2130 AN Hoofddorp

The Netherlands
Fax: +31 23 5663006

Aircraft operators shall inform the Directorate-General of any change (i.e. change of nationality of the aircraft to another nationality then The Netherlands). ELTs shall be reprogrammed according to the new situation.

Aircraft Operators shall register all relevant ELT data, as described in ICAO Convention, Annex 10 with the Radio Communications Agency at the following address:

Ministry of Economic Affairs
Radio Communications Agency
P.O.Box 450, 9700 AL Groningen
The Netherlands
Phone + 31 (0)50 5877555
Fax + 31 (0)50 5877400
E-mail: agentschaptelecom@at-ez.nl
Web: www.agentschap-telecom.nl/

NET.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
244,245, 246	Y	Y		N

Serial User Protocol										
Bits	25	26	27 36	37 39	40 42	43	44 63	64 73	74 83	84 85
----	0	1	Country Code	0 1 1	0 1 0	C	(20 bits) Serial Nr	All "0" or Nat. Use	C/S certificate Number	R L

Section A2.5.1 Serial Number of C/S T..001 Serial User Protocol

Bits Usage
25 format flag (= 0)
26 protocol flag (=1)
27-36 country code for The Netherlands; 244 / 245 / 246
37-39 user protocol code (=011)
40-42 beacon type (=, 010) = PLB
43 flag bit for Cospas-Sarsat type approval certificate number
44-63 serial number
64-73 all 0s or national use
74-83 Cospas-Sarsat type approval certificate number or national use
84-85 auxiliary radio-locating device type(s)

The country code 246 is reserved for a specific group of PLB-users in The Netherlands.

The sequential number (serial number), allocated by the manufacturer can be coded in bits 44 to 63.

All PLBs shall be registered with the Radio Communications Agency (see address below).

NET.3 LIST OF BEACON MODELS TYPE APPROVED BY THE NETHERLANDS

Type approval: The type approval is based on compliance with the European standard ETSI EN 300 066 V1.3.1 (2001-01).

NET.4 BEACON TESTING REGULATIONS

Not available.

NET.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Coding / Registration / Licensing (EPIRBs, ELTs and PLBs):		
Ministry of Economic Affairs Radiocommunications Agency P.O.Box 450, 9700 AL Groningen Emmasingel 1 Netherlands (The)	(31.50) 5877444 info@agentschaptelecom.nl www.agentschaptelecom.nl	(31.50) 5877400

NET.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

NEW ZEALAND

NZL.1 REGULATIONS

NZL.1.1 General

See Australian/New Zealand Standards on "406 MHZ satellite distress beacons", Ref AS/NZS 4280.1, as amended for EPIRBs, and AS/NZS 4280.2, as amended for PLBs.
These standards are available at http://infostore.saiglobal.com/store/.

For all New Zealand vessels Maritime Rules Part 40 and Part 43 as amended by MARITIME (EPIRBS) AMENDMENT RULES 2006 apply. Beacons must comply with the AS/NZS 4280/1, as amended for EPIRBs.

For all New Zealand registered aircraft Emergency Locator Transmitters (ELTs) must comply with the United States Federal Aviation Administration Technical Standard Order C126 Minimum Operational Performance Standards for 406 MHz Emergency Locator Transmitters (FAA TSO-C126).

In accordance with the Radiocommunications Regulations (General User Radio License for Emergency Transmitters) Notice 2005 all 406 MHz Satellite Distress Beacon's ("SDB's") must be registered with the Rescue Coordination Centre New Zealand (RCCNZ).

NZL.1.2 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime Environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
New Zealand	Y	Y	Y	PLBs are only to be coded with serial number and not MMSI nor registration mark.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

NZL.1.3 Beacons

New Zealand requires all beacons sold and registered in New Zealand to comply with Cospas-Sarsat certification registration and further:

(a) 406 MHz ELTs must also comply with the requirements of Civil Aviation Rule Part 91; and
(b) type approval and registration of maritime and land 406 MHz beacons is ensured by Maritime New Zealand.

Maritime Rule Part 40, as amended by Maritime (EPIRBS) Amendment Rules 2006, details the requirements for the carriage of vessels in New Zealand waters. Maritime Rule Part 43 details the EPIRB requirement to comply with the AS/NZS 4280/1, as amended for EPIRBs, Civil Aviation Rule 91.529 defines which aircraft are required to carry ELTs and came into effect from 30 June 2008.

Civil Aviation Rule 91, Appendix A15 specifies that the approved standard for ELT systems is the FAA TSO-C126 and further specifies installation criteria. European Aviation Safety Agency ETSO-2C126 is an acceptable alternative to the FAA TSO approval.

NZL.1.4 Distress Beacon Information

The New Zealand beacon database, maintained by the New Zealand Rescue Coordination Centre, supports the registration of the Cook Islands Niue, Samoa, Tokelau, and Tonga. Registration is mandatory for all EPIRBs, ELTs and PLBs.

Registration can be completed via the Online Beacon Register at www.beacons.org.nz, beacons registration, free registration or by completing and returning the Distress Beacon Registration form via fax +64 4577 8041 or email to 406registry@maritimenz.govt.nz .

Information about distress beacons, registration, disposal and use can be found at www.beacons.org.nz.

All enquires about distress beacons in the New Zealand Search and Rescue Region can be directed to: 406registration@maritimenz.govt.nz.

NZL.2 BEACON CODING METHODS

Coding methods are specified by the equipment manufacturer but must be coded with the ITU country code in which they will be predominately in use. For New Zealand the country code is 512, Cook Islands (682), Niue (683), Samoa (685), Tokelau (609) and Tonga (676). Coding is to include the beacon serial number or manufacturer's unique identification number. New Zealand does not issue unique identification numbers.

In accordance with CAR 91.529(f)(2), any EPIRB carried on a New Zealand registered aircraft must be coded with the ITU country code for New Zealand (512) and a unique code to identify the EPIRB.

NZL.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
512	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: (1) If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.

(2) Do not program an EPIRB as another beacon type of ELT or PLB.

NZL.2.2 ELT Coding Methods

Actual coding methods are specified by the equipment manufacture but the applicable coding requirements are specified as follows:

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
512	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: (1) If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.

(2) If programming the ELT with the aircraft Registration marking do not insert extraneous characters such as '/1' or '/2' after the aircraft registration marking to indicate multiple ELTs on board the same aircraft.

(3) Do not program an ELT as another beacon type of EPIRB or PLB.

Any ELT, ELT(S), in accordance with CAR 91.529 (f)(1), must be coded with the ITU country code for New Zealand (512) and any of the following:

(a) the ELT serial number;
(b) the unique 24 bit aircraft Mode S transponder address;
(c) the ICAO aircraft operating agency designator; or
(d) the aircraft nationality and registration marks.

In accordance with CAR 91.529(g) foreign aircraft are not permitted to operate in New Zealand unless the ELT is coded with the ITU country code for the State of Registry and any of the following:

(a) the ELT serial number;
(b) the unique 24 bit aircraft Mode S transponder address;

(c) the ICAO aircraft operating agency designator; or
(d) the aircraft nationality and registration marks.

NZL.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
512	Y	Y		Y

Notes: (1) If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.
(2) Do not program a PLB as another beacon type of ELT or EPIRB.

In accordance with CAR 91.529(f)(2), any PLB carried on a New Zealand registered aircraft must be coded with the ITU country code for New Zealand (512) and a unique code to identify the PLB.

NZL.3 LIST OF BEACON MODELS TYPE APPROVED BY NEW ZEALAND

Beacons approved for use in New Zealand can be viewed at www.beacons.org.nz .

NZL.4 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION, TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE / E-MAIL	FAX
RCC New Zealand Avalon Business Centre Percy Cameron Street P.O. Box 30050 Lower Hutt, 5040, New Zealand	(644) 577 8030 or 577 8034 406registry@maritimenz.govt.nz	(644) 577 8041

NZL.5 BEACON REGISTRATION FORMS

Online beacon registration forms are available at: http://www.beacons.org.nz.

NZL.6 DISTRESS BEACON TESTING

Cospas-Sarsat 406 MHz distress beacons should only be activated when a ship, aircraft or person is in distress; that is “in grave and imminent danger and requiring immediate assistance”. In between the manufacturer’s recommended maintenance and battery replacement cycles, the beacon can be tested by the owner using the self-test capability to ensure the continued functionality of the beacon.

There is normally no need for the beacon to be tested in an operational mode by a beacon owner.

The information provided in the following sections provides guidance on beacon testing and the procedures required in the unlikely and unusual event that an operational test of a beacon is required. The Rescue Coordination Centre of New Zealand does not grant approval for beacon operational tests unless the procedures outlined below have been adhered to:

(a) all beacons can be tested at any time using the self-test functions without any notification to RCCNZ; and

(b) any test of a 406 MHz distress beacon in the operational mode requires prior approval of the RCCNZ (phone +644 577 8034) and the requirements set out in the "BEACON TEST COORDINATION MESSAGE" below must be satisfied.

NZL.6.1 Beacon Self-Testing

All Cospas-Sarsat type approved 406 MHz beacons include a self-test mode of operation. The content of the self-test message always provides the beacon 15 Hex ID (UiN), except for location protocol beacons when they are transmitting a self-test message encoded with a GNSS position. The transmission of a self-test GNSS position is optional.

The complete self-test transmission is limited to one burst and is activated by a separate switch position.

The self-test function performs an internal check and indicates that the RF power is being emitted at 406 MHz and on 121.5 MHz if applicable. The beacon will provide an indication of the success or failure of a GNSS self-test. The self-test mode signal is not processed by the satellite equipment.

The manufactures' instructions on the frequency of performing a self-test transmission of a self-test GNSS position should be adhered to. This will limit the likelihood of inadvertent activation and battery depletion.

The Australian-New Zealand 406 MHz EPIRB and PLB beacon standard requires that the 121.5/243 MHz transmission during the self-test is restricted to just one (1) second.

There is test equipment available that can facilitate the testing of 406 MHz beacons in the self-test mode and provide technical information on the beacon transmission. An example of such equipment can be obtained from:
www.sartech.co.uk/products/406testequipmentreceivers/406mhzbeacontesters

This equipment is intended to be used by ship and aircraft inspectors and beacon maintenance personnel.

NZL.6.2 Operational Testing Should be Avoided

Self-testing should accommodate most beacon testing. There are, however, some occasions when operational testing may be required. These occasions should be limited to the absolute minimum as they impact on the Cospas-Sarsat System.
Other than performing a 406 MHz beacon self-test for evaluating key beacon performance characteristics to ensure operational functionality, other reasons for activating a beacon include:

(a) prototype beacon testing;
(b) new beacon model testing;
(c) search and rescue training exercises; and
(d) Cospas-Sarsat Ground Segment equipment performance.

Beacons activated in the operational or live mode (not using the self-test function) impacts on the Cospas-Sarsat Space and Ground Segments and Rescue Coordination Centers (RCCs) worldwide and may inhibit the processing of genuine distress beacon alerts, therefore delaying a response to a real distress situation.

Regardless of the beacon's location or the duration of the activation, a 406 MHz beacon will be detected by at least one Geostationary Local User Terminal (GEOLUT) and it might also be detected by every Low Earth Orbit Local User Terminal (LEOLUT) in the Cospas-Sarsat System.

Furthermore the 121.5 MHz homing transmitted during the 406 MHz beacon activation will be heard by overflying aircraft which may impact genuine distress alerts, RCCs and may impact on Air Traffic Services.

Given the reasons above there is a need to ensure that beacon testing is undertaken responsibly. Comprehensive coordination will need to be under taken to ensure that all Cospas-Sarsat Mission Control Centers (MCCs) around the world are informed of any operational beacon testing as well as RCC New Zealand.

The manufactures' instructions on the frequency of performing a self-test and transmission of a self-test GNSS position should be adhered to. This will limit the likelihood of inadvertent activation and battery depletion.

The Australian-New Zealand 406 MHz EPIRB and PLB beacon standard requires that the 121.5/243 MHz transmission during the self-test is restricted to just one (1) second.

NZL.6.3 Operational Testing Requirements

All beacon types (ELTs, EPIRBs and PLBs) can be tested at any time using the self-test function without the need to notify RCC New Zealand.

Operational testing of any beacon type, including ELTs and irrespective of the duration and location is only permitted with prior approval of RCC New Zealand (Telephone +644 577 8033).

Operational testing can only be permitted under the following circumstances:

(a) beacon to be coded with the TEST protocol;
(b) 121.5/243 MHz homing signal is disabled;
(c) 48 hours' notice shall be provided to RCCNZ; and
(d) responses are provided to the questions as listed in the "BEACON TEST COORDINATION MESSAGE" below including the Cospas-Sarsat type approval certificate number.

A beacon owner wishing to undertake an operational test of a 406 MHz beacon, without the notifications above, is normally prohibited as the tests are then dependent upon the Cospas-Sarsat Space and Ground Segment to provide the results of the detections.

NZL.6.4 Operational Testing by Manufacturers and Others

Operational testing of 406 MHz beacons can be performed in a screened enclosure to eliminate the risk of false alerts and with the use of test equipment the beacons' performance can be assessed. This type of testing would normally be undertaken by manufacturers, suppliers and beacon maintenance staff.

There may be occasions when a compelling argument may be put forward by beacon manufactures, suppliers and the like to allow operational testing of a 406 MHz beacon without a change to the beacon protocol or the disabling of the 121.5 MHz homing transmitter. Such exceptional requests will be considered on their merits and the following points should be observed:

(a) the test shall be limited in duration (not more than 15 minutes);
(b) the objective of the test can be met with very limited beacon bursts being detected by the GEO system;
(c) RCC New Zealand has approved clearance for the 121.5 MHz transmission;
(d) the location of the test in latitude and longitude must be provided;
(e) the timing will be dependent upon mutual visibility between the beacon, the LEO satellite and LEOLUT;
(f) provision of the information in "BEACON TEST COORDINATION MESSAGE" below and type certificate number;
(g) 48 hours' notice of the test is to be provided; and
(h) the test strategy and the feedback (reports, distress alert, raw LUT data, etc.) required has been discussed with RCC New Zealand.

NZL.6.5 Aircraft Cockpit Remote Activation Switches and Operational Testing by Aircraft Maintenance Facilities

Whilst a functional test of a beacon can be performed via the beacon's self-test capability the use of the remote aircraft cockpit activation switches results in an operational activation of the ELT. Remote cockpit activations are performed on initial installation and during ongoing maintenance of the ELT.

In order to comply with these ELT maintenance requirements, operational testing of a 406 MHz ELT from the cockpit of an aircraft may be undertaken by maintenance facilities, provided the test duration is no longer than five (5) seconds and is undertaken within the first five (5) minutes of the hour. RCC New Zealand (**Telephone 644 577 8030**) and the Air Traffic Services (ATS) Centre for the location of the test must be advised of this operational test.

The test duration must be restricted to five (5) seconds so that there is no potential for an operationally coded 406 MHz digital burst transmitting and thus generating a false alert. The duration of the 121.5/243 MHz homing transmission, which will also be activated as part of this test, must also be restricted so as not to generate false alerts via ATS.

NZL.6.6 Beacon Test Coordination Message

A message notifying of the test is required to be distributed to all MCCs worldwide. The information listed below, A to E, shall be provided by the person requesting an operational test.

A. TEST OBJECTIVE:
B. TEST DESCRIPTION:
C. LOCATION OF TEST:
D. DATE, TIME AND DURATION OF TEST:
E. BEACON ID:

NZL.7 REFERENCE DOCUMENTS

The International Maritime Organisation (IMO) has published guidelines on the annual testing and shore based maintenance Position-Indicating Radio Beacons (EPIRBs). These guidelines and other international beacon regulations for EPIRBs and Emergency Locator Transmitters (ELTs) are available in Section 6 of the Cospas-Sarsat C/S S.007, Handbook of Beacon Regulations which is available at:
www.cospas-sarst.org/images/stories/SystemDocs/Current/S7SEP01_2009.pdf

NIGERIA

NIA.1 REGULATIONS

NIA.1.1 General

Nigeria's 406 MHz beacon registry is complied by three agencies:

a. The Nigerian Civil Aviation Authority (NCAA) for ELTs and PLBs associated with aircraft.

b. The Nigerian Maritime Administration and Safety Agency (NIMASA) for EPIRBs and PLBs associated with water borne vessels.

c. The National Emergency Management Agency (NEMA) as the coordinating agency holds the averall national database os registered EPIRBs, ELTs and PLBs. It is also the point of contact for registration of beacons in the IBRD.

These agencies compile a summary of all beacon transmitters on a six monthly basis.

Installation and registration of EPIRBs and ELTs is mandatory on line with IMO and ICAO requirements respectively.

NIA.1.2 EPIRBs

The Nigerian Maritime Administration and Safety Agency (NIMASA) is responsible for registration of EPIRBs and PLBs associated with ships. It is also responsible for enforcing all regulations related to the use of these beacons including type approval, installation, testing and maintenance.

NIA.1.3 ELTs

The Nigerian Civil Aviation Authority (NCAA) is responsible for registration of ELTs and PLBs associated with aircraft. It is also responsible for enforcing all regulations related to the use of these beacons including type approval, installation, testing and maintenance.

All aircraft are mandadted to carry a beacon transmitting on 406 MHz. Also one survival type of ELT or PLB should be located in each liferaft carried.

NIA.1.4 PLBs

PLBs associated with ships are to be registered by NIMASA while those associated with aircraft are registered by NCAA. Other PLBs may be registered with the National Emergency Management Agency.

NIA.1.4.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Nigeria	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

NIA.2 CODING METHODS

The Ministry of Information and Telecommunication is responsible for registering beacons according to the Radio Regulation. The KOMCC receives the relevant data soon after the registration.

NIA.2.1 EPIRB Coding Methods

MMSI, international call-sign and IMO serial identification number.

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
657	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

NIA.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
657	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

NIA.2.3 PLB Coding Methods

NIA.2.3.1 PLBs Associated with Individuals

PLBs associated with individuals are registred with the National Emergency Management Agency (NEMA).

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
657	Y	Y		Y

NIA.2.3.2 PLBs Associated with Ships

PLB associated with ships to be coded with MMSI, international call sign and IMO serial number of ships on which they are to be borne.

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
657	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

NIA.2.3.3 PLBs Associated with Aircraft

PLBs associated with aircraft to be coded with 24-bit aircraft address / serial identification number / aircraft operator designatror / aircraft nationality and registration marking of aircraft on which they are to be borne.

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
657	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

NIA.3 LIST OF BEACON MODELS TYPE APPROVED BY NIGERIA

In line with the Cospas-Sarsat type approval list.

NIA.4 BEACON TESTING REGULATIONS

Not available.

NIA.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
All Beacons:		
Nigerian Mission Control Centre (NIMCC) Headquarters National Emergency Management Agency 8 Ademola Adetokunbo Street Maitama - Abuja, Nigeria	(234) 92905785 mccnema@gmail.com	-
EPIRBs:		
Maritime Rescue Coordination Center (MRCC) Nigerian Maritime Administration and Safety Agency Maritime House 4 Burma Road Apapa - Lagos, Nigeria	(234) 8030685167 rmrccnigeria@yahoo.com	-
ELTs:		
c/o Mr. E. O. Ayorinde Headquarters Nigeria Civil Aviation Authority Murtala Mohammed International Airport Ikeja - Lagos, Nigeria	(234) 8033013347	-

NIA.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

NORWAY

NOR.1 REGULATIONS

NOR.1.1 EPIRBs

The Norwegian Post and Telecommunications Authority authorized 406 MHz EPIRBs for use on board conventional ships, fishing vessels and pleasure yachts.

Telenor, Radio Licensing Department, issues all maritime radio licences for EPIRBs and maintains a database compliant with IMO Resolution A.887(21) and ITU Resolution 340 (WRC-97).

NOR.1.2 PLBs

406 MHz PLBs are authorized for personal use both on land, at sea and in aircraft.

The Norwegian Post and Telecommunications Authority issues the radio licenses for PLBs and maintains a database that is accessible to the Norwegian Mission Control Centre (NMCC) and Rescue Coordination Centres (RCC) 24 hours a day seven days a week.

NOR.1.2.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Norway	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

NOR.1.3 ELTs

The Norwegian Post and Telecommunications Authority issues the radio licenses to aircraft registered in Norway and maintains a database that is accessible to the NMCC and RCC 24 hours a day seven days a week.

The Norwegian Civil Aviation Authority (http://www.caa.no) issues the 24-bit aircraft addresses ("ICAO ID") to aircraft registered in Norway.

ELTs must be compliant with requirements from the International Civil Aviation Organization (ICAO, http://www.icao.int), the European Aviation Safety Agency (EASA, http://easa.europa.eu) and Cospas-Sarsat.

NOR.2 CODING METHODS

NOR.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
257	Y	N	N	N	Y	N	N	Y	N	N

NOR.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
257	N	N	Y	N	N	N	Y	N	N	N	Y	N

NOR.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
257	Y*	N		Y

Note: * with GPS.

NOR.3 LIST OF BEACON MODELS TYPE APPROVED BY NORWAY

Not available.

NOR.4 BEACON TESTING REGULATIONS

Not available.

NOR.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Coding / Registration / Licensing (EPIRBs):		
Telenor Maritim Radio Lisensavdelingen P.O.Box 111 Sentrum 0102-Oslo Norway	(47.22) 774350 lisensavdelingen@telenor.com www.maritimradio.no	(47.22) 427072
Coding / Registration / Licensing (ELTs):		
Norwegian Post and Telecommunications Authority Nygård 1, Pb. 93 4791-Lillesand Norway	(47.22) 824600 firmapost@npt.no www.npt.no	(47.22) 824640
Coding / Registration / Licensing (PLBs):		
Norwegian Post and Telecommunications Authority Nygård 1, Pb. 93 4791-Lillesand, Norway	(47.22) 824600 firmapost@npt.no www.npt.no	(47.22) 824640

NOR.6 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available at: https://www.more.no/more/wizard/wizard.jsp?wizardid=5071 and www.maritimradio.no.

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PAKISTAN

PAK.1 REGULATIONS

PAK.1.1 EPIRB

All Pakistani ships under SOLAS Convention (Regulation 7) require a mandatory carriage of a 406 MHz beacon. Ministry of Information Technology and Frequency Allocation Board (FAB) under Ministry of Communication issues the standards for all radio equipments onboard foreign vessels and they are authorized to license for all radio equipment.

Ministry of Ports and Shipping issues certificate after satisfactory operation check of the equipment.

PAK.1.2 ELT

The Air Navigation Order (ANO-007-AWRG-3.0) on aircraft instruments, equipment and documents for flight is issued by Director General Civil Aviation Authority in pursuance of Rules 4, 5, 180, 248, 252, 253, 334 (3), 360 and all other enabling provision of Civil Aviation Rules 1994 (CARs 94). In addition to the minimum equipment necessary for the issuance of a Certificate of Airworthiness, the instruments, equipment and documents prescribed in the Air Navigation Order shall be installed or carried, as appropriate, in aeroplanes/helicopters according to the aeroplanes / helicopter used and to the circumstances under which the flight is to be conducted. The ANO is applicable to all air operators involved in operation of aeroplanes / helicopters in Pakistan.

As per provision of ANO, all aeroplanes/helicopters for which the individual certificate of airworthiness was first issued after 1 January 2002, operated on long-range over-water flights, shall be equipped with at least two ELTs, one of which shall be automatic. Until 1 January 2005 all aeroplanes/helicopters, when operated across land areas which have been designated by the CAA as areas in which search and rescue would be especially difficult, shall be equipped with at least one ELT.

All aeroplanes / helicopters for which the individual certificate of airworthiness was first issued after 1 January 2002, on flights over designated land shall be equipped with at least one automatic ELT.

Note 1: Since 1 January 2009, ELTs are operable on 406 MHz & 121.5 MHz frequencies, in case of General Aviation Operator.

Note 2: ITU Radio Regulations (S5.256 and Appendix S13) provide for the use of 243 MHz in addition to the above frequencies.

PAK.1.3 PLBs

PAK.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Pakistan	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

PAK.1.4 Registration of 406 MHz Emergency Beacons

Whenever, a beacon or aircraft/vessel containing 406 MHz beacon (ELT/EPIRB/PLB) is purchased by an entity in Pakistan, it must be registered in databases with IBRD and the Pakistan Mission Control Center (PAMCC).

The ELT/EPIRB/PLB registration database is maintained by the PAMCC. In addition, if an emergency beacon is replaced or becomes obsolete, this information should be provided to PAMCC to ensure upto date info in the database.

Further information about distress beacons and conditions of carriage can be obtained from PAMCC at Karachi**.**

All enquiries about distress beacons in Pakistan region can be directed to PAMCC, SUPARCO HQs at Karachi.

PAK.2 CODING METHODS

PAK.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
463	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

PAK.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
463	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

Notes: (1) If national serial numbers are to be used, the Cospas-Sarsat Type Approval number (TAC) should NOT be inserted and bit 43 should be set to "0". If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.

(2) If programming the ELT with the aircraft Registration marking do not insert extraneous characters such as '/1' or '/2' after the aircraft registration making to indicate multiple ELTs on board the same aircraft.

(3) Do not program an ELT as another beacon type of EPIRB or PLB.

(4) An ELTs installed in an aircraft connected to a dongle must ensure the Hex ID programmed into the dongle matches the ID coded in the ELT and vice versa.

(5) Any changes in coding should be carried out by beacon manufacturer.

PAK.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
463	Y	Y		N

PAK.3 LIST OF BEACON MODELS TYPE APPROVED BY PAKISTAN

3.1 Pakistan has a policy of self-regulation with regard to meeting the requirements of the emergency beacons. ELTs for sale in Pakistan are required to comply with Pakistan Civil Aviation Authorities Regulations.

3.2 ELTs used in aircraft are of the following types:

The new 406 MHz TSO-126 ELT is the only type of ELT detected by Cospas-Sarsat after 1 February 2009.

3.3 Types Being Phased Out:

TSO-C91 - 121.5 / 243 MHz unregistered - have not been permitted for new installations since June 21, 1995;

TSO-C91a - 121.5 / 243 MHz unregistered – was the replacing standard; most current aviation ELTs are of this type.

3.4 ELT sub-classification

ELTs for aircraft may be classed as follows:

- A ELT, automatically ejected
- AD ELT, automatic deployable
- F ELT, fixed
- AF ELT, automatic fixed
- AP ELT, automatic portable
- W ELT, water activated
- S ELT, survival.

PAK.4 BEACON TESTING REGULATIONS

4.1 In rare circumstances, there may be a need to activate a 406 MHz beacon in its operational mode for test or training purpose. Regardless of the beacon's location or the duration of activation, a 406 MHz beacon would be detected by at least one or more ground receiving stations. The resulting distress alert message would be routed to every MCC in the Cospas-Sarsat System.

4.2 Request to conduct a live beacon test should be directed to the PAMCC. When making a request the following information should be provided:

- Objective of the test;
- Description of the test;
- Location of the test;
- Date, time and duration of the test;
- Beacon 15 hexadecimal ID;
- Point of contact for the test.

4.3 Activating a beacon for reasons other than to indicate a distress situation or without the prior authorization from a COSPAS-SARSAT MCC is considered an offence in many countries of the world, and result in prosecution.

4.4 If a beacon is in advertently activated in its operational mode the PAMCC should contact its associated RCC as soon as possible.

PAK.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Registration (EPIRBs, ELTs, PLBs):		
Project Director, PAMCC Off University Road, Sector 28 Gulzar-e-Hijri, SPARCENT SUPARCO, Karachi 25750, Pakistan	(92.21) 34690793 34690840 sckhi@suparco.gov.pk	(92.21) 34690795 34690797
Chief Rescue Coordinator Rescue Coordination Centre (RCC) Pakistan Civil Aviation Authority Jinnah International Airport, Karachi Pakistan	(92.21) 99242401 rcckarfir@caapakistan.com.pk	(92.21) 92242404

The carriage of 406 MHz beacons is authorized on a voluntary basis. Steps have been initiated for introducing regulations for mandatory carriage of these beacons on ships and aircraft.

PAK.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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PERU

PER.1 REGULATIONS

PER.1.1 EPIRBs

Regulatory responsibilities for requiring ships to carry 406 MHz beacons are in article D-040302 of the Maritime, riverine and lake activities control and surveillance regulation (D.S. 028 DE/MGP dated 25 May 2001) and in Resolution R.D. No. 297-2007/DGC dated 19 July 2007, issued by the General Directorate of Captaincies and Coastguards. Both regulations provide that:

All vessels greater than 20 GRT
All vessels with navigation beyond fifteen nautical miles off-shore.
406 MHz beacons have been approved by General Directorate of Captaincies and Coastguard

The General Director of Captaincies and Coastguards added from 2007 the mandatory carriage in Peru of 406 MHz beacons for all vessels larger than 13.30 AB and for all vessels navigating beyond seven miles from the coast.

The General Director of Captaincies and Coastguards approved national beacon registration regulation from 2007.

PER.1.2 ELTs

Article 91.207 of chapter VI, part 91, sub part C of the Peruvian Aeronautical Regulations (RAP) of General Directorate of Civil Aviation, on regulations of emergency locator transmitters (ELTs), it provides that:

All large aircraft under national or foreign license that are assigned to Regular and Non-Regular Commercial Air Transportation in national Companies and that operate within Lima Flight Information Regions (FIR LIMA) in the National [Peru] Territory, including the higher and lower Airspace, shall incorporate Emergency Locator Transmitters (ELTs) on 406 MHz and 121.5 MHz.

All small aircraft under national or foreign license that are assigned to Regular and Non-Regular Commercial Air Transportation in National companies and that operate within Lima Flight Information Regions (FIR LIMA) in the National [Peru] Territory, including the higher and lower Airspace, shall incorporate Emergency Locator Transmitters (ELTs) on 406 MHz and 121.5 MHz.

All General Aviation aircraft under national license that operate within Lima Flight Information Regions (FIR LIMA) in the National [Peru] Territory, including the higher and lower Airspace, shall incorporate Emergency Locator Transmitters (ELTs) on 406 MHz and 121.5 MHz.

406 MHz and 121.5 MHz transmitters must comply with requirements applicable of the standard technical order TSO-C91, TSO-C126 or the equivalent acceptable to General Directorate of Civil Aviation.

PER.1.3 PLBs

This Administration is working in a proposal of legislation for the use of 406 MHz Personal Locator Beacons in the National Territory in the near future.

PER.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Peru	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

PER.1.4 Beacon Database

The Peruvian 406 MHz Beacon Registration Database supports EPIRBs, ELTs and PLBs. The registration of 406 MHz EPIRBs, ELTs and PLBs is mandatory by Resolution R.D. No. 296-2007/DGC dated 19 July 2007, issued by the General Directorate of Captaincies and Coastguards.

Coastguard Operations Command of the General Directorate of Captaincies and Coastguard is responsible for the Peruvian Mission Control Centre (PEMCC) and responsible for all 406 MHz beacon registration and beacon registration database maintenance.

PER.2 CODING METHODS

PER.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
760	N	N	Y	N	N	Y	N	N	Y	Y

PER.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Serial User			Aviation User
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
760	Y	N	N	N	Y	N	Y	N	Y	N	Y	Y

PER.2.3 PLB Coding Methods

Not available.

PER.3 LIST OF BEACON MODELS TYPE APPROVED BY PERU

No.	Beacon Manufacturer	406 MHz Model	Application
1	ACR ELECTRONICS, INC	RLB-27	EPIRB
		RLB-28	EPIRB
		RLB-32	EPIRB
		RLB-33	EPIRB
		PLB-100	PLB
2	ALDEN SATFIND 406 Mhz SURVIVAL	S-1010	EPIRB
		S-1015	EPIRB
3	ARTEX	ELT 110-406 NAV	ELT
		C406-1	ELT
		C406-2	ELT
		C406-4	ELT
		ME-406	ELT
4	GME	MT-401FF	EPIRB

No.	Beacon Manufacturer	406 MHz Model	Application
		MT401	EPIRB
		MT-403	EPIRB
5	JRC	JQE-3A	EPIRB
6	KANNAD	406 WH	EPIRB
		406 FH	EPIRB
		406 m.	PLB
		406 ATP	ELT
		406 AF-COMPAC	ELT
7	MCMURDO, E3a SOS RESCUE	406 a	EPIRB
8	MCMURDO LOCAL	LDT61A	EPIRB
		sos 406a	EPIRB
9	SANYUNG	SEP-406	EPIRB
10	SARACOM	EB-10	EPIRB
		EB-10	EPIRB
11	SATFIND	406 PRO	EPIRB

PER.4 BEACON TESTING REGULATIONS

Not available.

PER.5 POINTS OF CONTACT FOR 406 MHZ BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	TELEX	FAX
General Directorate of Captaincies and Coastguard 150 Constitucion Street Callao, Peru	(51.1) 6136840 6136843 6136868 comoperguard@dicapi.mil.pe pemcc@dicapi.mil.pe comoperguard.mrccperu@dicapi.mil.pe comoperguard.pemcc@dicapi.mil.pe	(36) 26071 PE DICAPI	(51.1) 4121913 4121916
Coastguard Operations Command, Base Naval del Callao, Callao-Peru	(51.1) 4200766 4299798 4291547 4202020	(36) 26042 PE DICAPI	(51.1) 4299798 4291547

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	TELEX	FAX
General Directorate of Civil Aviation 1203 Zorritos Street Lima, Peru	(51.1) 6157800 Ext 1691		(51.1) 6157808

PER.6 BEACON REGISTRATION FORMS

Regulation for beacon registration cards is providing in Resolution R.D. No. 296-2007/DGC dated 19 July 2007, of the General Director of Captaincies and Coastguards.

Online beacon registration forms (appropriate website address) are not available.

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POLAND

POL. 1 REGULATIONS

POL.1.1 General

EPIRBs, ELTs and PLBs are regarded as means of telecommunications. Therefore are required to obtain the appropriate licence from the Polish Telecommunication Authority for establishment and use of its telecommunication means.

POL.1.2 EPIRBs

All cargo seagoing ships above 300 GRT and passenger ships shall be equipped with a 406 MHz EPIRB. Voluntary carriage of 406 MHz EPIRB is permitted on Polish non SOLAS vessels and pleasure yachts. All fishing vessels in areas outside GMDSS sea area A1 are required to carry a float-free satellite EPIRB. Only coding with MMSI is permitted. The Office of Electronic Communications issues an MMSI number to each ship for radio equipment.

The regulation of Minister of Transport, Construction and Maritime Economy in regard to beacon registration was signed on 4 September 2013, OJ 13.1132.

CAA decided that Serial User Protocol and Standard Location Protocol with EPIRB serial number shall be used for coding of EPIRB used by aircraft in Poland.

POL.1.3 ELTs

Polish requirements concerning the equipment of aircraft of ELTs follow provisions, recommendations and standards laid down by ICAO Convention (Annex 6, Vol. I, II, III), JAA (JAR OPS 3.820) and European Regulations (Commission Regulation (EC) No. 859/2008).

POL.1.4 PLBs

406 MHz PLBs are allowed for personal use in Poland on land, in aircraft and at sea.

POL.1.4.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Poland	R	R	R	A radio licence issued by Polish Office of Electronic Communication is required.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

POL.1.5 Beacon Registrations

All 406 MHz beacons carried by Polish registered aircraft require registration and appropriate coding.

POL.1.6 Beacon Database

There is the national database for EPIRBs, ELTs and PLBs in Poland. The database is compiled by the Polish Civil Aviation Authority.

POL.2 CODING METHODS

POL.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location*		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number***	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB ~~Unique~~ with Serial Number***	Serial nr Assigned by Competent Administration
261	Y	N	N	N	Y	N	N	Y	Y	N

POL.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location*			National Location
	Unique ELT Serial Number*	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Unique ELT Serial Number*	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administra-tion
261	Y	N	Y	Y	Y	N	Y	Y	Y	N	Y	N

POL.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location*	National Location
	Unique PLB Serial Number**	Unique PLB Serial Number**		Serial Number Assigned by Competent Administration
261	Y	Y		N

Notes: * Device serial number assigned by a manufacturer with the Cospas-Sarsat type approval certificate number. The protocol is allowed for ELT (AP) and ELT (S) beacons.

** Device serial number assigned by a manufacturer with the Cospas-Sarsat type approval certificate number.

*** Device serial number assigned by a manufacturer with the Cospas-Sarsat type approval certificate number. The protocol is allowed to EPIRB that is an equipment of aircraft.

POL.3 LIST OF BEACON MODELS TYPE APPROVED BY POLAND

Not available.

POL.4 BEACON TESTING REGULATIONS

The distress beacons should only be activated when a ship, aircraft or a person is in distress. In between the manufacturers' recommended maintenance and battery replacement cycles, the beacon can be tested by the owner using the self-test capability to ensure the continued functionality of the beacon.

There is normally no need for the beacon to be tested in an operational mode by a beacon owner.

All beacon types (EPIRBs, ELTs, and PLBs) can be tested at any time using the self-test functions without any notification to ARCC Warsaw.

If a beacon is inadvertently activated in its operational mode a beacon's owner should contact ARCC Warsaw as soon as possible. The contact details to ARCC Warsaw:

Phone: +48 22 68 28 911
+48 22 68 28 912
Fax: +48 22 68 28 797
E-mail: arcc@sp.mil.pl

In rare circumstances there may be a need to active a beacon in its operational mode for test or training purposes e.g., search and rescue training exercises. Requests to conduct a live beacon test should be sent by fax or email to Civil Aviation Authority three days before the test. The contact details to Civil Aviation Authority are available in section POL.7

The information about test should be provided:

- objective of the test,
- description of the test,

- location of the test,
- date, time and duration of the test,
- beacon Hex ID (15 hexadecimal characters),
- point of contact for the test.

POL.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Polish Civil Aviation Authority Air Navigation Department 2 Marcina Flisa St. 02-247 Warsaw, Poland	(48.22) 5207227 asar@ulc.gov.pl www.ulc.gov.pl	(48.22) 5207226

POL.6 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available at: http://www.ulc.gov.pl/index.php?option=com_content&task=view&id=316&Itemid=327.

RUSSIA

RUS.1 REGULATIONS

RUS.1.1 EPIRBs

RUS.1.1.1 Coding, Registration and Maintenance

Document No. CTO MCC.02-2009 "Provision on Registration of Emergency Radio Beacons of the International Cospas-Sarsat System" was approved by the Federal Agency on Maritime and River Transport and the Federal Agency of Air Transport, came into force on 1 February 2009.

Document No. CTO MCC.02-2009 is applied to all kinds of 406 MHz Cospas-Sarsat radio beacons, i.e., EPIRBs, ELTs and PLBs.

CTO MCC.02-2009 establishes mandatory registration of 406 MHz Cospas-Sarsat radio beacons at the Russian national beacon registration database and defines, in particular, requirements on radio beacons registration and re-registration, procedures for registration, points of contact and other registration details.

Annex 1 to CTO MCC.02-2009 includes beacon registration forms.

Annex 2 to CTO MCC.02-2009 consists of instructions how to fill-in registration forms.

Annex 3 to CTO MCC.02-2009 includes samples of confirmation on registration of emergency radio beacon in the Russian national registration database.

Annex 4 to CTO MCC.02-2009 consists of countries list which have made a request to register their emergency radio beacons in Russian national registration database.

CTO MCC.02-2009 refers to the following Cospas-Sarsat System documents: C/S T.001, C/S T.007 and C/S G.005 for 406 MHz Cospas-Sarsat radio beacons coding.

Serial numbers for 406 MHz Cospas-Sarsat beacons are allocated to customers by the Federal State Unitary Enterprise "Morsviazsputnik" upon requests to be forwarded to the Cospas Mission Centre (CMC) which is a department of "Morsviazsputnik".

It is mandatory for the Russian flag ships to keep onboard a confirmation of EPIRB registration issued by the CMC.

Installation of EPIRBs onboard ships flying the flag of the Russian Federation is regulated by the Russian Maritime Register of Shipping (RS) in their document "Rules for the Equipment of Sea-going Ships".

Annual testing and shore-based maintenance is regulated by "Provision on Annual Testing and Shore-based Maintenance of Maritime Emergency Positioning Indicating Radio Beacons

(EPIRBs) of the International Cospas-Sarsat System" (CTO 318.6.23-2006) which was approved by the Federal Agency on Maritime and River Transport, came into force on 10 April 2006.

RUS.1.1.2 EPIRB Type Approval

406 MHz EPIRBs subject to installation on ships flying the flag of the Russian Federation, shall be of type approved by the Federal Agency of Maritime and River Transport (Rosmorrechflot) acting on behalf of the Maritime Administration of the Russian Federation, as well as by the Russian Maritime Register of Shipping (RS). Information on approved EPIRBs is available on the "Morsviazsputnik" website www.marsat.ru and RS website www.rs-head.spb.ru accordingly.

Applications for EPIRB type approval are to be sent both to "Morsviazsputnik" and RS.

RUS.1.2 ELTs

RUS.1.2.1 Coding, Registration and Maintenance

Installation of ELTs onboard aircraft flying the flag of the Russian Federation is regulated by Order of the Ministry of Transport of the Russian Federation of 15 March 2007 No. 29 "On Equipment of Civil Aviation Aircraft by Emergency Locating Transmitters of the Cospas-Sarsat System".

Document No. CTO MCC.02-2009 "Provision on Registration of Emergency Radio Beacons of the International Cospas-Sarsat System" was approved by the Federal Agency on Maritime and River Transport and Federal Agency of Air Transport, came into force on 1 February 2009.

Document No. CTO MCC.02-2009 is applied to all kinds of 406 MHz Cospas-Sarsat radio beacons, i.e., EPIRBs, ELTs and PLBs.

CTO MCC.02-2009 establishes mandatory registration of 406 MHz Cospas-Sarsat radio beacons at the Russian national registration database and defines, in particular, requirements on radio beacons registration, procedures for registration, points of contact and other registration details (see also relevant information about CTO MCC.02-2009 in section RUS.1.1.1).

CTO MCC.02-2009 refers to the following Cospas-Sarsat System documents: C/S T.001, C/S T.007 and C/S G.005 for 406 MHz Cospas-Sarsat radio beacons coding.

Serial numbers for Cospas-Sarsat 406 MHz beacons are allocated to customers by the Federal State Unitary Enterprise "Morsviazsputnik" upon requests to be forwarded to the Cospas Mission Centre (CMC) which is a department of "Morsviazsputnik".
It is mandatory for Russian flag aircraft to keep onboard a confirmation of ELT registration issued by the CMC.

RUS.1.2.2 ELT Type Approval

406 MHz ELTs subject to installation on aircraft, flying the flag of the Russian Federation, shall be of type approved by the Aviation Register of Interstate Aviation Committee.

RUS.1.3 PLBs

RUS.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	**For terrestrial applications**	**In maritime environment**	**On aircraft**	**Comments**
	Country recognises PLB activations	**Country recognises PLB activations**	**Country recognises PLB activations**	
Russia	*[Y / N / R]*	*[Y / N / R]*	*[Y / N / R]*	*TBD*

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

RUS.1.4 Beacon Database

Registration of 406 MHz EPIRBs, ELTs and PLBs is mandatory at the national database.

The CMC provides registration of all 406 MHz Cospas-Sarsat beacons and maintains the database.

Registration forms and rules of registration (document No. CTO MCC.02-2009) are available at the "Morsviazsutnik" website www.marsat.ru/activities/cospascospas-registration/.

RUS.2 BEACONS CODING METHODS

Refer to the following Cospas-Sarsat System documents: C/S T.001, C/S T.007 and C/S G.005.

RUS.3 BEACON TESTING REGULATIONS

Not available.

RUS.4 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Type Approval:		
Morsviazsputnik 2 Building 2 Krasnobogatyrskaya Street P. O. Box 28 Moscow 107564, Russia	(7.495) 9671850 marsat@marsat.ru	(7.495) 9671852
Issue of Serial Numbers:		
Morsviazsputnik 2 Building 2 Krasnobogatyrskaya Street P. O. Box 28 Moscow 107564, Russia	(7.495) 9671850 Ext 541 kazakova@marsat.ru	(7.495) 9671852 9671834
Registration:		
Cospas Mission Centre (CMC) 2 Building 2 Krasnobogatyrskaya Street P. O. Box 28 Moscow 107564, Russia	(7.495) 2360109 2360110 cmc@marsat.ru	(7.495) 2360109 9673020

RUS.5 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available at: http://www.marsat.ru/activities/cospas/cospas-registration/.

SAUDI ARABIA

SAR.1 REGULATIONS

SAR.1.1 EPIRBS

According to regulations of the Saudi Ministry of Transport all Saudi Arabia SOLAS ships have to carry 406 MHz EPIRBs. Voluntary carriage of 406 MHz EPIRBs by non-SOLAS ships is permitted in Saudi Arabia.

SAR.1.2 ELTs

According to the regulations of the General Authority of Civil Aviation (GACA) in Saudi Arabia, since 1 January 2009 all ELTs installed on aircraft registered in Saudi Arabia must operate on the 406 MHz frequency with auxiliary radio-locating device on the 121.5 MHz frequency.

SAR.1.3 PLBs

The private (individual) use of PLBs is permitted in Saudi Arabia as part of a survival kit for aircraft. All PLBs should be registered in the national beacon database at SAMCC. 406 MHz PLBs manufacturers or distributors shall attach folders on the equipment concerning the registration obligation. For more information, please contact: kotaibi@citc.gov.sa.

SAR.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Saudi Arabia	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

SAR.1.4 Beacon Registration

All 406 MHz beacons carried by Saudi Arabia ships, aircraft or individual should be registed in SAMCC database.

SAR.1.5 Beacon Database

A national database for EPIRBs, ELTs and PLBs is maintained by SAMCC.

SAR.2 EPIRB CODING METHODS

MMSI, international call-sign and IMO serial identification number

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location*		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Serial nr Assigned by Competent Administration
403	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes**:** (1) If national serial numbers, as provided by Saudis national authority, are to be used, the Cospas-Sarsat type approval number (TAC) should **NOT** be inserted and bit 43 should be set to "0". If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.

(2) Do not program an EPIRB as another beacon type of ELT or PLB.

SAR.3 ELT CODING METHODS

Actual coding methods are specified by the equipment manufacture but the applicable coding requirements are specified as follows:

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	Identification Data				Identification Data							
	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Administration
403	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: (1) If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.

(2) If programming the ELT with the aircraft Registration marking do not insert extraneous characters such as ‘/1’ or ‘/2’ after the aircraft registration marking to indicate multiple ELTs on board the same aircraft.

(3) Do not program an ELT as another beacon type of EPIRB or PLB.

(4) An ELTs installed in an aircraft connected to a dongle must ensure the Hex ID programmed into the dongle matches the ID coded in the ELT and vice versa.

SAR.4 PLB CODING METHODS

SAR.4.1 PLBs Associated with Individuals

PLBs associated with individuals are registered with Communications and Information Technology Commission (CITC).

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
403	Y	Y		N

SAR.4.2 PLBs Associated with Ships

PLB associated with ships to be coded with MMSI, international call sign and IMO serial number of ships on which they are to be borne.

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location*		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Serial nr Assigned by Competent Administration
403	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

SAR.4.3 PLBs Associated with Aircraft

PLBs associated with aircraft to be coded with 24-bit aircraft address / serial identification number / aircraft operator designator / aircraft nationality and registration marking of aircraft on which they are to be borne.

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	Identification Data				Identification Data							
	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Administration
403	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: (1) If national serial numbers, as provided by Saudis national authority, are to be used, the Cospas-Sarsat Type Approval Number (TAC) should **NOT** be inserted and bit 43 should be set to "0". If the TAC No is to be inserted, bit 43 should be set to "1" and the manufacturer's serial number of the beacon used.

(2) Do not program a PLB as another beacon type of ELT or EPIRB.

(3) PLBs programmed with the Saudi country code shall not transmit the letter 'P' in Morse code over the homing frequency of 121.5MHz.

SAR.5 LIST OF BEACON MODELS TYPE APPROVED BY SAUDI ARABIA

- ELTs: All 406 MHz beacons which are type approved by Cospas-Sarsat.
- EPIRBs: All 406 MHz beacons which are type approved by Cospas-Sarsat.
- PLBs: All 406 MHz beacons which are type approved by Cospas-Sarsat.

SAR.6 BEACON TESTING REGULATIONS

SAR.6.1 Introduction

The International Maritime Organization (IMO) has published guidelines on the annual testing and shore-based maintenance for Emergency Position-Indicating Radio Beacons (EPIRBs).

These guidelines and other international beacon regulations for EPIRBs and ELTs as well as the description in Chapter 1.3 “Testing Your 406 MHz Beacon” are applicable to SAMCC.

There is normally no need for the beacon to be tested in an operational mode by a beacon owner.

The information provided in the following sections provides guidance on beacon testing and the procedures required in the unlikely and unusual event that an operational test of a beacon is required.

The General Authority of Civil Aviation (GACA) does not grant approval for beacon operational tests unless the procedures outlined below have been adhered to.

SAR.6.2 Summary

- All 406 MHz distress beacons can be tested at any time using the self-test functions without any notification to SAMCC; and
- Any test of a 406 MHz distress beacon in the operational mode requires prior approval from SAMCC (Telephone +966 12 6150170) and the requirements set out in Sections 5 and 6 below must be satisfied.

SAR.6.3 Beacon Self-test

All Cospas-Sarsat type approved 406 MHz beacons include a self-test mode of operation. The content of the self-test message always provides the beacon 15 Hex ID, except for location protocol beacons when they are transmitting a self-test message encoded with a GNSS position. The transmission of a self-test GNSS position is optional. The complete self-test transmission is limited to one burst and is activated by a separate switch position.

The manufacturers' instructions on the frequency of performing a self-test and transmission of a self-test GNSS position should be adhered to.

This will limit the likelihood of inadvertent activation and battery depletion.

SAR.6.4 Reasons why Operational Testing Should be Avoided

The self-test function should accommodate most beacon testing. However, there are some occasions when operational testing may be required. These occasions should be limited to the absolute minimum as they impact the Cospas-Sarsat System.

Other than performing a 406 MHz beacon self-test, other reasons for activating a beacon include:

- Prototype beacon testing;
- New beacon models testing;
- Search and rescue training exercises; and
- Cospas-Sarsat ground segment equipment performance.

Beacons activated in the operational or live mode (not using the self-test function) impacts the Cospas-Sarsat space and ground segments and Rescue Coordination Centres (RCCs) worldwide and may inhibit the processing of genuine distress beacon alerts, therefore delaying a response to a distress situation.

SAR.6.5 Operational Testing Requirements

All beacon types (ELTs, EPIRBs and PLBs) can be tested at any time using the self-test function without the need to notify SAMCC.

Operational testing of any beacon type, including ELTs and irrespective of the duration and location is only permitted with prior approval of SAMCC (Telephone +966 12 6150170).

Operational testing can only be permitted under the following circumstances:

- beacon to be coded with the TEST protocol;
- 121.5/243 MHz homing signal is disabled;
- two days notice shall be provided to SAMCC; and
- responses are provided to the questions listed in section 7, A to F, including the Cospas-Sarsat type approval certificate number.

A beacon owner wishing to undertake an operational test of his/her 406 MHz beacon, without the modifications stated above, is normally prohibited as the tests are then dependent upon the Cospas-Sarsat Space and Ground Segments to provide the results of the detection.

SAR.6.6 Operational Testing by Manufacturers and Others

Operational testing of 406 MHz beacons can be performed in screened enclosures to eliminate the risk of false alerts and with the use of test equipment the beacons' performance can be assessed.

This type of testing shall only be undertaken by manufacturers, suppliers and other beacon maintenance staff.

There may be occasions when a compelling argument may be put forward by beacon manufacturers, suppliers and the like to allow operational testing of a 406 MHz beacon without a change to the beacon protocol or the disabling of the 121.5/243 MHz homing transmitter.

Such exceptional requests will be considered on their merits and the following points should be noted:

- the test will be limited in duration (not more than 15 minutes);
- the objective of the test can be met with very limited beacon bursts being detected by the GEO system;
- SAMCC has given clearance for the 121.5/243 MHz transmission;
- the location of the test in latitude and longitude must be provided;
- the timing will be dependent upon mutual visibility between the beacon, the LEO satellite and LEOLUT;
- provision of the information in section 7, including the Cospas-Sarsat type approval certificate number; and
- two days notice to be provided.

SAR.6.7 Beacon Test Coordination Message

A message notifying of the test is required to be distributed to all MCCs worldwide.

The information listed below, A to F, shall be provided by the person requesting an operational test in written form at least 2 days in advance of the requested day of testing to SAMCC.

A. TEST OBJECTIVE:
B. TEST DESCRIPTION:
C. COORDINATS OF LOCATION OF TEST:
D. DATE, TIME AND DURATION OF TEST:
E. BEACON 15 HEXADECIMAL ID:
F- SPECIAL DATA COLLECTION AND PROSSECING REQUIRMENTS:
G. POINT OF CONTACT FOR THE TEST:

SAR.7 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
GACA / SAMCC P.O.Box 15441 Jeddah 21444 Saudi Arabia	(966.12) 6717717 Ext 1840 samcc@gaca.gov.sa	(966.12) 6402855

SAR.8 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are available at www.sanbrd.com

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SERBIA

SRB.1 REGULATIONS

SRB.1.1 EPIRBs

Not available.

SRB.1.2 ELTs

According to national regulations of the Civil Aviation Directorate of the Republic of Serbia and ICAO Annex 10, since 17 March 2010, all ELTs installed on aircraft in Serbia must operate on 406 MHz frequency and br type approved by Cospas-Sarsat.

SRB.1.3 PLBs

SRB.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On Aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Serbia	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

SRB.1.4 Beacon Registration

The Serbian beacon database supports ELTs, EPIRBs and PLBs.

All 406 MHz beacons carried by Serbian aircraft or ships should be registered in national ARCC database.

SRB.2 CODING METHODS

SRB.2.1 EPIRB Coding Methods

Not available.

SRB.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	Identification Data				Identification Data							
	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	Unique ELT Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Administration
279	N	N	N	Y	N	N	N	N	N	N	N	N

SRB.2.3 PLB Coding Methods

Not available.

SRB.3 LIST OF BEACON MODELS TYPE APPROVED BY SERBIA

Not available.

SRB.4 BEACON TESTING REGULATIONS

Not available.

SRB.5 POINTS OF CONTACT FOR 406 MHZ BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME AND ADDRESS	TELEPHONE/ E-MAIL/WEB/AFTN	FAX
Search and Rescue Department of the Civil Aviation Directorate of the Republic of Serbia 144 Boulevard Zorana Djindjica 11070 Belgrade Serbia	(381.11) 2286415 sar-rcc@cad.gov.rs	(381.11) 2286432

SRB.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

SINGAPORE

SIN.1 REGULATIONS

SIN1.1 EPIRBs

All vessels of 300 GRT and above are required to install 406 MHz or 1.6 GHz EPIRBs, from 1 August 1993, in accordance with the 1988 amendments to the 1974 SOLAS Convention. Regulations for the mandatory registration of 406 MHz EPIRBs have been established.

SIN1.2 ELTs

The coverage of 406 MHz ELTs is mandatory on all Singapore registered aircraft. As of 1 February 2009, 121.5 MHz will be used for the homing of SAR vessels.

SIN.1.3 PLBs

SIN.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Singapore	Y	Y	N	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

SIN.1.4 Beacon Database

The Singapore beacon database supports EPIRBs, ELTs and PLBs.

SIN.2 CODING METHODS

SIN.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Serial Number Assigned by Competent Administration
563,644, 565,566	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

SIN.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Serial User			Aviation User
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
563,564, 565,566	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

SIN.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
563,564, 565,566	Y	Y		N

SIN.3 LIST OF BEACON MODELS TYPE APPROVED BY SINGAPORE

Not available.

SIN.4 BEACON TESTING REGULATIONS

Not available.

SIN.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	TELEX	FAX
EPIRBs Registration: Post Operation Control Maritime and Port Authority of Singapore 8th Storey, PSA Vista, 20 Harbour Drive Singapore 117612, Republic of Singapore	(65) 62265539 pocc@mpa.gov.sg	(87) 20021 MARTEL RS	(65) 62279971

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	TELEX	FAX
ELTs Registration:			
Singapore Rescue Coordination Centre 60 Biggin Hill Road Singapore 509950 Republic of Singapore	(65) 65425024 /65412668 CAAS_RCC@caas.gov.sg		(65) 65422548

PLBs Registration:
TBD

SIN.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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SOUTH AFRICA

SAF.1 REGULATIONS

SAF.1.1 General

The Independent Communications Authority of South Africa has introduced legislation regarding the use of PLBs. See Government Gazette (5 March 2007) Notice 243 of 2007.

Further amendments to the legislation to follow.

406 MHz ELTs fitted to South African registered aircraft are required to be registered.

SAF.1.2 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
South Africa	Y	Y	Y	In terms of the current PLB's regulations, PLB's use as replacement for mandatory ELT or EPIRB **is not accepted.** PLBs are only to be coded with serial number and neither MMSI nor registration mark. Beacon regulations are currently under review and any future departure from current provisions will be reported to the Secretariat.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

SAF.2 CODING METHODS

SAF.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
601	Y	N	N	N	Y	N	N	Y	N	N

SAF.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial user			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
601	N	N	Y	Y	N	N	Y	Y	N	N	Y	N

SAF.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial user	User Location	Standard Location	National Location
	PLB with SerialNumber	PLB with Serial Number		Serial Number Assigned by Competent Administration
601	Y	Y		N

SAF.3 LIST OF BEACON MODELS TYPE APPROVED BY SOUTH AFRICA

Only Cospas-Sarsat approved beacons.

SAF.4 BEACON TESTING REGULATIONS

Not available.

SAF.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	TELEX	FAX
Registration (EPIRBs): SASAR, MRCC Cape Town P.O.Box 532 Parow 7499, South Africa	(27.21) 9383310 mrcc@samsa.org.za	095521037	(27.21) 9383319

SAF.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

SPAIN

SPA.1 REGULATIOINS

SPS.1.1 EPIRBs

The Spanish Maritime Administration through its General Directorate for Merchant Marine makes the carriage of 406 MHz beacons mandatory for the following ships:

- All freight ships irrespective of size engaged on international or domestic voyages.
- All passenger ships irrespective of size engaged on international or national voyages.
- All fishing ships of more than 8 metres in length sailing more than 3 miles from the coastline.
- Pleasure crafts sailing more than 12 miles from the coast (for those sailing up to 25 miles a manual activation beacon is allowed).

GPS 406 MHz beacons are mandatory for all Spanish registered fishing ships.

121.5 MHz beacons are no longer allowed in Spanish registered ships.

A life jacket with a 121.5 MHz Man Over Board beacon (PLB) is mandatory for every crewmember of all Spanish registered fishing ships. A directional 121.5 MHz receiver is also required on board.

All 406 MHz beacons must be of a type approved model by the Spanish Administration (see paragraph 4).

The Spanish Administration keeps a registration database for 406 MHz EPIRBs and registration is mandatory for all Spanish registered ships. Database records must be validated every four years (see registration forms model).

SPA.1.2 ELTs

The Spanish Civil Aviation Authority placed regulations on procedures for installation, inspection, registration and acceptance of 406 MHz ELTs, only for aeronautical ELT. Those regulations have been made public in the web site of AESA (www.seguridadaerea.es).

Spain defines the following requirements for aircraft and helicopters:

Aircraft:

Commercial air transportation: 1 or 2 ELTs according to COMMISSION REGULATION (EC) No 859/2008 of 20 August 2008 amending Council Regulation (EEC) No 3922/91 as regards common technical requirements and administrative procedures applicable to commercial transportation by aeroplane:

OPS 1.630 General introduction
(b) Instruments and equipment minimum performance standards are those prescribed in the applicable European Technical Standard Orders (ETSO) as listed in applicable Specifications on European Technical Standard Orders (CS-TSO), unless different performance standards are prescribed in the operational or airworthiness codes. Instruments and equipment complying with design and performance specifications other than ETSO on the date of OPS implementation may remain in service, or be installed, unless additional requirements are prescribed in this Subpart. Instruments and equipment that have already been approved do not need to comply with a revised ETSO or a revised specification, other than ETSO, unless a retroactive requirement is prescribed.

OPS 1.820 Emergency locator transmitter
(a) An operator shall not operate an aeroplane authorised to carry more than 19 passengers unless it is equipped with at least:
1. one automatic emergency locator transmitter (ELT) or two ELTs of any type; or
2. two ELTs, one of which shall be automatic for aeroplanes first issued with an individual certificate of airworthiness after 1 July 2008.
(b) An operator shall not operate an aeroplane authorised to carry 19 passengers or less unless it is equipped with at least:
1. one ELT of any type; or
2. one automatic ELT for aeroplanes first issued with an individual certificate of airworthiness after 1 July 2008.
(c) An operator shall ensure that all ELTs carried to satisfy the above requirements operate in accordance with the relevant provisions of ICAO Annex 10, Volume III.

OPS 1.830 Life-rafts and survival ELTs for extended overwater flights
(a) On overwater flights, an operator shall not operate an aeroplane at a distance away from land, which is suitable for making an emergency landing, greater than that corresponding to:
1. 120 minutes at cruising speed or 400 nautical miles, whichever is the lesser, for aeroplanes capable of continuing the flight to an aerodrome with the critical power unit(s) becoming inoperative at any point along the route or planned diversions; or
2. 30 minutes at cruising speed or 100 nautical miles, whichever is the lesser, for all other aeroplanes, unless the equipment specified in subparagraphs (b) and (c) below is carried.
(b) Sufficient life-rafts to carry all persons on board. Unless excess rafts of enough capacity are provided, the buoyancy and seating capacity beyond the rated capacity of the rafts must accommodate all occupants of the aeroplane in the event of a loss of one raft of the largest rated capacity. The life-rafts shall be equipped with:
1. a survivor locator light; and
2. life saving equipment including means of sustaining life as appropriate to the flight to be undertaken; and
(c) At least two survival emergency locator transmitters (ELT (S)) capable of transmitting on the distress frequencies prescribed in ICAO Annex 10, Volume V, Chapter 2.

OPS 1.835 Survival equipment
An operator shall not operate an aeroplane across areas in which search and rescue would be especially difficult unless it is equipped with the following:
(a) signalling equipment to make the pyrotechnical distress signals described in ICAO Annex 2;
(b) at least one ELT (S) is capable of transmitting on the distress frequencies prescribed in ICAO Annex 10, Volume V, Chapter 2; and
(c) additional survival equipment for the route to be flown taking account of the number of persons on board except that the equipment specified in subparagraph (c) need not be carried when the aeroplane either:
1. remains within a distance from an area where search and rescue is not especially difficult corresponding to:
(i) 120 minutes at the one engine inoperative cruising speed for aeroplanes capable of continuing the flight to an aerodrome with the critical power unit(s) becoming inoperative at any point along the route or planned diversions; or
(ii) 30 minutes at cruising speed for all other aeroplanes, or,
2. for aeroplanes certificated to the Certification Specifications in CS-25 or equivalent, no greater distance than that corresponding to 90 minutes at cruising speed from an area suitable for making an emergency landing.

General aviation: 1 ELT approved according ETSO applicable (STRONGLY RECOMMENDED)

<u>Helicopters</u>:

Commercial air transportation: a number of ELT according to Real Decreto 279/2007.

JAR-OPS 3.630 Introduction
(b) Instruments and equipment minimum performance standards are those prescribed in the applicable Joint Technical Standard Orders (JTSO) as listed in applicable JAR-TSO, unless different performance standards are prescribed in the operational or airworthiness codes. Instruments and equipment complying with design and performance specifications other than JTSO on the date of JAR-OPS implementation may remain in service, or be installed, unless additional requirements are prescribed in this Subpart. Instruments and equipment that have already been approved do not need to comply with a revised JTSO or a revised specification, other than JTSO, unless a retroactive requirement is prescribed.

JAR-OPS 3.820 Automatic Emergency Locator Transmitter (See IEM OPS 3.820)
(a) An operator shall not operate a helicopter unless it is equipped with an automatic Emergency Locator Transmitter (ELT) so, in case of accident, the probability of the ELT transmit a detectable signal is maximum and the probability of the ELT transmit at any other time is minimal.

(b) An operator shall not operate a helicopter in Performance Class 1 or 2 on a flight over water in a hostile environment as defined in JAR-OPS 3.480(a)(12)(ii)(A) at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed, on a flight in support of or in connection with the offshore exploitation of mineral resources (including gas), unless it is equipped with an Automatically Deployable Emergency Locator Transmitter (ELT(AD)).

(c) An operator [shall] ensure that ELT is capable of transmitting on the distress frequencies prescribed in ICAO Annex 10.

JAR-OPS 3.830 Life-rafts and survival ELTs o[n] extended overwater flights (See AMC OPS 3.830)
(a) An operator shall not operate a helicopter on a flight over water at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed when operating in Performance Class 1 or 2, or 3 minutes flying time at normal cruising speed when operating in Performance Class 3 unless it carries:

(1) In the case of a helicopter carrying less than 12 persons, a minimum of one liferaft with a rated capacity of not less than the maximum number of persons on board;

(2) In the case of a helicopter carrying more than 11 persons, a minimum of two liferafts sufficient together to accommodate all persons capable of being carried on board. Should one life-raft of the largest rated capacity be lost, the overload capacity of the remaining life-raft(s) shall be sufficient to accommodate all persons on the helicopter (See AMC OPS 3.830(a)(2));

(3) At least one survival Emergency Locator Transmitter (ELT(S)) for each liferaft carried (but not more than a total of 2 ELTs are required), capable of transmitting on the distress frequencies prescribed in [Appendix 1to JAR-OPS 3.830]. (See [also] AMC OPS 3.830(a)(3));

(4) Emergency exit illumination;

(5) Life saving equipment including means of sustaining life as appropriate to the flight to be undertaken.

JAR-OPS 3.835 Survival equipment (See IEM OPS 3.835)

An operator shall not operate a helicopter in areas where search and rescue would be especially difficult unless it is equipped with the following:

(a) Signalling equipment to make the pyrotechnical distress signals described in ICAO Annex 2;

(b) At least one survival Emergency Locator Transmitter (ELT(S)) capable of transmitting on the distress frequencies prescribed in ICAO Annex 10 (see AMC OPS 3.830(a)(3)); and

(c) Additional survival equipment for the route to be flown taking account of the number of persons on board (see AMC OPS 3.835(c)).

General aviation: 1 ELT approved according ETSO applicable (STRONGLY RECOMMENDED)

Spain follows an internal Instruction over procedures of Acceptance, Installation, Inspection and Registration of 406 MHz Emergency Aeronautic Beacons which defines the conditions

of acceptance of the 406 MHz ELTs and establishes, inside the AESA, the Registry of 406 MHz Aeronautic Beacons.

AESA only register beacons installed in civil aircraft with Spanish registration mark (EC-) and exceptionally, according to Article 83 bis of Convention on International Civil Aviation (Chicago Convention), beacons installed in aircraft with other registration marks if these aircrafts are under an Spanish AOC and the ELTs are not registered in the other country.

The acceptance conditions of 406 MHz ELTs requests that the equipment meet the following requirements:

- Approval Certificate of Cospas-Sarsat;
- ELTs must comply with ETSO 2C-91A y/o 2C-196

There is a registration database and 406 MHz ELT registration is mandatory for ELTs installed in aircraft under a Spanish AOC. For ELTs installed in other aircraft (general aviation) is strongly recommended.

EPIRBs and PLBs will not be registered in the ELT database.

SPA.1.3 PLBs

SPA.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	Comments
Spain	N	R *	*[N or R]*	* PLBs with country code Spain, in maritime environment, are only allowed by the Spanish Administration, provided they are associated to a vessel where it is not mandatory to install EPIRB and should be programmed with its MMSI and installed only for use in that vessel.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed /

Restrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

SPA.2 CODING METHODS

SPA.2.1 EPIRB Coding Methods

Country Code	EPIRB Coding Methods		
	Serial Number	MMSI	Call Sign
224, 225	N	Y	N

SPA.2.2 ELT Coding Methods

Not available.

SPA.2.3 PLB Coding Methods

Personal Locator Beacons (PLBs) are only allowed by the Spanish Administration, provided they are associated to a vessel and programmed with the MMSI.

Country Code	Coding Methods		
	Serial Number	MMSI	Call Sign
224, 225	N	Y	N

SPA.3 LIST OF 406 MHz BEACON MODELS TYPE APPROVED IN SPAIN

Beacon Manufacturer	406 MHz Beacon Model	C/S Type Approval Certificate Number	Spanish Type Approval Certificate Number (*)	Beacon With GPS	Spanish Type Approval Expire Date
ACR Electronics	RLB 23-E		65.0004	N	31/03/1998
	SATELLITE 406		65.0010	N	07/07/2004
	GLOBALFIX RLB-35		65.0020	S	**03/10/2011**
	GLOBALFIX IPRO		65.0041	N	01/04/2010
	RAPIDFIX RLB-33 CAT I		65.0018	N	04/05/2007
	SATELLITE 2 RLB-32 CAT I		65.0017	N	**18/06/2012**
	GLOBALFIX IPRO RLB-36		65.0041	N	**18/06/2012**
	GLOBALFIX PRO RLB-37 (CAT I GPS)		65.0043	S	**18/06/2012**
	AQUAFIX 406 PLB 200 GPS				
	AQUAFIX 406 PLB 201		62.0016	N	**12/03/2012**
	SATELLITE 2RLB-32 CAT II		62.0017	S	**18/05/2012**
	PLB-300		62.0024	N	**18/06/2012**
	AQUALINK PLB-350B		62.0028	N	**01/04/2012**
			62.0038	N	**06/08/2014**
DEBEG	DEBEG 3545		65.0026		19/06/2006
SIMRAD	EG50 AUTO (GPS)		65.0033	S	**24/08/2011**
	EP50 AUTO		65.0034	N	**24/08/2011**
	EG50 Man GPS		62.0020	S	**24/08/2011**
	EP 50 Man		62.0021	N	**24/08/2011**
MP 406	MP-406		65.0028	N	**16/06/2010**
GME	MT401 FF		65.0027	N	29/07/2009
	MT403 FF		65.0037	N	**12/03/2012**
	MT403 FG		65.0038	S	**12/03/2012**
	MT401		62.0025	N	**12/0372012**
	MT403		62.0025	N	**12/0372012**
	MT403 G (GPS)		62.0025	S	**12/0372012**
	MT410		62.0032	N	**30/05/2012**

Beacon Manufacturer	406 MHz Beacon Model	C/S Type Approval Certificate Number	Spanish Type Approval Certificate Number (*)	Beacon With GPS	Spanish Type Approval Expire Date
	MT401G (GPS)		62.0033	S	**30/05/2012**
SAILOR	406MHz		65.0023	N	23/12/2007
	SGE406-II AUTO GPS		65.0035	S	**31/12/2011**
	SE406-II AUTO		65.0036	N	**31/12/2011**
	SGE406-II MAN GPS		62.0022	S	**24/08/2011**
	SE406-II MAN		62.0023	N	**24/08/2011**
NOVA MARINE	RT-260-M		65.0011	N	31/07/2000
CEIS TM	M056		65.0008	N	31/03/1999
ENA	ENASAT-406		65.0007	N	01/03/2002
LOKAT	LDT-61 MK I		65.0006	N	31/07/2008
	LDT-61A		65.0009	N	31/03/2000
JOTRON	TRON 30 S MK II		65.0003	N	01/03/2002
	TRON 40S		65.0012	N	25/08/2008
	TRON 40 GPS		65.0021	S	01/08/2008
	TRON 40 GPS MK II		65.0039	S	**02/04/2013**
	TRON 40S MK II		65.0040	N	**02/04/2013**
LOKATA	406 MH(Y)		65.0001	N	30/06/1997
	406-2A		65.0002	N	31/05/1998
KANNAD/	406 PH/WH		65.0005	N	16/09/1997
MARTEC	406 WH		65.0016	N	**01/11/2009**
	406 PRO		65.0024	N	19/06/2009
	406 PRO GPS		65.0025	S	19/06/2009
	406 AUTO GPS		65.0031	S	**19/06/2010**
	406 AUTO		65.0032	N	**19/06/2010**
	SAFELINK AUTO GPS		65.0042	S	**18/06/2013**
	KANNAD 406 Manual +		62.0018	S	**19/06/2010**
	GPSKANNAD 406 Manual +		62.0019	N	**19/06/2010**
	406 XS3 GPS		62.0029	S	**01/11/2012**
	SAFELINK MANUAL + GPS		62.0039	S	**18/06/2013**
	KANNAD MARINE MANUAL EPIRB		62.0041	N	**31/12/2010**
MCMURDO	RESCUE 406 MHz		65.0013	N	22/12/2007
MCMURDO (Cont.)	E3A		65.0015	N	22/12/2007
	PRECISION 406 EPIRB GPS		65.0019	S	18/12/2007
	G4A 406 GPS		65.0022	S	18/12/2007
	G5 SMARTFIND PLUS GPS		65.0029	S	**24/08/2011**
			65.0030	N	**24/08/2011**
	FASTFIND		62.0012	N	**05/07/2012**
	FASTFIND PLUS		62.0013	S	**05/07/2012**
	E5 SMARTFIND		62.0030	N	**24/08/2011**
	G5 SMARTFIND PLUS (GPS)		62.0031	S	**24/08/2011**
	FASTFIND PLB210 (GPS)		62.0034	S	**19/11/2014**
	FASTFIND PLB200		62.0035	N	**19/11/2014**
	FASTFIND MAX		62.0036	N	**14/05/2013**
	FASTFIND MAXG (GPS)		62.0037	S	**14/05/2013**

* 65 - Automatic and Manual, 62 - Manual.

SPA.4 BEACON TESTING REGULATIONS

Not available.

SPA.5 POINTS OF CONTACT FOR 406 MHZ BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ EMAIL	FAX
Coding/Registration (EPIRBs):		
Mr. Juan A. Alonso Bernal Área de Radiocomunicaciones Marítimas Dirección General de la Marina Mercante Calle Ruiz de Alarcón, 1 28071 Madrid, Spain	(34.91) 5979225 jaalonso@fomento.es	(34.91) 5979176
Mr. Juan Defez Cuevas Área de Radiocomunicaciones Marítimas Dirección General de la Marina Mercante Subdirección General de Seguridad Contaminación e Inspección Marítima Calle Ruiz de Alarcón, 1 28014 Madrid, Spain	(34.91) 5979080 jdefez@fomento.es	(34.91) 5979176
Coding/Registration (ELTs):		
Registro de Radiobalizas Aeronáuticas de 406 MHz Servicio de Ingeniería Operacional Dirección de Seguridad de Aeronaves Agencia Estatal de Seguridad Aérea Pº Castellana, 67 28071 Madrid, Spain	operacional.aesa@fomento.es	(34.91) 5978584

SPA.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

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SWEDEN

SWE.1 REGULATIONS

SWE.1.1 EPIRBs

EPIRB (406 MHz) are mandatory on board with requirements from SOLAS; in addition, there are national requirements for certain vessels. EPIRBs shall normally be coded with MMSI. Registration of EPIRB identities, in the national database registry maintained by Swedish Maritime Administration - Joint Rescue Co-ordination Centre (JRCC), is compulsory.

Vessels falling outside mandatory requirements, including pleasure crafts, may voluntarily be fitted with EPIRB. The EPIRB may be coded with MMSI, call sign, or serial protocol.
Beacons should be registered in the national database registry maintained by Swedish Maritime Administration - JRCC.

SWE.1.2 PLBs

Since 1 October 2006, emergency transmitters on 406 MHz and 121.5 MHz are exempted from licensing and hence, an individual radio license for such transmitter is no longer required. Those transmitters are instead covered by a general license. However, there is still a need to register the beacon. Therefore each beacon must be uniquely programmed.

Every manufacturer is responsible for providing every beacon with a unique serial number in order to facilitate registration of the beacon for the users. The Swedish Administration will not provide serial numbers. PLBs should be registered in the Cospas-Sarsat IBRD database registry which is handled by the Swedish Maritime Administration - JRCC, concerning the Swedish PLBs.

The following protocols are accepted in Sweden:

For PLBs without GPS: **Serial User Protocol** with a serial number with Type Approval Number (TAC). Country code 266.

For PLBs with a GPS or other device that can deliver position data: **Standard Location Protocol** with Type Approval Number (TAC) and a serial number. Country code 266.

SWE.1.2.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet “carriage” requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Sweden	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

SWE.1.3 ELTs and PLBs for Aviation

406 MHz ELT for aviation are mandatory according to LFS 2007:30.

All 406 MHz ELTs shall be registered at the Swedish Transport Agency.

As an option to the required 406 MHz ELT, a PLB with built-in GPS in combination with an automatic ELT operating on 121.5 MHz, may be used for aircraft registered in Sweden before 1 July 2008 and with a maximum certified take-off mass between 500 and 2000 kg used in general aviation and aerial work. For aircraft lighter than 500 kg a single PLB with GPS may be used.

All ELTs shall be coded in accordance with ICAO Annex 10, Volume III, 1st edition, (including all changes up to, and including, no 81), Part II, Chapter 5, section 5.3.2, Appendix 1. Country Code 265.

For ELT installed in Swedish registered aircraft one of the following identifications shall be used:

- Aircraft Registration Marking, or
- ICAO Aircraft 24-bit address

In Life rafts carried on board aircraft one of the following identifications shall be used:

- Aircraft Registration Marking, or
- ICAO Aircraft 24-bit address, or
- ICAO Aircraft Operator Designator and Serial Number

SWE.2 CODING METHODS

SWE.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial number Assigned by Competent Administration
265, 266	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

SWE.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administra-tion
265	N	Y*	Y	Y	N	Y*	Y	Y	N	Y*	Y	N

Note: * Only when used in liferaft.

SWE.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
266	Y	Y		N

SWE.3 LIST OF 406 MHz BEACON MODELS TYPE APPROVED BY SWEDEN

There is no type approval regime in Sweden for EPIRB beacons. Sweden accepts Cospas-Sarsat type approval and conformity assessment procedures in accordance with European Community regulations.

According to European Regulation (EU) 748/2012, Part 21, every ELT installed in Swedish registered aircraft must hold an ETSO-approval issued by EASA. With reference to European regulation (EU) 748/2012, article 6, an approval of a type of ELT issued in Sweden before and valid on the 28th September 2003 is regarded as approved in accordance with this Regulation. Each PLB used aboard Swedish registered aircraft must be of a type approved by Cospas-Sarsat.

For PLB in all other use then mentioned above Sweden accepts Cospas-Sarsat type approval or conformity assessment procedure in accordance with European Community regulations.

SWE.4 BEACON TESTING REGULATIONS

Not available.

SWE.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
EPIRB/PLB:		
Swedish Maritime Administration - JRCC Box 5158 SE-426 05 V. Frölunda Sweden	(46.31) 699060 registrering.epirb@sjofartsverket.se registrering.plb@sjofartsverket.se	(46.31) 648010
ELT:		
Swedish Transport Agency SE-601 73 Norrköping Sweden	(46.771) 503503 lfr@transportstyrelsen.se	(46.11) 189835

SWE.6 BEACON REGISTRATION FORMS

Not available.

SWITZERLAND

SWT.1 REGULATIONS

SWT.1.1 EPIRBs

Carriage of 406 MHz EPIRBs on commercial sea-going ships is mandatory and permitted on sea-going yachts and small boats. The user has to be licensed by the Swiss BAKOM and the beacon must be registered in the national EPIRB database. Beacons must be coded with the MMSI attributed by BAKOM.

SWT.1.2 ELTs

As of 1 January 2002, carriage of 406 MHz ELTs is mandatory for all Swiss registered aircraft engaged in commercial operations. The user has to be licensed by the Swiss BAKOM and the beacon must be registered in the national 406 MHz ELT database (all coding options according to Cospas-Sarsat documentation are approved).

Mandatory carriage of 406 MHz ELTs for all aircraft (except sailplanes, historic and homebuilt aircraft and balloons) introduced on 8 April 2012 in accordance with the ICAO Convention on International Civil Aviation, Annex 6, Part II.

SWT.1.3 PLBs

Switzerland is authorizing the use of PLBs on Swiss territory for all purposes. The beacon must be registered in the national 406 MHz PLB database.

PLB may not be used instead of required 406 ELT when the carriage of such is mandatory.

SWT.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet “carriage” requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Switzerland	R	Y	Y	Note: Terrestrial alerts are relayed to Police. Appropriate SAR action cannot be guaranteed as no legislation and no formal responsibilities/procedures are available. A mobile telephone, emergency radio network access, emergency telephone or satellite telephone are more suitable for raising the alarm in an emergency for some circumstances.

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

SWT.2 CODING METHODS

SWT.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Serial Number Assigned by Competent Administration
269	Y	N	N	N	N	N	N	N	N	N

SWT.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Serial User			Aviation User
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
269	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

SWT.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
269	Y	Y		N

SWT.3 LIST OF BEACON MODELS TYPE APPROVED BY SWITZERLAND

ELT's have to fulfill the requirements of TSO-C126 / JTSO-2C126. The relevant technical requirements are laid down in the documents DO-182 / DO-204 of the RTCA andED.62 of the EUROCAE.

The Federal Office for Civil Aviation Switzerland accepts and validates approvals of ELT's, which have an approval from the relevant authority of the country of the manufacturer or which hold an approval issued by the JAA according JAR21 based on TSO or JTSO. All ELT's require Cospas-Sarsat type approval and need to transmit in the 406MHz band.

SWT.4 BEACON TESTING REGULATIONS

1. Introduction

The International Maritime Organization (IMO) has published guidelines on the annual testing and shore-based maintenance for Emergency Position-Indicating Radio Beacons (EPIRBs).

These guidelines and other international beacon regulations for EPIRBs and Emergency Locator Transmitters (ELTs) as well as the description in Chapter 1.3 “Testing Your 406 MHz Beacon” are applicable to Switzerland.

There is normally no need for the beacon to be tested in an operational mode by a beacon owner.

The information provided in the following sections provides guidance on beacon testing and the procedures required in the unlikely and unusual event that an operational test of a beacon is required.

The Swiss Civil Aviation Authority (FOCA) does not grant approval for beacon operational tests unless the procedures outlined below have been adhered to.

2. Summary

- All 406 MHz distress beacons can be tested at any time using the self-test functions without any notification to RCC Zurich; and
- Any test of a 406 MHz distress beacon in the operational mode requires **prior approval from RCC Zurich** (**Telephone ++41-58-6543938**) and the requirements set out in Sections 5 and 6 below must be satisfied.

3. Beacon Self-test

All Cospas-Sarsat type approved 406 MHz beacons include a self-test mode of operation. The content of the self-test message always provides the beacon 15 Hex ID, except for location protocol beacons when they are transmitting a self-test message encoded with a GNSS position. The transmission of a self-test GNSS position is optional.
The complete self-test transmission is limited to one burst and is activated by a separate switch position.

The manufacturers' instructions on the frequency of performing a self-test and transmission of a self-test GNSS position should be adhered to.

This will limit the likelihood of inadvertent activation and battery depletion.

4. Reasons why Operational Testing Should be Avoided

The self-test function should accommodate most beacon testing. However, there are some occasions when operational testing may be required. These occasions should be limited to the absolute minimum as they impact the Cospas-Sarsat System.

Other than performing a 406 MHz beacon self-test, other reasons for activating a beacon include:

- Prototype beacon testing;
- New beacon models testing;
- Search and rescue training exercises; and
- Cospas-Sarsat Ground Segment equipment performance.

Beacons activated in the operational or live mode (not using the self-test function) impacts the Cospas-Sarsat Space and Ground Segments and Rescue Coordination Centres (RCCs) worldwide and may inhibit the processing of genuine distress beacon alerts, therefore delaying a response to a distress situation.

5. Operational Testing Requirements

All beacon types (ELTs, EPIRBs and PLBs) can be tested at **any time using the self-test function without the need to notify RCC Zurich**.

Operational testing of any beacon type, including ELTs and irrespective of the duration and location is only permitted with prior approval of RCC Zurich (**Telephone ++41-58-6543938**).

Operational testing can only be permitted under the following circumstances:

- beacon to be coded with the TEST protocol;
- 121.5/243 MHz homing signal is disabled;

- two days notice shall be provided to RCC Zurich; and
- responses are provided to the questions listed in **section 7, A to F**, including the Cospas-Sarsat type approval certificate number.

A beacon owner wishing to undertake an operational test of his/her 406 MHz beacon, without the modifications stated above, is normally prohibited as the tests are then dependent upon the Cospas-Sarsat Space and Ground Segments to provide the results of the detection.

6. Operational Testing by Manufacturers and Others

Operational testing of 406 MHz beacons can be performed in screened enclosures to eliminate the risk of false alerts and **with the use of test equipment** the beacons' performance can be assessed.

This type of testing shall only be undertaken by manufacturers, suppliers and other beacon maintenance staff.

There may be occasions when a compelling argument may be put forward by beacon manufacturers, suppliers and the like to allow operational testing of a 406 MHz beacon without a change to the beacon protocol or the disabling of the 121.5/243 MHz homing transmitter.

Such exceptional requests will be considered on their merits and the following points should be noted:

- the test will be limited in duration (not more than 15 minutes);
- the objective of the test can be met with very limited beacon bursts being detected by the GEO system;
- RCC Zurich has given clearance for the 121.5/243 MHz transmission;
- the location of the test in latitude and longitude must be provided;
- the timing will be dependent upon mutual visibility between the beacon, the LEO satellite and LEOLUT;
- **provision of the information in section 7**, including the Cospas-Sarsat type approval certificate number; and
- two days notice to be provided.

7. Beacon Test Coordination Message

A message notifying of the test is required to be distributed to all MCCs worldwide.

The information listed below, A to F, shall be provided by the person requesting an operational test in written form **at least 2 days in advance** of the requested day of testing to RCC Zurich:

AFTN	LSARYCYX
Email	ops@rega.ch
Mailing Address	RCC Zurich REGA Box 1414 CH-8058 Zurich-Airport

A. TEST OBJECTIVE:
B. TEST DESCRIPTION:
C. COORDINATS OF LOCATION OF TEST:
D. DATE, TIME AND DURATION OF TEST:
E. BEACON ID:
F. CONTACT DETAILS OF PERSON ON SIGHT IN CHARGE

SWT.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Registration (ELTs):		
Federal Office of Civil Aviation FOCA P.O.Box CH-3002 Bern Switzerland	(41.58) 4659841 elt@bazl.admin.ch	(41.58) 4657469
Registration (EPIRBs, PLBs):		
Federal Office of Communications Radio Licenses Section P.O.Box CH-2501 Biel-Bienne Switzerland	(41.58) 4675824 affunk@bakom.admin.ch	(41.58) 4655854

SWT.6 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available at: www.swiss-sar.ch.

CHINESE TAIPEI

CHT.1 REGULATIONS

CHT.1.1 EPIRBs

The use of EPIRB is regulated in accordance with the Articles 284 - 1 and 284 - 2 of Regulations on Equipment of Ships (see http://law.moj.gov.tw/LawClass/LawAll.aspx?PCode=K0070016 or http://motclaw.motc.gov.tw/Law_ShowAll.aspx?LawID=H0017018&Mode=0&PageTitle=%E6%A2%9D%E6%96%87%E5%85%A7%E5%AE%B9#, both sites only available in the Chinese language) under supervision of Ministry of Transportation and Communications.

CHT.1.2 ELTs

The use of ELT in an aircraft is regulated according to the Article 118 of Aircraft Flight Operation Regulations (see http://www.caa.gov.tw/en/download/pliad/07-02A%20en1000718.pdf and http://www.caa.gov.tw/en/download/pliad/07-02A%20en%20attachment.pdf) under supervision of Civil Aeronautics Administration (CAA), Ministry of Transportation and Communications.

CHT.1.3 PLBs

The use of PLBs was authorized on 9 November 1999.

CHT.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Chinese Taipei	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

CHT.2 CODING METHODS

CHT.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
416	Y	N	N	N	Y	N	N	Y	N	N

CHT.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
416	Y	Y	Y	Y	N	N	N	N	N	N	Y	N

CHT.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
416	Y	Y		N

CHT.3 LIST OF BEACON MODELS TYPE APPROVED BY CHINESE TAIPEI

Not available.

CHT.4 BEACON TESTING REGULATIONS

Not available.

CHT.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Director Chunghwa Telecom Co., Ltd. Mobile Business Group 9F, No.35, Aiguo East Road Taipei, Chinese Taipei	(886.2) 33166191 33166622 shen3199@cht.com.tw	(886.2) 33166196 33166590

CHT.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

THAILAND

THA.1 REGULATIONS

THA.1.1 EPIRBS

Not available.

THA.1.2 ELTs

Not available.

THA.1.3 PLBs

THA.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Thailand	*[Y / N / R]*	*[Y / N / R]*	*[Y / N / R]*	*TBD*

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

THA.2 CODING METHODS

THA.2.1 EPIRB Coding Methods

Country Code	EPIRB Coding Methods		
	Serial Number	MMSI	Call Sign
567	N	Y	Y

THA.2.2 ELT Coding Methods

Not available.

THA.2.3 PLB Coding Methods

Not available.

THA.3 LIST OF BEACON MODELS TYPE APPROVED BY THAILAND

Not available.

THA.4 BEACON TESTING REGULATIONS

Not available.

THA.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Bangkok RCC Department of Aviation Tang Mahamek Sathorn, Bangkok Thailand 10120	(662) 2860506 bkkrcc@aviation.go.th	(662) 2873186

THA.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

TUNISIA

TUN.1 REGULATIONS

TUN.1.1 EPIRBs

Not availanble.

TUN.1.2 ELTs

Not available.

TUN.1.3 PLBs

TUN.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Tunisia	*[Y / N / R]*	*[Y / N / R]*	*[Y / N / R]*	*TBD*

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

TUN.1.4 Beacon Registration

Action has been initiated for the establishment of a 406 MHz beacon registration database.

TUN.2 CODING METHODS

TUN.2.1 EPIRB Coding Methods

Not available.

TUN.2.2 ELT Coding Methods

Not available.

TUN.2.3 PLB Coding Methods

Not available.

TUN.3 LIST OF BEACON MODELS TYPE APPROVED BY TUNISIA

Not available.

TUN.4 BEACON TESTING REGULATIONS

Not available.

TUN.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Le Directeur General de l'Aviation Civile Ministere du Transport, Cite Montplaisir, 1002 Tunis Tunisia	(216.71) 787675	(216.71) 794227

TUN.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

TURKEY

TUR.1 REGULATIONS

TUR.1.1 EPIRBs

The carriage of 406 MHz EPIRB is mandatory for all Turkish SOLAS Convention vessels on all voyages.

TUR.1.2 ELTs

The Turkish Civil Aviation Authority strictly follows up to all provisions, recommendations and standards of ICAO and JAR-OPS regarding ELT carriage.

TUR.1.3 PLBs

The usage of PLB is allowed in Turkey for personal use on land, in aircraft and at sea.

TUR.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Turkey	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

TUR.1.4 Beacon Registration

EPIRB and ELT registration is mandatory according to national rules for all aircraft operatos and SOLAS Convention vessel operators.

PLB registration is not mandatory but it is strongly recommended by Turkish Administration to all beacon owners.

On-line registration opportunity is available for beacon owners that they can register their beacon easily without sending any registration form by mail, e-mail or fax.

All beacon owners can directly register their beacons on-line on Main SAR Coordination Center (MSRCC) website at: *http://tbrd.udhb.gov.tr/.*

ELT owners should also contact the Turkish Civil Aviation Authority for further requirements.

TUR.1.5 Beacon Database

National 406 MHz Beacon Registration Database is operated by MSRCC Ankara.

It is required all beacon owners to update their registration information as soon as possible if there is any change, if not it is recommended to update annually.

All new beacons in Turkish national database are regularly uploaded to the IBRD.

TUR.2 CODING METHODS

TUR.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standart Location		National Location
	MMSI	Radio call sign	EPIRB with serial number	Radio call sign	MMSI	EPIRB with serial number	Radio call sign	MMSI	Serial number	Serial number assigned by competent administration
271	Y	Y	N	Y	Y	N	Y	Y	N	N

TUR.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standart Location			National Location
	ELT with serial number	Aircraft operator designator and serial number	Aircraft 24-bit address	Aircraft nationality and registration marking	ELT with serial number	Aircraft operator designator and serial number	Aircraft 24-bit address	Aircraft nationality and registration marking	ELT with serial number	Aircraft operator designator and serial number	Aircraft 24-bit address	Serial number assigned by competent administration
271	N	N	Y	Y	N	N	Y	Y	N	N	Y	N

TUR.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standart Location	National Location
	PLB with serial number	PLB with serial number		Serial number assigned by competent administration
271	Y	Y		N

TUR.3 LIST OF BEACON MODELS TYPE APPROVED BY TURKEY

Not available.

TUR.4 BEACON TESTING REGULATION

All beacon owners can test their beacons at any time using self-test function without any notification to TRMCC or MSRCC.

Normaly, there is no need to test beacon in an operational mode. But in some cases, it can be required to test beacon in operational mode. When it is required, it needs prior approval from TRMCC. For such cases, a testing procedure was prepared to be helpful for beacon owners which can be found in MSRCC website under the section of "406 MHz TEST PROSEDÜRÜ" at: *http://aakkm.udhb.gov.tr/.*

TUR.5 POINTS OF CONTACT FOR BEACON MATTERS (CODİNG, REGİSTRATİON AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL	TELEX	FAX
EPIRB – PLB:			
Main Search and Rescue Coordination Center (MSRCC) Gazi Mustafa Kemal Bulv. 128/A Maltepe/Ankara, Turkey	(90.312) 2319105 2313374 trmcc@udhb.gov.tr	427122324 (Inm-C)	(90.312) 2320823 2312902
ELT:			
Civil Aviation Authority Gazi Mustafa Kemal Bulv. 128 Maltepe/Ankara, Turkey	(90.312) 2036019 2036089 oertugrul@shgm.gov.tr aigneci@shgm.gov.tr		(90.312) 2124684

TUR.6 BEACON REGISTRATION FORMS

Online beacon registration forms are available under the section of "EPIRB, ELT,PLB TESCIL" at: *(http://aakkm.udhb.gov.tr/).*

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UNITED ARAB EMIRATES

UAE.1 REGULATIONS

UAE.1.1 EPIRBs

Not available.

UAE.1.2 ELTs

Not available.

UAE.1.3 PLBs

UAE.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
UAE	*[Y / N / R]*	*[Y / N / R]*	*[Y / N / R]*	*TBD*

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

UAE.2 CODING METHODS

UAE.2.1 EPIRB Coding Methods

Not available.

UAE.2.2 ELT Coding Methods

Not available.

UAE.2.3 PLB Coding Methods

Not available.

UAE.3 LIST OF BEACON MODELS TYPE APPROVED BY UAE

Not available.

UAE.4 BEACON TESTING REGULATIONS

Not available.

UAE.5 POINTS OF CONTACT FOR BEACON MATTERS

Not abailable.

UAE.6 BEACON REGISTRATION FORMS

Online beacon registration forms (appropriate website address) are not available.

UNITED KINGDOM

UKM.1 REGULATIONS

UKM.1.1 EPIRBs

The United Kingdom require the mandatory fitting of 406 MHz on all SOLAS vessels, fishing vessels of 15 metres or more in length and vessels under the Large Commercial Yacht code. The voluntary fitting of 406 MHz EPIRBs on non-SOLAS and pleasure vessels is actively encouraged.

The United Kingdom legislation Statutory Instrument 2000 No 1850 - Merchant Shipping (EPIRB Registration) Regulations 2000, requires the compulsory registration of all 406 MHz EPIRBs carried on UK vessels.

The 406 MHz Distress & Security Registry is located at MRCC Falmouth and is responsible for the registration of UK encoded EPIRBs. Upon successful registration, the beacon owner is issued with a copy of the database entry and two "proof of registration labels". The database is validated approximately every 3 years in line with IMO recommendations.

UKM.1.2 ELTs

Regulations introduced within Europe and also by the UK CAA require 406 MHz ELTs to be registered on the UK ELT database. The CAA regulations also specify that the UK country code of 232 to be used and details the acceptable coding protocol options.

On 26 June 2003 the UK CAA, National Air Traffic Services, issued a new Air Information Circular, AIC 57/2003 (Pink 55), replacing AIC 10/2001 (Pink 17), which provides guidance to the aeronautical community on the coding and registration of UK-coded ELTs.

The UK has filed a Notification of Difference with ICAO to ICAO Annex 10, Volume III, Part 2, Chapter 5, Paragraph 2.3, Sub-paragraph 2.3.3, which specifies the setting of bit 26 in the digital message transmitted by an ELT.

All UK-coded ELTs are to be registered, using the form described below in section UKM.7.

After the TG-62 meeting in January 2005, the CAA intend to produce an Air Instruction Circular (AIC) to instruct owners / users on the correct test procedures for ELTs.

The UK Distress & Security Beacon Registry took over responsibility from UKMCC for the registration of UK encoded PLBs carried on-board light aircraft as well as ELTs from 01/10/2012.

UKM.1.3 PLBs

The Licensing authority (OFCOM) has sanctioned licenses for PLBs for use in both maritime and aviation environments. All UK encoded PLBs for maritime use are to be registered on the UK 406 Mhz Distress & Security Beacon Registry at MRCC Falmouth. UK encoded PLBs for aviation use are currently registered on both the UK ELT and the UK Distress &

Security Beacon Registry databases. The current legislation does not allow the use of PLBs overland in the UK, however this is currently under active review.

The UK Distress & Security Beacon Registry took over responsibility from UKMCC for the registration of UK encoded PLBs carried on-board light aircraft from 01/10/2012.

UK started a formation of PLB sub-group.

UKM.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
UK	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

UKM.1.4 Other Beacons

For information relating to the registration of Ship Security Alert System (SSAS) beacons and Simplified-Voyage Data Recorder (S-VDR) beacons please contact the UK Distress & Security Beacon Registry or the SAR Communications Manager based at MRCC Falmouth, Tel: +44 (0) 1326 211569.

UKM.2 CODING METHODS

UKM.2.1 EPIRB Coding Methods

Country Code	EPIRB Coding Methods			
232, 233, 234, 235	**Serial Number**	**MMSI**	**Radio**	**Call Sign**
User Protocols (non-GPS)				
Non-CSTA, bit 43 = 0 Nationally assigned serial no	Y	Y	N	N
CSTA, bit 43 = 1 Manufacturer assigns serial no	Y	Y	N	N
Location Protocols (GPS)				
Standard Location CSTA, Protocol code bits 37-47 = 6 Manufacturer assigns serial no	Y	Y	N	N
National Location Non-CSTA, bits 37-40 = 10 Nationally assigned serial no	Y	N	N	N

UKM.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
232	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y

UKM.2.4 PLB Coding Methods

Country Code	PLB Coding Methods			
232	**Serial Number**	**MMSI**	**Radio**	**Call Sign**
User Protocols (non-GPS)				
Non-CSTA, bit 43 = 0 Nationally assigned serial no	Y	N	N	N
CSTA, bit 43 = 1 Manufacturer assigns serial no	Y	N	N	N
Location Protocols (GPS)				
Standard Location CSTA, Protocol code bits 37-40 = 7 Manufacturer assigns serial no	Y	N	N	N
National Location Non-CSTA, bits 37-40 = 11 Nationally assigned serial no	Y	N	N	N

UKM.3 LIST OF BEACON MODELS TYPE APPROVED BY UK

Not available.

UKM.4 BEACON TESTING REGULATIONS

Not available.

UKM.5 POINT OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Type Approval:		
Navigation Safety		
Maritime and Coastguard Agency (MCA)	(44.2380)	(44.2380)
Spring Place, 105 Commercial Road	329100	329204
Southampton		
Hampshire SO15 1EG		
UK		
Coding / Registration (EPIRBs, PLBs):		
406 MHz Distress & Security Beacon Registry		
MRCC Falmouth,	(44.1326)	(44.1326)
Pendennis Point, Castle Drive	211569	319264
Falmouth		
Cornwall TR11 4WZ		
UK		
Coding / Registration (ELTs):		
UKMCC, ARCC	(44.1309)	(44.1309)
RAF Kinloss	678304	678308
Forres		
Moray IV36 3UH	(44.1309)	(44.1309)
UK	616204	690717
	690469	

UKM.6 BEACON REGISTRATION FORMS

Online beacon registration forms are available at: www.mcga.gov.uk/c4mca/epirb (EPIRBs, PLBs (maritime use)) and www.ukmcc.co.uk (ELTs, PLBs (aviation use)).

UNITED STATES OF AMERICA

USA.1 REGULATIONS

USA.1.1 EPIRBs

Regulatory responsibilities for requiring ships to carry EPIRBs are divided between the United States Federal Communications Commission (FCC) and the United States Coast Guard (USCG). FCC regulations at 80.1085 of Title 47 of the Code of Federal Regulations (47 CFR 80.1085) require passenger ships over 100 gross tons, and cargo ships over 300 gross tons operating in ocean waters, to carry 406 MHz EPIRBs. Coast Guard regulations at 46 CFR Section 199.510 require passenger ships to carry 406 MHz EPIRBs when operating on the Great Lakes and require cargo ships under 300 gross tons to carry 406 MHz EPIRBs when operating in ocean waters or on the Great Lakes. Small passenger vessels under 100 gross tons are required to carry 406 MHz EPIRBs when operating more than three nautical miles from shore in ocean waters and on the Great Lakes, under Coast Guard Regulations at 46 CFR 117.64 and 180.64. Most other commercial vessels not covered by one of the above regulations, including commercial fishing vessels and tugboats, are required to carry 406 MHz EPIRBs when operating more than 3 nautical miles from shore in ocean waters and on the Great Lakes under Coast Guard regulations 46 CFR 25.26. The only commercial vessels not currently required to carry 406 MHz EPIRBs are uninspected passenger vessels (see 46 CFR 25.26-10). Uninspected passenger vessels carry six or fewer passengers and generally resemble recreational boats and yachts.

The United States Code of Federal Regulations can be accessed at: www.access.gpo.gov/nara/cfr/.

All 406 MHz EPIRBs must meet the special requirements as set forth by 47 CFR 80.1061. These requirements dictate that 406 MHz EPIRBs meet the technical and performance standards contained in the Radio Technical Commission for Maritime Services (RTCM) document entitled RTCM Paper 77-02/SC110-STD, "Recommended Standards for 406 MHz Satellite Emergency Position Indication Radio Beacons (EPIRBs)" Version 2.1 dated June 20, 2002. Section 80.1061 further stipulates that 406 MHz EPIRBs must be certified by recognized Cospas-Sarsat and USCG test facilities, that they must be registered with the National Oceanic and Atmospheric Administration (NOAA) and that each EPIRB manufacturer or grantee must include a postage pre-paid registration card printed with the EPIRB identification code addressed to the NOAA/SARSAT Beacon Registration service.

On May 28, 2003 the State of Hawaii became the first state within the USA to enact a statute requiring mandatory EPIRB carriage requirements for any vessel that operates beyond one mile of shore. Enacted on January 1, 2004 under the Hawaii Revised Statutes, Section 2, Chapter 200, a new law that designates and reads:

§200 - Emergency communication devices -

It shall be unlawful to operate in the waters of the State beyond one mile of shore any:

(1) Vessel required to be registered by the State or documented by the United States Coast Guard; or

(2) Manual or sail-propelled vessel not required to be registered by the State or documented by the United States Coast Guard, unless the vessel is equipped with a properly functioning fixed mount or handheld marine VHF-FM radio (156 - 162 MHz band) or 406 MHz emergency position indicating radio beacon.

Canoes, thrill craft, surfboards, and paddleboards shall be exempt from this section. Kayaks and training sailboats shall be exempt from this section when accompanied by at least one vessel that complies with this section.

USA.1.2 SSAS

On 1 July 2004 Chapter XI-2, Regulation 6 of the International Maritime Organization's (IMO) Safety Of Life At Sea (SOLAS) Convention went into effect requiring SOLAS-class vessels to install SSAS systems including those devices that utilize the Cospas-Sarsat System. Subsequent to this, the Radio Technical Committee for Maritime services (RTCM) issued its Recommended Standards for Ship Security Alert Systems (SSAS) using the Cospas-Sarsat System. This Standard sets the U.S. national technical requirements as well as Cospas-Sarsat and SOLAS Regulation XI-2/6 requirements. All 406 MHz SSAS beacons must meet the special requirements as set forth by 47 CFR 80.277. These requirements dictate that 406 MHz SSAS beacons meet the technical and performance standards contained in the Radio Technical Commission for Maritime Services (RTCM) document entitled RTCM Paper 222-2009-SC110-STD, "RTCM Standard 11020.0, Ship Security Alert System (SSAS) Using the Cospas-Sarsat System" dated October 9, 2009. The U.S. Coast Guard will assure that required vessels meet SSAS requirements during its inspection of vessels.

USA.1.3 ELTs

Section 91.207 of U.S. Federal Air Regulation (FAR) establishes the requirement that U.S. registered civil airplanes (some exceptions granted) must have attached to the airplane an approved personal type or an approved automatic type emergency locator transmitter (ELT). The ELT must be in operable condition and meet the requirements of a revised Technical Standard Order (TSO) or later TSOs issued for ELTs.

The Federal Aviation Administration (FAA) issued Technical Standard Order (TSO) C91a on April 29, 1985. The TSO prescribes the minimum performance standard that emergency locator (ELT) equipment must meet in order to be identified with the applicable TSO marking. New models of emergency transmitter equipment to be so identified and that are manufactured on or after the date of this TSO must meet the standards set forth in RTCA Document No. DO-183, Minimum Operational Performance Standards for Emergency Locator Transmitters; Automatic Fixed - ELT (AF), Automatic portable - ELT (AP), Automatic Deployable - ELT (AD), Survival - ELT (S); operating on 121.5 and 243.0 Megahertz, Section 20, dated May 13, 1983.

A final rule and notice regarding the older C91 ELTs was issued on June 21, 1994. The rule requires that newly installed ELTs on U.S. registered aircraft be of an improved design that meets the requirements of the revised TSO or later TSOs issued for ELTs. The rule added that six months after publication the FAA would withdraw TSO C91 authorizations for automatic ELTs, therefore, the TSO C91 model ELTs may not be manufactured after that date.

The FAA issued Technical Standard Order (TSO) C126 on December 23, 1992. The TSO prescribes the minimum performance standard that a 406-MHz emergency locator transmitter (ELT) must meet to be identified with the applicable TSO marking.

The 406 MHz ELTs that are to be so identified and that are manufactured on or after the date of this TSO must meet the minimum performance standards set forth in RTCA Document No. DO-204, "Minimum Operational Performance Standards (MOPS) 406 Emergency Locator Transmitters (ELTs)," Section 2.0, dated September 29, 1989. The four basic types of ELTs are Automatic Fixed - ELT (AF), Automatic Portable - ELT (AP), Survival - ELT (S), and Automatic Deployable - ELT (AD).

The Federal Communication Commission (FCC) Report and Order authorizing the use of 406 MHz ELTs was adopted on May 3, 1993. This FCC action allows 406 MHz ELTs to be used aboard aircraft, requires compliance with RTCA DO-204, certification and testing by independent laboratories, and requires Cospas-Sarsat type approval.

USA.1.4 PLBs

On July 1, 2003 the Federal Communications Commission (FCC) authorized 406 MHz for Personal Locator Beacons (PLB) for nationwide use throughout the United States of America. Under Part 95 of the Commission's Rules, the FCC established a new Subpart H - Personal Locator Beacons (PLB) which provided for licensing individual 406 MHz PLBs, requiring mandatory registration of 406 MHz PLBs with the National Oceanic and Atmospheric Administration (NOAA), and requiring manufacturers of 406 MHz PLBs to comply with the Radio Technical Commission for Maritime Services (RTCM) Recommended Standards for 406 MHz Satellite PLBs.

The new Subpart-H required that 406 MHz PLBs must meet all the technical and performance standards contained in the Radio Technical Commission for Maritime (RTCM) Service document "RTCM Recommended Standards for 406 MHz Satellite Personal Locator Beacons (PLBs)," Version 1.1, RTCM Paper 76-2002/SC110-STD, dated June 19, 2002. Unique among 406 MHz beacons authorized for use in the U.S., the RTCM Standards required that 406 MHz PLBs must contain, as an integral part, a homing frequency operating on 121.5 MHz that shall transmit a unique Morse code "P" identifier which can be interrupted only during the transmission of the 406 MHz signal.

Additional rules under Subpart-H require that before a 406 MHz PLB certification application is submitted to the FCC, the beacon must have obtained certification from a test facility recognized by Cospas-Sarsat, and that the PLB satisfies the standards contained in C/S T.007. Additionally, an independent test facility must certify that the PLB complies with

the electrical and environmental standards associated with the RTCM Recommended Standards. Subpart-H further mandates that PLBs must be registered with NOAA and that each USA country coded PLB manufacturer or grantee must include a postage pre-paid registration card printed with the PLB identification code addressed to the NOAA/SARSAT Beacon Registration service.

USA.1.4.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
USA	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

USA.1.5 Registration and Database

The requirement to register 406 MHz beacons was made mandatory by the Federal Communications Commission under the Code of Federal Regulations. These regulations require all 406 MHz beacons to be registered in the National 406 MHz Beacon Registration Database operated by NOAA and be kept up to date by requiring notification of changes of registration information. NOAA attempts to verify each beacon's registration information every two years. Failure to register a 406 MHz beacon could result in a monetary forfeiture being issued to the owner.

In an effort to provide 406 MHz beacon owners in the U.S. an option to register their beacons online, NOAA has developed an online capability of the National 406 MHz Beacon Registration Database which can be accessed at the following website address: www.beaconregistration.noaa.gov.

The online registration capability enables beacon owners to securely register their 406 MHz emergency beacons directly and immediately, without having to mail or fax a registration form to NOAA. The online registration also enables beacon owners to update and manage their registration information when it changes, thereby increasing the currency of the database and the information used by Search and Rescue (SAR) agencies when they respond to beacon alerts. SAR agencies also benefit from the online database by enabling them to have secure,

direct access and querying capabilities thereby increasing the efficiency of emergency response. Further, the online system also allows NOAA to meet the goals of the Government Paperwork Elimination Act (GPEA) by reducing the volume of paper-based correspondence currently handled.

USA.2 CODING METHODS

USA.2.1 EPIRB Coding Methods

	Country Code	USER PROTOCOLS				LOCATION PROTOCOLS						
		Maritime User		Serial User	Radio Call Sign	User Location (Location in External Field)				Standard Location		National Location
		MMSI	Radio Call Sign	EPIRB with Serial Number*	Radio Call Sign	MMSI	EPIRB with Serial Number*	Radio Call Sign	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by NOAA**
Bits 37-39		010	010	011	110	010	010	011	110			
Bits 37-40										0010	0110	1010
Bits 40-42				010 or 100				010 or 100				
Protocol Allowed	366	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y
Protocol Currently in Use	366	N	Y	Y	Y					N	Y	Y

Notes: * If bit 43 = 0 (National), then bits allocated by NOAA to manufacturers per beacon model or to National Programs. For the former, manufacturers must contact NOAA for bit allocation. For the latter, manufacturers must have National Program Manager contact NOAA for bit allocation.

** Bits allocated by NOAA to National Programs. Manufacturers must have National Program Manager contact NOAA for bit allocation.

USA.2.2 ELT Coding Methods

	Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
		Serial User			Aviation User	User Location (Location in External Field)				Standard Location			National Location
		ELT with Serial Number*	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number*	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by NOAA**
Bits 37-39		011	011	011	001	011	011	011	001				
Bits 37-40										0100	0101	0011	1000
Bits 40-42		000	001	011		000	001	011					
Protocol Allowed	366	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Protocol Currently in Use	366	Y	Y	Y	Y					Y	Y	Y	Y

Notes: * If bit 43 = 0 (National), then bits allocated by NOAA to manufacturers per beacon model or to National Programs. For the former, manufacturers must contact NOAA for bit allocation. For the latter, manufacturers must have National Program Manager contact NOAA for bit allocation.

** Bits allocated by NOAA to National Programs. Manufacturers must have National Program Manager contact NOAA for bit allocation.

USA.2.3 PLB Coding Methods

	Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
		Serial User	User Location	Standard Location*	National Location
		Unique PLB Serial Number*	Unique PLB Serial Number	Unique PLB Serial Number*	Serial Number Assigned by an NOAA**
Bits 37-39		011	011		
Bits 37-40				0111	1011
Bits 40-42		110	110		
Protocol Allowed	366	Y	Y	Y	Y
Protocol Currently in Use	366	Y		Y	Y

Notes: * If bit 43 = 0 (National), then bits allocated by NOAA to manufacturers per beacon model or to National Programs. For the former, manufacturers must contact NOAA for bit allocation. For the latter, manufacturers must have National Program Manager contact NOAA for bit allocation.

** Bits allocated by NOAA to National Programs. Manufacturers must have National Program Manager contact NOAA for bit allocation.

USA.2.4 National User Coding Methods

	Country Code	USER PROTOCOLS
Bits 37-39		100
Bits 40-85		*
Bits 107-112		*
Protocol Allowed	366	Y
Protocol Currently in Use	366	Y

Notes: * Bits allocated by NOAA to National Programs. Manufacturers must have National Program Manager contact NOAA for bit allocation.

USA.2.5 Ship Security Alert System (SSAS) Coding Methods

	Country Code	USER PROTOCOLS
Bits 37-40		1100
Protocol Allowed	366	Y
Protocol Currently in Use	366	Y

USA.3 LIST OF BEACON MODELS TYPE APPROVED BY USA

Not available.

USA.4 BEACON TESTING REGULATIONS

The United States SARSAT Interagency Program Steering Group has established a beacon testing policy and test request process. Information on this policy and process can be found on the United States SARSAT website at: http://www.sarsat.noaa.gov/Beacon%20Testing%20Policy.html

USA.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
Type Approval (EPIRBs):		
United States Coast Guard (CG-ENG) Lifesaving & Fire Safety Standards Division 2100 2nd Street S.W. Washington D.C 20593, USA	(1.202) 372-1392 typeapproval@uscg.mil	(1.202) 372-1925
Type Approval (ELTs):		
Federal Aviation Administration Aircraft Certification and Regulation 800 Independence Avenue SW Washington, DC, USA 20591	(1.202) 2673131 2675596	
Coding / Registration:		
NOAA NSOF, E/SPO53 1315 East West Hwy Silver Spring, MD 20910 USA	(1.301) 8174515 (1.888) 2127283 beacon.registration@noaa.gov www.beaconregistration.noaa.gov	(1.301) 8174565

USA.6 BEACON REGISTRATION FORMS

Online beacon registration forms (EPIRBs, ELTs, PLBs): www.beaconregistration.noaa.gov.

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VIETNAM

VTN.1 REGULATIONS

VTN.1.1 EPIRBs

All ships including passenger ships, regardless of length, general cargo ships with tonnage of 300 GT and above, shall be fitted with EPIRB.

VTN.1.2 ELTs

From 1 January 2005, all aeroplanes operated on extended flights over water and when operated on flights over designated land areas shall be equipped with one automatic ELT.

VTN.1.3 PLBs

VTN.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Vietnam	N	N	N	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

VTN.2 CODING METHODS

VTN.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
574	Y	Y	N	Y	Y	N	Y	Y	N	N

VTN.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial number Assigned by Competent Administration
574	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

VTN.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
574	Y	Y		N

VTN.3 LIST OF 406 MHz BEACON MODELS TYPE APPROVED BY VIETNAM

Not available.

VTN.4 BEACON TESTING REGULATIONS

Not available.

VTN.5 POINTS OF CONTACT FOR 406 MHZ BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
EPIRBs, ELTs, PLBs, SSAS beacons:		
Vietnam Maritime Communication and Electronics Single Member Limited Liability Company (VISHIPEL) 2 Nguyen Thuong Hien Street Minh Khai Ward, Hong Bang District Hai Phong City, Vietnam	(84.31) 3822181 (24/7) 3746464 vnmcc@vishipel.com.vn	(84.31) 3842979 (24/7) 3747062

VTN.6 BEACON REGISTRATION FORMS

The website address for beacon owners to download the beacon registration forms: www.vishiel.com

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3. SUMMARY STATUS OF BEACON REGULATIONS FOR OTHER COUNTRIES (NON-COSPAS-SARSAT PARTICIPANTS)

CROATIA

CRO.1 REGULATIONS

CRO.1.1 EPIRBs

For ships, the obligation to carry EPIRBs is prescribed in line with the Croatian Maritime Code as required by 1974 International Convention on Safety of Life at Sea (SOLAS).

CRO.1.2 ELTs

For Commercial air transport by aeroplane and helicopter, the obligation to carry ELTs is prescribed in European Union Regulation 965/2012.

For other types of operations, the obligation is prescribed in national regulation which is in line with EU Regulation 965/2012.

CRO.1.3 PLBs

Use of PLBs is allowed in Croatia. However, PLBs are not to replace ELTs or EPIRBs on aircrafts or vessels.

CRO.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Croatia	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

CRO.1.4 Beacon Registration

Registration of EPIRBs and ELTs is mandatory in line with IMO and ICAO requirements respectively.

The Croatian Ministry of Maritime Affairs, Transport and Infrastructure is responsible for registration of EPIRBs associated with ships and PLBs.

The Croatian Civil Aviation Agency is responsible for registration of ELTs associated with aeroplanes and helicopters.

CRO.2 CODING METHODS

CRO.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
238	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

CRO.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
238	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CRO.2.3 PLB Coding Methods

Not available.

CRO.3 LIST OF 406 MHz BEACON MODELS TYPE APPROVED BY CROATIA

Not available.

CRO.4 BEACON TESTING REGULATIONS

Cospas-Sarsat distress beacons should only be activated when a ship, aircraft or person is in grave and imminent danger and requiring immediate assistance.

The beacon can be tested by the owner using the self-test capability to ensure the continued functionality of the beacon.

Testing of distress beacons in operational mode must be controlled and performed only when absolutely necessary as this impact the Cospas-Sarsat System and Rescue Coordination Centres (RCCs).

CRO.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL	FAX
Registration EPIRBs/PLBs:		
MRCC Rijeka Senjsko pristanište 3 51000 Rijeka, Croatia	(385.1) 195 mrcc@pomorstvo.hr	(385.51) 312254
Registration ELTs:		
Croatian Civil Aviation Agency Ulica grada Vukovara 284 10000 Zagreb, Croatia	(385.1) 2369312 ccaa@ccaa.hr	(385.1) 2369301
Coding and Type Approval:		
Croatian Regulatory Authority for Network Industries (HAKOM) Roberta Frangeša Mihanovića 9 10110 Zagreb, Croatia	(385.1) 7007 007	(385.1) 7007070

CRO.6 BEACON REGISTRATION CARDS

There are 3 different registration cards, one for each type of beacon, which are downloadable from the web sites:

Registration forms for registration of EPIRBs associated with ships and PLBs are available at official web site of the Ministry of Maritime Affairs, Transport and Infrastucture: http://www.mppi.hr/default.aspx?id=3174.

Registration form for ELTs registration associated with aeroplanes and helicopters is available at Croatian Civil Aviation Agency web site: http://www.ccaa.hr/hrvatski/obrasci_64/.

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ISRAEL

ISR.1 REGULATIONS

ISR.1.1 EPIRBs

All SOLAS vessels are required to carry an EPIRB per international laws and regulations in force. Yachts on international voyages are required to carry a Cospas-Sarsat beacon (EPIRB/PLB).

ISR.1.2 ELTs

Commercial air liners are required to carry an ELT. Private air planes may carrt ELTs on a voluntary basis (new regulations will require all aircraft on international flights to be equipped with ELT).

ISR.1.3 PLBs

PLB use is allowed for private yachts on international voyages and for private citizens.

ISR.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Israel	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

ISR.1.4 Beacon Registration

All beacons are regulated and approved by the Ministry of Communication. All beacon holders required to register their beacons in the Cospas-Sarsat International Beacon Registration Database (406registration.com).

ISR.2 CODING METHODS

ISR.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
428	Y	N	N	N	Y	N	N	Y	N	N

ISR.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
428	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	N

ISR.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
428	Y	Y		N

ISR.3 LIST OF 406 MHz BEACON MODELS TYPE APPROVED BY ISRAEL

Not available.

ISR.4 BEACON TESTING REGULATIONS

In accordance with cospas/sarsat instructions. Live test conducted only by professional inspectors equipped with measuring equipment or authorized laboratories.

ISR.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ EMAIL	FAX
EPIRB/PLB: Mr. Nachman Yaacov	nachmany@mot.gov.il	(972.4) 8632118
ELT: Mr. Ron Hovav	hovavr@mot.gov.il	

ISR.6 BEACON REGISTRATION CARDS

Not available.

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KENYA

KEN.1 REGULATIONS

KEN.1.1 EPIRBs

No Kenya-coded EPIRBs have been registered so far but the Kenya Maritime Authority is aware of the registration process. A registration form is posted on the KCAA website.

KEN.1.2 ELTs

The Aeronautical Information Circular was sent out in 2008.

KEN.1.3 PLBs

The use of PLBs is allowed. The PLB use will be incorporated in SAR regulations.

KEN.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Kenya	Y	Y	Y	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

KEN.1.4 Beacon Registration

Beacon registration is regulated through the Aeronautical Information Circular (2008).

KEN.2 CODING METHODS

KEN.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
634	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

KEN.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
634	Y	N	N	Y	Y	N	N	Y	Y	N	N	Y

KEN.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
634	Y	Y		Y

KEN.3 LIST OF 406 MHz BEACON MODELS TYPE APPROVED BY KENYA

Not available.

KEN.4 BEACON TESTING REGULATIONS

To be incorporated in SAR regulations.

KEN.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL	FAX
Kenya Civil Aviation Authority P.O.Box 30163 00100 Nairobi Kenya	(254.20) 827470 / 827100 info@kcaa.or.ke ats@kcaa.or.ke	(254.20) 822300

KEN.6 BEACON REGISTRATION CARDS

There are two different registration cards, one for each type of beacon, which are downloadable from the web site: www.kcaa.or.ke

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MALTA

MAL.1 REGULATIONS

MAL.1.1 EPIRBs

The use and registration of maritime EPIRBs are regulated by the General Authorisations (Radiocommunications Apparatus) Regulations (S.L.399.40 of the Laws of Malta).

See the "First Schedule" in the following link:
http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11475&l=1

MAL.1.2 ELTs

ELTs are required to be installed on aircraft operated for Commercial Air Transport under Regulation (EU) 965/2012 Part-CAT-.IDE.A and H.

MAL.1.3 PLBs

To-date the use of PLBs is not permitted. However, a regulatory framework on the use of PLBs is currently being prepared.

MAL.1.3.1National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Malta	N	N	N	

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

MAL.1.4 Beacon Registration

ELTs:

Registration is done on AITP-M05 Appendix IV, as filled out and signed by the aircraft owner/operator: http://www.transport.gov.mt/aviation/aircraft/airworthiness/airworthiness-forms

The information from the cards is entered into our database and sent to RCC Malta.

EPIRBs:

All owners of maritime satellite EPIRBs (intended to be used on board Maltese registered vessels) must contact the Merchant Shipping Directorate within Transport Malta (TM) in order to register their equipment by completing a registration form, and if applicable, apply for an MMSI.

If a vessel has been assigned with an MMSI for the VHF DSC radio, the same identity should be programmed in the EPIRB. A vessel may only be assigned one Call Sign and one MMSI.

Once the EPIRB is programmed, the programming certificate should be sent to Transport Malta in order for the related details to be included in the National Database.

MAL.2 CODING METHODS

MAL.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
215, 229 248, 249, 256	Y	N	N	N	N	N	N	Y	N	N

MAL.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
248	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N

ELT Coding Protocols follow the ICAO Annex 10 standard recommendations and are also in line with Cospas-Sarsat instructions.

For long messages the protocols used are decided by the ELT coders.
For short message format the protocol used is the registration marks of the aircraft. In case there is more than one ELT, the coding denotes the number of ELTs on board as part of the protocol.

MAL.2.3 PLB Coding Methods

Country Code	USER PROTOCOLS	LOCATION PROTOCOLS		
	Serial User	User Location	Standard Location	National Location
	PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
--	N	N		N

MAL.3 LIST OF 406 MHz BEACON MODELS TYPE APPROVED BY MALTA

Not available.

MAL.4 BEACON TESTING REGULATIONS

EPIRBs: Not applicable.

ELTs: ELT maintenance is performed following OEM's recommendations. The maintenance tasks are inserted in the Aircraft Maintenance Programme approved by TM CAD.

MAL.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL/WEB	FAX
EPIRBs:		
Transport Malta Merchant Shipping Directorate Malta Transport Centre Xatt l-Ghassara tal-Gheneb Marsa MRS 1917 Malta	(356) 21250360 (356) 99494315 - Mob. mrcsmalta@transport.gov.mt	(356) 21241460
ELTs:		
Transport Malta Civil Aviation Directorate Luqa Airport Luqa LQA 3290 Malta	(356) 25555602 / 5633 (356) 99900611 - Mob. civil.aviation@transport.gov.mt carl.tabone@transport.gov.mt	(356) 21239278

MAL.6 BEACON REGISTRATION CARDS

There are two different registration cards, one for each type of beacon, which are downloadable from the web site.

EPIRBs: Registration form is available at the Secretariat (mail@cospas-sarsat.int).

ELTs: ELT registration is done on AITP-M05 Appendix IV filled up and signed by the aircraft owner/operator: http://www.transport.gov.mt/aviation/aircraft/airworthiness/airworthiness-forms

The information from the cards is entered into the database and sent to RCC Malta.

MONTENEGRO

MNE.1 REGULATIONS

MNE.1.1 EPIRBs

Montenegro has no national regulations for EPIRBs. EPIRB registration procedures are implemented in accordance with the recommendations of the International Maritime Organization (IMO), International Telecommunication Union (ITU) and Marine Equipment Directive 96/98/EC as amended by Commission Directive 2011/75/EU.

MNE.1.2 ELTs

According to Montenegro aviation regulations, an ELT is required to be carried on any aircraft and shall be capable of transmitting simultaneously on 121.5 MHz and 406 MHz.

MNE.1.3 PLBs

Use of PRBs is allowed for non-complex, non-commercial aircraft with seating configuration of six or less.

MNE.1.3.1 National Beacon Regulations for Serial-Coded PLBs

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Montenegro	*[Y / N / R]*	*[Y / N / R]*	*[Y / N / R]*	*TBD*

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments) and with the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

MNE.1.4 Beacon Registration

The registration of ELTs is not mandatory by national regulations.

MNE.2 CODING METHODS

MNE.2.1 EPIRB Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS					
	Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
	MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	Serial Number	Serial Number Assigned by Competent Administration
262	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

MNE.2.2 ELT Coding Methods

Country Code	USER PROTOCOLS				LOCATION PROTOCOLS							
	Serial User			Aviation User	User Location				Standard Location			National Location
	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administration
262	Y	N	Y	Y	N	N	N	N	N	N	Y	N

MNE.2.3 PLB Coding Methods

Not available.

KEN.3 LIST OF 406 MHz BEACON MODELS TYPE APPROVED BY MONTENEGRO

Not available.

MNE.4 BEACON TESTING REGULATIONS

Not available.

MNE.5 POINTS OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TYPE APPROVAL)

NAME & ADDRESS	TELEPHONE/ E-MAIL	FAX
Registration (ELTs): Civil Aviation Agency Josip Broz Tito bb 81000 Podgorica Montenegro	(382.20) 625506 625507 acv@caa.me	(382.20) 625517

MNE.6 BEACON REGISTRATION CARDS

Online beacon registration form (ELTs) is available at: www.caa.me.

4. CODING METHODS USED BY OTHER COUNTRIES (NON-COSPAS-SARSAT PARTICIPANTS)

4.1 EPIRBs[(1)]

Country / Region	Country / Region Code	USER PROTOCOLS				LOCATION PROTOCOLS					
		Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
		MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Serial Number Assigned by Competent Administration
Adelie Island	501	Y[(2)]	N	N	N	Y[(2)]	N	N	Y[(2)]	N	N
Antigua and Barbuda	304	Y	NA	NA	NA	*	*	*	*	*	*
Bahamas	308, 309, 311	Y	N	N	N	*	*	*	*	*	*
Belgium	205	Y	N	N	N	*	*	*	*	*	*
Bermuda	310	Y	N	N	N	*	*	*	*	*	*
Bulgaria	207	Y	N	N	N	*	*	*	*	*	*
Crozet Archipelago	618	Y[(2)]	N	N	N	Y[(2)]	N	N	Y[(2)]	N	N
Egypt	622	Y	N	N	N	*	*	*	*	*	*
Estonia	276	Y	N	Y	N	*	*	*	*	*	*
Fiji	520	Y	Y	Y	Y	*	*	*	*	*	*
Finland	230	Y	N	N	N	*	*	*	*	*	*
French Polynesia	546	Y[(2)]	N	N	N	Y[(2)]	N	N	Y[(2)]	N	N
Georgia	213	Y	Y	Y	Y	*	*	*	*	*	*
Guadeloupe	329	Y[(2)]	N	N	N	Y[(2)]	N	N	Y[(2)]	N	N
Guiana	745	Y[(2)]	N	N	N	Y[(2)]	N	N	Y[(2)]	N	N
Iceland	251	Y	N	N	N	*	*	*	*	*	*
Jamaica	339	Y	NA	NA	NA	*	*	*	*	*	*
Kergelen Islands	635	Y[(2)]	N	N	N	Y[(2)]	N	N	Y[(2)]	N	N
Latvia	275	Y	N	N	N	*	*	*	*	*	*
Liechtenstein	252	Y	N	N	N	N	N	N	N	N	N
Liberia	636	Y	Y	N	Y	*	*	*	*	*	*
Lithuania	277	Y	Y	Y	Y	*	*	*	*	*	*
Malaysia	533	Y	Y	Y	Y	*	*	*	*	*	*
Marshall Islands	538	N	Y	N	Y	*	*	*	*	*	*
Martinique	347	Y[(2)]	N	N	N	Y[(2)]	N	N	Y[(2)]	N	N
Mauritius	645	Y	N	N	N	*	*	*	*	*	*
Mayotte/Reunion	660	Y[(2)]	N	N	N	Y[(2)]	N	N	Y[(2)]	N	N
Mexico	345	Y	N	N	N	*	*	*	*	*	*
New Caledonia	540	Y[(2)]	N	N	N	Y[(2)]	N	N	Y[(2)]	N	N
Panama	351,352, 353, 354, 355, 356, 357,370, 371, 372	Y	NA	N	NA	*	*	*	*	*	*

Country / Region	Country / Region Code	USER PROTOCOLS				LOCATION PROTOCOLS					
		Maritime User		Serial User	Radio Call Sign	User Location			Standard Location		National Location
		MMSI	Radio Call Sign	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Radio Call Sign	MMSI	EPIRB with Serial Number	Serial Number Assigned by Competent Administration
Portugal	263	Y	N	N	N	*	*	*	*	*	*
Romania	264	Y	N	N	N	*	*	*	*	*	*
St. Pierre	361	Y(2)	N	N	N	Y(2)	N	N	Y(2)	N	N
St. Paul	607	Y(2)	N	N	N	Y(2)	N	N	Y(2)	N	N
Ukraine	272	Y	N	N	N	*	*	*	*	*	*
Vanuatu	576	Y	N	N	N	*	*	*	*	*	*
Wallis and Futuna	578	Y(2)	N	N	N	Y(2)	N	N	Y(2)	N	N

Notes: (1) Based on Annex 12 to IMO's GMDSS Master Plan (Satellite EPIRB Registration Information), except when information was provided directly to the Cospas-Sarsat Secretariat.

(2) With a "specific beacon number" between 0 and 8.

Y Used.

N Not used.

NA Not available.

* Information not provided in IMO GMDSS Master Plan.

Information for Adelie Land (501), Crozet Archipelago (618), French Polynesia (546), Guadeloupe (329), Guiana (745), Kerguelen Island (635), Martinique (347), Mayotte/Reunion (660), New Caledonia (540), St. Paul (607), St. Pierre (361), Wallis and Futuna (578) is provided in section 2, subsection "France" (FRA.2.4).

Information for Faroe Islands and Greenlan is available in section 2, subsection "Denmark" (DEN.1.5).

4.2 ELTs

Coutry / Region	Country / Region Code	USER PROTOCOLS				LOCATION PROTOCOLS							
		Serial User			Aviation User	User Location				Standard Location			National Location
		ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	ELT with Serial Number	Aircraft Operator Designator and Serial Number	Aircraft 24-bit Address	Serial Number Assigned by Competent Administra-tion
French Polynesia	546	N(1)	N	N(1)	N	N(1)	N	N(1)	N	Y	N	Y	N
Georgia	213	N	N	Y	Y	NA	NA	NA	NA	NA	NA	NA	NA
Guadeloupe	329	N(1)	N	N(1)	N	N(1)	N	N(1)	N	Y	N	Y	N
Guiana	745	N(1)	N	N(1)	N	N(1)	N	N(1)	N	Y	N	Y	N
Liechtenstein	252	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Martinique	347	N(1)	N	N(1)	N	N(1)	N	N(1)	N	Y	N	Y	N
Mayotte/Reunion	660	N(1)	N	N(1)	N	N(1)	N	N(1)	N	Y	N	Y	N
New Caledonia	540	N(1)	N	N(1)	N	N(1)	N	N(1)	N	Y	N	Y	N
Wallis and Futuna	578	N(1)	N	N(1)	N	N(1)	N	N(1)	N	Y	N	Y	N

Notes: (1) User Protocol can be used by rerogation in few cases.

Y Used.

N Not used.

NA Not available.

Information for French Polynesia (546), Guadeloupe (329), Guiana (745), Martinique (347), Mayotte/Reunion (660), New Caledonia (540), Wallis and Futuna (578) is provided in section 2, subsection “France” (FRA.2.4).

Information for Faroe Islands and Greenlan is available in section 2, subsection “Denmark” (DEN.1.5).

4.3 PLBs

Country / Region	Country / Region Code	USER PROTOCOLS	LOCATION PROTOCOLS		
		Serial User	User Location	Standard Location	National Location
		PLB with Serial Number	PLB with Serial Number		Serial Number Assigned by Competent Administration
Liechtenstein	252	Y	Y		N

Notes: Y Used.

N Not used.

Information for Adelie Land (501), Crozet Archipelago (618), French Polynesia (546), Guadeloupe (329), Guiana (745), Kerguelen Island (635), Martinique (347), Mayotte/Reunion (660), New Caledonia (540), St. Paul (607), St. Pierre (361), Wallis and Futuna (578) is provided in section 2, subsection "France" (FRA.2.4).

Information for Faroe Islands and Greenlan is available in section 2, subsection "Denmark" (DEN.1.5).

5. NATIONAL BEACON REGULATIONS FOR SERIAL-CODED PLBs FOR OTHER COUNTRIES (NON-COSPAS-SARSAT PARTICIPANTS)

PLBs are intended for use by an individual person (i.e., not necessary linked to a ship or an aircraft like EPIRBs and ELTs). They can be used in any environment (e.g., on land, at sea and in aircraft) and installed in a mobile unit (e.g., vessel, aircraft). No beacon transmits properly under water and only EPIRBs are designed to work while floating in water. Ownership and use of PLBs depends on national regulations including, particularly, whether they may meet "carriage" requirements for vessels and aircraft. Generally, PLBs can only be activated manually, with the exception of certain PLBs specifically designed for military use.

Country / Territory	For terrestrial applications	In maritime environment	On aircraft	Comments
	Country recognises PLB activations	Country recognises PLB activations	Country recognises PLB activations	
Liechenstein	R	Y	Y	Note: Terrestrial alerts are relayed to Police. Appropriate SAR action cannot be guaranteed as no legislation and no formal responsibilities/procedures are available. A mobile telephone, emergency radio network access, emergency telephone or satellite telephone are more suitable for raising the alarm in an emergency for some circumstances.
Philillines	Y	Y	Y	There are no regulations yet against the use of PLBs, so CAAP ORCC would accommodate the inclusion of PLBs in the IBRD. Steps are currently being taken to disseminate info on IBRD registration of PLBs.

Note: Information for Faroe Islands and Greenlan is available in section 2, subsection "Denmark" (DEN.1.4.1).

Similar information is avalable in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colours (**Y** = green, allows / **N** = red, not allowed / **R**estrictions = amber (see comments)).

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6. POINTS OF CONTACT FOR BEACON MATTERS FOR OTHER COUNTRIES (NON-COSPAS-SARSAT PARTICIPANTS) (CODING, REGISTRATION AND TYPE APPROVAL)

Information on points of contact for beacon matters for all countries / regions (coding, registration and type bapproval) is available on the Cospas-Sarsat website at intwww.cospas-sarsat.int.

Information on 406 MHz beacon registers, accessible 24 hours a day, seven days a week is also available on website: www.cospas-sarsat.int.

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7. BEACON TEST FACILITIES

Information on beacon test facilities is available on the Cospas-Sarsat website at www.cospas-sarsat.int.

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8. INTERNATIONAL BEACON REGULATIONS

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IMO Assembly
Resolution A.810(19)
adopted on 23 November 1995 *

PERFORMANCE STANDARDS FOR FLOAT-FREE SATELLITE EMERGENCY POSITION-INDICATING RADIO BEACONS (EPIRBs) OPERATING ON 406 MHz

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

RECALLING ALSO regulations IV/7.1.6 and 14.1 of the 1988 amendments to the International Convention for the Safety of Life at Sea (SOLAS), 1974, concerning radiocommunications for the Global Maritime Distress and Safety System (GMDSS), which require, respectively, that ships be provided with a satellite emergency position-indicating radio beacon (EPIRB) and that such EPIRBs shall conform to appropriate performance standards not inferior to those adopted by the Organization,

RECOGNIZING the need to prepare performance standards for float-free satellite EPIRBs operating through a polar-orbiting satellite system on 406 MHz to be used in the GMDSS in order to ensure the operational reliability of such equipment and to avoid, as far as practicable, adverse interaction between such equipment and other communication and navigation equipment on board ship,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its sixty-fifth session,

1. ADOPTS the Recommendation on Performance Standards for Float-Free Satellite Emergency Position-Indicating Radio Beacons (EPIRBs) Operating on 406 MHz set out in the Annex to the present resolution;

2. RECOMMENDS Governments to ensure that float-free satellite EPIRBs operating on the frequency 406 MHz, which form part of the GMDSS:

(a) if installed on or after 23 November 1996, conform to performance standards not inferior to those specified in the Annex to the present resolution;

(b) if installed before 23 November 1996, conform to performance standards not inferior to those specified in the Annex to resolution A.763(18);

Notes: * 1. Paragraph 4 of part B of the Annex was amended by Resolution MSC.56(66) adopted on 3 June 1996.

2. Paragraph 1 of part B of the Annex was deleted, paragraph 2 was renumbered as paragraph 1 and amended, and other paragraphs were renumbered by Resolution MSC.120(74) adopted on 31 May 2001.

(c) if installed before 4 November 1994, conform to performance standards not inferior to those specified in the Annex to resolution A.763(18), except that they need not be provided with 121.5 MHz homing beacon required by 2.3.14 of part A thereof;

3. INVITES the Cospas-Sarsat partners to ensure that any amendments to the specification for Cospas-Sarsat 406 MHz distress beacons be agreed with the Organization prior to their adoption;

4. REQUESTS the Maritime Safety Committee to ensure that any proposed amendments to this resolution be agreed with the Cospas-Sarsat partners prior to their adoption;

5. REQUESTS ALSO the Maritime Safety Committee to review the code assignment method recommended in paragraph 4 of part B of the Annex to this resolution prior to 1 February 1997;

6. REQUESTS FURTHER the Maritime Safety Committee to keep these Performance Standards under review and to adopt amendments thereto, as necessary.

ANNEX

RECOMMENDATION ON PERFORMANCE STANDARDS FOR FLOAT-FREE SATELLITE EMERGENCY POSITION-INDICATING RADIO BEACONS (EPIRBs) OPERATING ON 406 MHz

Part A - GENERAL

1 INTRODUCTION

The satellite emergency position-indicating radio beacon (EPIRB) should, in addition to meeting the requirements of the Radio Regulations, the relevant ITU-R Recommendations and the general requirements set out in resolution A.694(17), comply with the following performance standards.

2 GENERAL

2.1 The satellite EPIRB should be capable of transmitting a distress alert to a polar orbiting satellite.

2.2 The EPIRB should be of an automatic float-free type. The equipment, mounting and releasing arrangements should be reliable, and operate satisfactorily under the most extreme conditions likely to be met with at sea.

2.3 The satellite EPIRB should:

.1 be fitted with adequate means to prevent inadvertent activation;

.2 be so designed that the electrical portions are watertight at a depth of 10 m for at least 5 min. Consideration should be given to a temperature variation of 45°C during transitions from the mounted position to immersion. The harmful effects of a marine environment, condensation and water leakage should not affect the performance of the beacon;

.3 be automatically activated after floating free;

.4 be capable of manual activation and manual deactivation;

.5 be provided with means to indicate that signals are being emitted;

.6 be capable of floating upright in calm water and have positive stability and sufficient buoyancy in all sea conditions;

.7 be capable of being dropped into the water without damage from a height of 20 m;

.8 be capable of being tested, without using the satellite system, to determine that the EPIRB is capable of operating properly;

.9 be of highly visible yellow/orange colour and be fitted with retroreflecting material;

.10 be equipped with a buoyant lanyard suitable for use as a tether, which should be so arranged as to prevent its being trapped in the ship's structure when floating free;

.11 be provided with a low duty cycle light (0.75 cd) active during darkness, to indicate its position to nearby survivors and to rescue units;

.12 not be unduly affected by sea water or oil or both;

.13 be resistant to deterioration in prolonged exposure to sunlight; and

.14 be provided with a 121.5 MHz beacon primarily for homing by aircraft.

2.4 The battery should have sufficient capacity to operate the satellite EPIRB for a period of at least 48 h.

2.5 The satellite EPIRB should be so designed as to operate under any of the following environmental conditions:

.1 ambient temperatures of -20°C to +55°C;

.2 icing;

.3 relative wind speeds up to 100 knots; and

.4 after stowage at temperatures between -30°C and +70°C.

2.6 The installed satellite EPIRB should:

.1 have local manual activation; remote activation may also be provided from the navigating bridge, while the device is installed in the float-free mounting;

.2 be capable, while mounted on board, of operating properly over the ranges of shock and vibration and other environmental conditions normally encountered above deck on seagoing ships; and

.3 be designed to release itself and float free before reaching a depth of 4 m at a list or trim of any angle.

3 DISTRESS FUNCTION

3.1 When the satellite EPIRB is manually operated a distress alert should be initiated only by means of a dedicated distress alert activator.

3.2 The dedicated activator should:

.1 be clearly identified; and

.2 be protected against inadvertent operation.

3.3 Manual distress alert initiation should require at least two independent actions.

3.4 The satellite EPIRB should not be automatically activated after being manually removed from the release mechanism.

4 LABELLING

In addition to the items specified in resolution A.694(17) on general requirements, the following should be clearly indicated on the exterior of the equipment:

.1 brief operating instructions;

.2 expiry date for the primary battery used; and

.3 the identity code programmed into the transmitter.

Part B - SATELLITE SIGNALS

1 The technical characteristics of the transmitted signal and the message format should be in accordance with the requirements of the COSPAS-SARSAT System document C/S T.001.

2 Provisions should be included for storing the fixed portion of the distress message in the satellite EPIRB using non-volatile memory.

3 A unique beacon identification code should be made part of all messages.

This identification code should include a three-digit code for the country in which the beacon is registered, followed by either:

.1 the trailing six digits of the ship station identity in accordance with Appendix 43 of ITU Radio Regulations; or

.2 a unique serial number; or

.3 a radio call sign.

Preference is given to method .1.

4 The 121.5 MHz homing signal should:

.1 have a continuous duty cycle except that it may be interrupted for up to a maximum of 2 s during the transmission of the 406 MHz signal; and

.2 with the exception of the sweep direction, meet the technical characteristics of Appendix 37A of the Radio Regulations. The sweep may be either upward or downwards.

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IMO Assembly
Resolution A.696(17)
adopted on 6 November 1991

TYPE APPROVAL OF SATELLITE EMERGENCY POSITION-INDICATING RADIO BEACONS (EPIRBs) OPERATING IN THE COSPAS-SARSAT SYSTEM

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

NOTING that the Conference of Contracting Governments to the International Convention for the Safety of Life at Sea, 1974 (SOLAS 1974), on the global maritime distress and safety system (GMDSS Conference, 1988) adopted regulation IV/7.1.6 of the 1988 SOLAS amendments, applicable not later than 1 August 1993, requiring the carriage of a float-free satellite EPIRB on every ship as part of the global maritime distress and safety system,

NOTING Assembly resolution A.695(17), "Performance standards for float-free satellite emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz",

NOTING FURTHER resolution 3, "Recommendation on the early introduction of GMDSS elements", adopted by the 1988 GMDSS Conference, which recommends, *inter alia*, that satellite EPIRBs be introduced as early as possible,

RECOGNIZING that satellite EPIRBs forming part of the global maritime distress and safety system and operating through the Cospas-Sarsat satellite system in the frequency band 406-406.1 MHz (406 MHz EPIRBs) should be type approved to ensure the integrity of the Cospas-Sarsat satellite system, to avoid harmful interference to the spaceborne equipment, to exclude unauthorized transmissions and to provide reliable data to rescue co-ordination centres,

RECOGNIZING FURTHER the value of the type approval procedure proposed by the Cospas-Sarsat partners in order to ensure that satellite EPIRBs will not degrade system performance and will be compatible with the spaceborne equipment,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-eighth session,

RECOMMENDS Governments:

(a) to ensure, as part of national type approval procedures, that any new type of 406 MHz satellite EPIRB to be deployed on board ships is tested to confirm that it is in accordance with the IMO performance standards for 406 MHz EPIRBs (resolution A.695(17)); confirmation that the satellite EPIRB meets part B of that performance standard can be achieved by either:

(i) performing, or having performed, under national procedures, all appropriate tests; or

(ii) accepting type approval test results obtained through the Cospas-Sarsat type approval procedure (C/S T.007) and confirmed by the delivery of a Cospas-Sarsat Type Approval Certificate; and

(b) to encourage national type approval authorities to develop test procedures compatible, to the extent possible, with C/S T.007, if necessary in consultation with the Cospas-Sarsat Secretariat.

IMO Assembly
Resolution A.662(16)
adopted on 19 October 1989

PERFORMANCE STANDARDS FOR FLOAT-FREE RELEASE AND ACTIVATION ARRANGEMENTS FOR EMERGENCY RADIO EQUIPMENT

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

RECOGNIZING the need to prepare performance standards for float-free release and activation arrangements for use in the global maritime distress and safety system (GMDSS) for emergency radio equipment to ensue the operational reliability of such equipment,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its sixty-fifth session,

1. ADOPTS the Recommendation on Performance Standards for Float-Free Release and Activation Arrangements for Emergency Radio Equipment, the text of which is set out in the Annex to this resolution;

2. RECOMMENDS Member Governments to ensure that arrangements for the float-free release and activation of appropriate equipment for use in the GMDSS conform to performance standards not inferior to those specified in the Annex to this resolution.

ANNEX

RECOMMENDATION ON PERFORMANCE STANDARDS FOR FLOAT-FREE RELEASE AND ACTIVATION ARRANGEMENTS FOR EMERGENCY RADIO EQUIPMENT

1 Float-free release and activation arrangements enable the automatic release of specified radio apparatus from a sinking ship and its automatic activation.

2 The float-free arrangement should:

.1 be designed so that the release mechanism should operate before reaching a depth of 4 m in any orientation;

.2 be capable of operating throughout the temperature range of -30°C to +65°C;

.3 be constructed of non-corrosive compatible materials, so as to prevent deterioration which may cause any malfunction of the unit. Galvanizing or other forms of metallic coating on parts of the float-free release mechanism should not be accepted;

.4 be constructed to prevent release when seas wash over the unit;

.5 not be unduly affected by seawater or oil or prolonged exposure to sunlight;

.6 be capable of operating properly after exposure to shock and vibration and other severe environmental conditions encountered above deck on seagoing vessels;

.7 if the ship navigates in areas where icing may be expected, be so designed as to minimize the formation of ice and prevent its effects from hindering the release of the radio equipment as far as practicable;

.8 be mounted in such a way that the radio equipment after being released, is not obstructed by the structure of the sinking ship; and

.9 carry a label indicating clearly the operating instructions for manual release.

For radio equipment requiring external power or data connection, or both, the means of connection should not inhibit the release or activation of the radio apparatus.

It should be possible to assess the proper functioning of the automatic release mechanism by a simple method without activation of the radio equipment.

It should be possible to release the radio equipment manually from the float-free mechanism.

IMO Assembly
Resolution A.887(21)
adopted on 25 November 1999

ESTABLISHMENT, UPDATING AND RETRIEVAL OF THE INFORMATION CONTAINED IN THE REGISTRATION DATABASES FOR THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

RECALLING ALSO regulation IV/5-1 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, which requires that each Contracting Government undertakes to ensure that suitable arrangements are made for registering Global Maritime Distress and Safety System (GMDSS) identities and for making information on these identities available to rescue co-ordination centres on a 24-hour basis,

RECOGNIZING the need to continuously update the information contained in the registration databases for the GMDSS,

RECOGNIZING ALSO that the information in such registration databases is essential for search and rescue purposes,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its seventieth session,

1. ADOPTS the Recommendation on the Establishment, Updating and Retrieval of the Information Contained in the Registration Databases for the GMDSS set out in the Annex to the present resolution;

2. RECOMMENDS Governments to ensure that the information contained in the registration databases for the GMDSS and their continuous updating and availability to rescue co-ordination centres is in accordance with the annexed Recommendation;

3. REVOKES resolution A.764(18).

ANNEX

RECOMMENDATION ON ESTABLISHMENT, UPDATING AND RETRIEVAL OF THE INFORMATION CONTAINED IN THE REGISTRATION DATABASES FOR THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)

1 All identities that may be used for identifying ships in distress should be registered in accordance with this resolution and the data should be updated whenever it changes.

2 Every State requiring or allowing the use of these GMDSS systems should make suitable arrangements for ensuring registrations of these identities are made, maintained and enforced.

3 Those responsible for maintaining registration databases for GMDSS equipment should ensure that any MRCC can immediately access the registration data at any time.

4 Means should be provided for the GMDSS equipment licensee, owner or the ship's master to easily and expediently update emergency information in the registration database.

5 All databases for GMDSS equipment should have an identical data format to permit immediate access among each other.

6 All equipment using Maritime Mobile Service Identities (MMSIs) should be registered, if appropriate, with the International Telecommunications Union in accordance with established procedures.

7 All Inmarsat equipment should be registered with Inmarsat.

8 Registration databases should include the following information, noting that the data elements listed are not necessarily those maintained by the radio licensing authority and that not all of the following entries need to be notified to the ITU as long as the national database is identified and is accessible 24-hours per day:

.1 ship name;

.2 Maritime Mobile Service Identity (MMSI);

.3 radio call sign;

.4 EPIRB identification code (if applicable) and its homing frequency;

.5 country (ship flag State; may be derived from MMSI and call sign);

.6 ship identification number (IMO number or national registration number);

.7 brief ship description (type, gross tonnage, ship superstructure, deck colours, identifying marks, etc.);

.8 name, address, telephone and (if applicable) telefax number of emergency contact person ashore;

.9 alternative 24-hour emergency telephone number (alternate contact ashore);

.10 capacity for persons on board (passengers and crew);

.11 radio installations (Inmarsat-A, B, C, M, VHF DSC, etc.) for ship and survival craft;

.12 identification numbers for all radio systems available;

.13 type and number of survival craft; and

.14 date of last modification of database record.

9 For 406 MHz satellite Emergency Position Indicating Radiobeacons (EPIRBs), the country of registration should be coded in accordance with one of the following principles:

.1 if the registration database is maintained by the ship's flag State, use the Maritime Identification Digits (MID) of the flag State;

.2 if the registration database is not maintained by the ship's flag State, use:

.2.1 the MID of the flag State, and inform all concerned where the unique database containing its registry of 406 MHz satellite EPIRBs is located; or

.2.2 serialized protocol with the MID of the country which is maintaining the database.

10 The data record of ships to which SOLAS chapter IV applies should be reviewed, and the database information should be updated annually. Other ships should be encouraged to update their data records annually or at least every other year.

11 Authorities maintaining or using databases should ensure that information described in paragraphs 8.4, 8.8, 8.9 and 8.12 above supplied for GMDSS equipment registration is used only by appropriate recognized SAR authorities.

12 Every State should:

.1 maintain a suitable national database, or co-ordinate with other States of their geographical area to maintain a joint database; and additionally,

.2 for ships which are using GMDSS frequencies and techniques or which are sailing internationally, ensure that the data records of these ships are notified to an international database (e.g. updated ITU database).

13 States should also:

.1 promulgate clear and timely guidance to manufacturers, agents and users on the appropriate coding, registration and updating procedures;

.2 co-operate closely with other States, manufacturers, owners and organizations to help resolve any registration or information-retrieval problems that may arise;

.3 formalize co-operative arrangements between the parties concerned for the maintenance of the joint database;

.4 encourage manufacturers and distributors to advise customers, upon purchase of GMDSS equipment, about registration requirements, and refer unresolved coding and registration issues to proper national authorities for resolution; and

.5 encourage manufacturers and distributors to educate users about the maintenance of GMDSS equipment.

IMO Assembly
Resolution A.814(19)
adopted on 23 November 1995

GUIDELINES FOR THE AVOIDANCE OF FALSE DISTRESS ALERTS

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety and the prevention and control of marine pollution from ships,

CONSIDERING problems reported by Member Governments in regard to the proper operation of the GMDSS, in particular that false distress alerts are becoming a major obstacle to the efficient operation of search and rescue (SAR) services,

RECALLING that the GMDSS was developed on the basis of resolution 6 of the International Conference on Maritime Search and Rescue, 1979, and that according to that resolution the GMDSS should provide, among other things, the essential radio elements of the international SAR plan,

NOTHING that the excessive amount of false distress alerts imposes a considerable and unnecessary burden on Rescue Co-ordination Centres (RCCs), may have adverse effects on seafarers' confidence in the GMDSS, and could also have a potentially serious impact on real distress situations and on safety of life at sea,

BEING AWARE that, if a substantive reduction in the number of false distress alerts now occurring is not achieved in the near future, the quality and efficiency of SAR organizations may be jeopardised,

CONSIDERING that an urgent dissemination of some of the problems which have become evident to providers of rescue services would help to educate people and organizations involved and eventually contribute to a reduction in the number of false distress alerts,

CONSIDERING ALSO that Administrations, manufacturers, educators, users, providers of communications and rescue services, and all others concerned need guidance on ways and means of reducing false distress alerts,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its sixty-fifth session,

1. ADOPTS the Guidelines for Avoiding False Distress Alerts set out in the annex to the present resolution;

2. URGES Governments to bring these Guidelines to the attention of all concerned.

ANNEX

GUIDELINES FOR AVOIDING FALSE DISTRESS ALERTS

1 Administrations should:

.1 inform shipowners and seafarers about the implications of the rising number of false distress alerts;

.2 take steps to enable ships properly to register all GMDSS equipment, and ensure that this registration data is readily available to RCCs;

.3 consider establishing and using national enforcement measures to prosecute those who:

.3.1 inadvertently transmit a false distress alert without proper cancellation, or who fail to respond to a distress alert due to misuse or negligence;

.3.2 repeatedly transmit false distress alerts; and

.3.3 deliberately transmit false distress alerts;

.4 use the International Telecommunication Union violation reporting process for false distress alerts, or for failure to respond a distress alert relayed from shore-to-ship;

.5 ensure that all relevant ship personnel know how GMDSS equipment operates, the importance of avoiding false distress alerts, the steps to be taken to prevent the transmission of such false distress alerts, and the procedures to be followed when a false distress alert has been transmitted;

.6 inform type-approval authorities of false distress alert problems, in order to draw their attention to the testing and alerting functions of radio equipment during the type approval process;

.7 urge companies installing radio equipment to ensure that relevant ship personnel are made familiar with the operation of the installed equipment;

.8 investigate the cause when a specific model of GMDSS equipment repeatedly transmits unwanted distress alerts, and inform the appropriate organizations accordingly;

.9 ensure that surveyors and inspectors are informed about GMDSS equipment, and particularly about how to operate and test it without transmitting a false distress alert; and

.10 require the GMDSS radio operators be appropriately certificated.

2 Manufacturers, suppliers and installers should:

.1 design equipment for distress alerting so that:

.1.1 it will not be possible to transmit a distress alert unintentionally;

.1.2 the panel for emergency operation is separated from the one for normal operation and is partially fitted and a cover, and the switches on the panel are clearly classified by colouring; and

.1.3 there are standardized arrangements of operation panels and operational procedures;

.2 design test features so that the testing of GMDSS equipment will not result in the transmission of false distress alerts;

.3 ensure that any distress alert activation is indicated visually or acoustically, or both, and shows that the equipment is transmitting a distress alert until manually deactivated;

.4 ensure that the satellite EPIRB position on board, installations (inducing the release and activation mechanisms) and handling procedures preclude unwanted activation (designing the EPIRB so that when it is out of its bracket it must also be immersed in water to activate automatically, and so that, when operated manually, a two-step activation action is required);

.5 provide clear and precise operational instructions that are easy to understand (maintenance and operational instructions should be separated, and should be written both in English and in any other language deemed necessary);

.6 ensure that when any GMDSS equipment has been installed, the necessary instructions are given to ship personnel, drawing specific attention to operational procedures (a record should be kept that such instructions have been given); and

.7 ensure that supply and installation personnel understand how the GMDSS works, and the consequences of transmitting a false distress alert.

3 Trainers and educators should:

.1 ensure that maritime education centres are informed about false distress alert problems and their implications for SAR, the GMDSS, etc., and procedures to be followed if a false distress alert is transmitted, and include them in their teaching programmes;

.2 obtain and use actual case histories as examples;

.3 emphasize the need to avoid false distress alerts; and

.4 ensure that no inadvertent transmission of a false distress alert occurs when training on GMDSS equipment.

4 Companies, masters and seafarers should, as appropriate:

.1 ensure that all GMDSS certificated personnel responsible for sending a distress alert have been instructed about, and are competent to operate, the particular radio equipment on the ship;

.2 ensure the person or persons responsible for communications during distress incidents give the necessary instructions and information to all crew members on how to use GMDSS equipment to send a distress alert;

.3 ensure that as part of each "abandon ship" drill, instruction is given on how emergency equipment should be used to provide GMDSS functions;

.4 ensure that GMDSS equipment testing is only undertaken under the supervision of the person responsible for communications during distress incidents;

.5 ensure that GMDSS equipment testing or drills are never allowed to cause false distress alerts;

.6 ensure that encoded identities of satellite EPIRBs, which are used by SAR personnel responding to emergencies, are properly registered in a database accessible 24 h a day or automatically provided to SAR authorities (masters should confirm that their EPIRBs have been registered with such a database, to help SAR services identify the ship in the event of distress and rapidly obtain other information which will enable them to respond appropriately);

.7 ensure that EPIRB, Inmarsat and DSC registration data is immediately updated if there is any change in information relating to the ship such as owner, name or flag, and that the necessary action is taken to reprogramme the ship's new data in the GMDSS equipment concerned.

.8 ensure that, for new ships, positions for installing EPIRBs are considered at the earliest stage of ship design and constructive;

.9 ensure that satellite EPIRBs are carefully installed in accordance with manufacturers' instructions and using qualified personnel (sometimes satellite EPIRBs are damaged or broken due to improper handling or installation. They must be installed in a location that will enable them to float free and automatically activate if the ships sinks. Care must be taken to ensure that they are not tampered with or accidentally activated. If the coding has to be changed or the batteries serviced, manufacturers' requirements must be strictly followed. There have been cases where EPIRB lanyards were attached to the ship so that the EPIRB could not float free; lanyards are only to be used by survivors for securing the EPIRB to a survival craft or person in water);

.10 ensure that EPIRBs are not activated if assistance is already immediately available (EPIRBs are intended to call for assistance if the ship is unable to obtain help by other means, and to provide position information and homing signals for SAR units);

.11 ensure that, if a distress alert has been accidentally transmitted, the ship makes every reasonable attempt to communicate with the RCC by any means to cancel the false distress alert using the procedures given in the appendix;

.12 ensure that, if possible, after emergency use, the EPIRB is retrieved and deactivated; and

.13 ensure that when an EPIRB is damaged and needs to be disposed of, if a ship is sold for scrap, or if for any other reason a satellite EPIRB will no longer be used, the satellite EPIRB is made inoperable, either by removing its battery and, if possible, returning it to the manufacturer, or by demolishing it.

Note: If the EPIRB is returned to the manufacturer, it should be wrapped in tin foil to prevent transmission of signals during shipment.

APPENDIX

INSTRUCTIONS FOR MARINERS AND OTHERS* ON HOW TO CANCEL A FALSE DISTRESS ALERT

DSC

1 VHF

.1 switch off transmitter immediately;†

.2 switch equipment on and set to Channel 16; and

.3 make broadcast to "All Stations" giving the ship's name, call sign and DSC number, and cancel the false distress alert.

Example

All Stations, All Stations, All Stations
This is NAME, CALL SIGN,
DSC NUMBER, POSITION.

---

* Appropriate signals should precede these messages in accordance with the ITU Radio Regulations chapter N1X.

† This applies when the false alert is detected during transmission.

Cancel my distress alert of
DATE, TIME UTC,
= Master NAME, CALL SIGN,
DSC NUMBER, DATE, TIME UTC.

2 MF

.1 switch off equipment immediately; †

.2 switch equipment on and tune for radiotelephony transmission on 2,182 kHz; and

.3 make broadcast to "All Stations" giving the ship's name, call sign and DSC number, and cancel the false distress alert.

Example

All Stations, All Stations, All Stations
This is NAME, CALL SIGN,
DSC NUMBER, POSITION.

Cancel my distress alert of
DATE, TIME UTC,
= Master NAME, CALL SIGN,
DSC NUMBER, DATE, TIME UTC.

3 HF

As for MF, but the alert must be cancelled on all the frequency bands on which it was transmitted. Hence, in stage 2.2 the transmitter should be tuned consecutively to the radiotelephony distress frequencies in the 4, 6, 8, 12 and 16 MHz bands, as necessary.

4 Inmarsat-C

Notify the appropriate RCC to cancel the alert by sending a distress priority message via the same CES through which the false distress alert was sent.

Example of message

NAME, CALL SIGN, IDENTITY NUMBER,
POSITION,

Cancel my Inmarsat-C distress
alert of DATE, TIME UTC
= Master +

5 EPIRBs

If for any reason an EPIRB is activated accidentally, the ship should contact the nearest coast station or an appropriate coast earth station or RCC and cancel the distress alert.

6 General

6.1 Notwithstanding the above, ships may use any means available to them to inform the appropriate authorities that a false distress alert has been transmitted and should be cancelled.

6.2 No action will normally be taken against any ship or mariner for reporting and cancelling a false distress alert. However, in view of the serious consequences of false alerts, and the strict ban on their transmissions, Governments may prosecute in cases of repeated violations.

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MSC/Circ.861

22 May 1998

MEASURES TO REDUCE THE NUMBER OF FALSE DISTRESS ALERTS

1 The Maritime Safety Committee, at its sixty-ninth session (11 to 20 May 1998), being concerned with the high percentage of false distress alerts which have been experienced in many GMDSS radio systems during the last years, noted the significant increase in the number of SOLAS convention ships which will be fitted with GMDSS equipment prior to 1 February 1999.

2 The Committee also noted the large number of non-convention ships which are expected to fit GMDSS equipment in the coming years and recognized that false distress alerts already impose a considerable burden on Rescue Co-ordination Centres (RCCs) and divert SAR resources away from real distress situations and therefore also reduce the confidence of seafarers.

3 Recognizing also that the numbers of false distress alerts could be even more severe in the coming years due to the expected large increase in the number of GMDSS installations, unless effective measures to reduce or eliminate false distress alerts are implemented, and being aware that investigations into false distress alerts indicate that a large portion of these are caused by a combination of operational errors and equipment being inadequately protected against initiation of false distress alerts, the Committee therefore considered that measures are urgently needed to eliminate or reduce the danger of false distress alerts being transmitted as a consequence of the combination referred to and decided to urge member Governments:

.1 to ensure that all GMDSS equipment being manufactured and installed on ships comply fully with the latest IMO performance standards including, where relevant, a dedicated and protected distress button as the only means of initiating a distress alert;

.2 to require shipowners when ordering GMDSS equipment for their ships to seek and ensure from manufacturers that such equipment complies fully with the latest IMO performance standards;

.3 to encourage manufacturers of GMDSS radio equipment to investigate as a matter of urgency the possibilities for modifying equipment not fitted with a dedicated and protected distress button as the only means of initiating transmission of a distress alert, so as to be fitted with such a facility, and to advise Governments and shipowners on the suitability for such modifications;

.4 to consider establishing requirements for GMDSS radio equipment not fitted with a dedicated and protected button as the only means of distress alerting to be modified so as to incorporate such facilities;

.5 to encourage manufacturers also to co-operate so as to agree on common standards and simplification of operating equipment design, especially related to the facilities and layout for initiating, and responding to, distress alerts;

.6 to encourage shipowners and manufacturers further to provide facilities and information enabling personnel having radio duties to familiarize themselves with the equipment involved and how it should be operated in a correct manner, including the avoidance of transmitting false distress alerts;

.7 also to take appropriate measures to ensure compliance with all relevant requirements applicable to ships fitted with GMDSS equipment, including that ships to which such requirements apply, be fitted with a dedicated and protected distress button; and

.8 to bring the COMSAR/Circular concerning operational performance of DSC system to the attention of shipowners, masters and seafarers.

MSC/Circ.863

22 May 1998

RECOMMENDATION ON PREVENTION OF HARMFUL INTERFERENCE TO 406 MHz EPIRBs OPERATING WITH THE COSPAS-SARSAT SYSTEM

1 The Maritime Safety Committee, at its sixty-ninth session (11 to 20 May 1998), being concerned with the harmful interference to 406 MHz EPIRBs operating with the COSPAS-SARSAT system noted the information provided by COSPAS-SARSAT on the 406 MHz interference sources. Accordingly, the Committee approved the following recommendations which would assist Member Governments to prevent harmful interference to 406 MHz EPIRBs.

2 The COSPAS-SARSAT search and rescue satellite system is a multi-national system using low earth orbiting and geostationary satellites and ground receiving stations to locate 406 MHz emergency position indicating radio beacons (EPIRBs) activated in distress situations. The system has contributed to saving over 7,000 lives since it became operational in 1982.

3 The 406 MHz EPIRBs are a very important part of international search and rescue. They are carried on Safety of Life at Sea (SOLAS) vessels as part of the Global Maritime Distress and Safety System. Additionally, carriage of EPIRBs on small vessels is mandated by various national Administrations. The life-saving mission of these beacons must not be interfered with.

4 Transmissions from ground based emitters cause harmful interference to distress signals from 406 MHz satellite EPIRBs. A major cause of harmful interference is due to unwanted emissions from radars and other wideband transmitters operating within 30 MHz of the 406-406.1 MHz allocated bandwidth for satellite EPIRBs.

5 ITU regulations prohibit interference in the 406 to 406.1 MHz band; however the maximum permitted emission limits for the bands within 30 MHz of the 406 distress band are not adequately defined to comply with the harmful interference limits described in ITU Recommendation SM.1051.

6 Member Governments are invited to bring this problem to the attention of their radio spectrum management authorities and request them to assure that new equipment designs will not interfere with the COSPAS-SARSAT system and notify owners of existing equipment operating within 30 MHz of 406 MHz of the potential for interfering with the COSPAS-SARSAT system.

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MSC/Circ.1039

28 May 2002

GUIDELINES FOR SHORE-BASED MAINTENANCE OF SATELLITE EPIRBs

1 The Maritime Safety Committee, at its seventy-fifth session (15 to 24 May 2002), approved Guidelines for shore-based maintenance of satellite EPIRBs, for the purpose of establishing standardized procedures and minimum levels of service for the testing and maintenance of satellite EPIRBs to ensure maximum reliability whilst minimizing the risk of false distress alerts.

2 Member Governments are invited to bring the annexed Guidelines to the attention of shore-based maintenance providers, equipment manufacturers, classification societies, shipping companies, shipowners, ship operators, shipmasters and all other parties concerned.

ANNEX

GUIDELINES FOR SHORE-BASED MAINTENANCE OF SATELLITE EPIRBs

1 Introduction

1.1 The purpose of these guidelines is to establish standardized procedures and minimum levels of service for the testing and maintenance of satellite EPIRBs to ensure maximum reliability whilst minimizing the risk of false distress alerting.

1.2 The guidelines are intended to be applicable both to 406 MHz EPIRBs and to L-band EPIRBs, as either type may be carried to comply with the requirements of SOLAS regulation IV/7.1.6. EPIRBs may include 121.5 MHz transmitters, or Global Navigation Satellite System (GNSS) receivers.

1.3 The guidelines also apply to service exchange EPRIBs, which should be properly encoded to match the appropriate registration database.

2 Shore-based maintenance (SBM) provider

2.1 The SBM provider should:

.1 have a quality control system audited by a competent authority in respect of its servicing operation;

.2 have access to adequate calibrated test equipment and facilities to carry out the SBM in accordance with these guidelines;

.3 have access to batteries and other spare parts to the original equipment specification;

.4 have access to up-to-date technical manuals, service bulletins and the latest software versions as provided by the original equipment manufacturer;

.5 keep records of maintenance, available for inspection by the Administration as may be required;

.6 ensure that all personnel responsible for supervising and for carrying out the maintenance procedures are adequately trained and fully competent to perform their duties; and

.7 issue a shore-based maintenance report with a list of the test results and maintenance performed.

3 Prevention of false distress alerts

3.1 Throughout the testing and maintenance process, **great care must be taken to avoid the transmission of false distress alerts.** The transmissions may be picked up by aircraft as well as satellites.

3.2 A radio-frequency-screened room or enclosure should be used for all maintenance procedures involving, or likely to involve, any transmission from an EPIRB.

3.3 Provision of a 121.5 MHz monitor receiver is required; this will pick up the homing transmitter and give a warning if the EPIRB is accidentally activated outside the screened enclosure.

3.4 If a distress signal is transmitted accidentally, the local RCC should be contacted immediately and informed of the co-ordinates of the test site.

4 Maintenance service interval

4.1 406 MHz satellite EPIRBs should be inspected and tested in accordance with MSC/Circ.1040.

4.2 Shore-based maintenance of all satellite EPIRBs, as defined in paragraph 1.2, should be carried out in accordance with these guidelines at intervals specified by the flag Administration and not exceeding 5 years. It is recommended that the maintenance be performed at the time when the battery is to be changed.

5 Self-test

5.1 Prior to carrying out any maintenance and, upon completion, a self-test should be performed, following the instructions on the equipment, and the results noted.

5.2 Attention is drawn to paragraph 3 on the prevention of false distress alerts. Avoidance of live transmissions is required to prevent unnecessary loading of the satellite channels.

5.3 It should be verified that the self-test mode operates properly. This check could be performed by holding the switch in self-test mode position for 1 min after the first self-test mode burst transmission. All transmissions should cease after releasing the self-test mode switch. Additionally, for 406 MHz satellite EPIRBs which received the COSPAS-SARSAT type approval after October 1998 (Type Approval Certificates 106 and higher) the number of self-test bursts should be verified to be no more than one.

6 Battery change

6.1 The main battery should be changed in accordance with the manufacturer’s recommendations, including the replacement of any other routine service parts (e.g. seals, memory battery, desiccant).

6.2 The removed batteries should be disposed of in accordance with the manufacturer's and/or national/local recommendations.

6.3 After having changed the battery, the new expiration date should be displayed on the exterior surface of the EPIRB.

7 Satellite distress transmission

7.1 The satellite EPIRB should be activated in its normal transmitting mode (i.e. not just self-test). Attention is drawn to paragraph 3 on the prevention of false distress alerts. Where seawater contacts are fitted, these should be connected together to activate the EPIRB.

7.2 The transmitted signal should be checked with a suitable test receiver to verify the signal integrity and coding.

7.3 The frequency of the transmitted signal should be recorded and verified to be within the limits required by the specification to which it is approved.

7.4 The output power of the transmitter should be checked in the self-test mode. A simple method of the emission verification, such as a low sensitivity receiver placed at an unobstructed distance of at least 3 m from the EPIRB antenna, may be used for this check. The original equipment manufacturer may suggest an appropriate method to verify the output power. Attention is drawn to paragraph 3 on the prevention of false distress alerts.

8 121.5 MHz homing transmission

8.1 The satellite EPIRB should be activated in its normal transmitting mode (i.e. not just self-test). Attention is drawn to paragraph 3 on the prevention of false distress alerts. Where seawater contacts are fitted, these should be connected together to activate the EPIRB.

8.2 The transmitted signal should be checked with a suitable test receiver for the characteristic swept tone modulation.

9 Global Navigation Satellite System (GNSS)

9.1 Some satellite EPIRBs are designed to transmit a position derived from a GNSS receiver, which may be internal or external to the EPIRB.

9.2 The original equipment (EPIRB) manufacturer should be consulted for a method of testing the correct operation of this function, e.g.: by using a GNSS repeater/simulator or external input. This test may involve a live transmission from the EPIRB and should be performed in a screened room or enclosure in accordance with paragraph 3.2. Attention is drawn to paragraph 3 on the prevention of false distress alerts.

9.3 A test receiver should be used to verify that the signal transmitted by the satellite EPIRB contains the correctly encoded position data derived from the GNSS receiver. Attention is drawn to paragraph 3 on the prevention of false distress alerts.

10 Waterproof integrity

10.1 The satellite EPIRB should be inspected for any signs of damage or cracks to the casing, or of water ingress. Any damaged item should be replaced in accordance with the manufacturer's recommended procedures.

10.2 The satellite EPIRB should be tested for waterproof integrity at the end of the SBM. The equipment manufacturer may suggest an appropriate method to test the integrity of the EPIRB.

10.3 One method involves immersing the equipment in hot water (20-30°C above ambient) for a period of 1 min. It can be readily seen if there are any problems with the seals, as the air inside the beacon expands and escapes as a stream of bubbles. This test should not be carried out with cool water, as the water may be drawn into the equipment without showing significant release of air bubbles.

10.4 Satellite EPIRBs equipped with seawater switches should have this function disabled during the immersion test to prevent activation, unless the complete test is performed inside a screened room. This disabling may be achieved by immersing the EPIRB complete with a mounting bracket if the bracket includes an interlock to prevent activation before release. In some cases the EPIRB contains an inversion switch, so it will not be activated if immersed in the inverted position. The manufacturer should be consulted for specific guidance.

11 Labelling

11.1 As a minimum, the equipment external labeling should be checked for the following details:

.1 manufacturer's serial number. This identifies the equipment, even if the programmed data (e.g. MMSI or callsign) is later changed;

.2 the transmitted identification code:

- for L-band EPIRBs, it will be the Inmarsat System Code; and
- for 406 MHz EPIRBs, this will be the beacon 15 Hexadecimal Identification (15 Hex ID) and other encoded identification information (MMSI / callsign) as required by the Administration. It should be verified that the label matches the information decoded from the self-test mode transmission using the test receiver. For the COSPAS-SARSAT location protocol beacons, the 15 Hex ID should correspond to position data set to default values;

.3 the expiration date of the battery; and

.4 the date when the next shore-based maintenance is due (see paragraph 12.1).

11.2 The above checks also apply if a replacement EPIRB is provided by the SBM provider.

12 Shore-based maintenance report and other documentation

12.1 The results of shore-based maintenance should be provided in the form of a shore-based maintenance report, a copy of which is to be kept on board, and a label affixed to the exterior of the beacon detailing the name of the SBM provider and the date when the next shore-based maintenance is due.

12.2 The SBM provider may affix a tamperproof seal or similar device on completion of the SBM.

12.3 Before returning the beacon to the owner, or when providing a replacement beacon, the SBM provider should check the registration details with the beacon registry, where practicable.

MSC.1/Circ.1040/Rev.1

25 May 2012

REVISED GUIDELINES ON ANNUAL TESTING OF 406 MHz SATELLITE EPIRBs

1 The Maritime Safety Committee, at its ninetieth session (16 to 25 May 2012), approved the annexed revised Guidelines on annual testing of 406 MHz satellite EPIRBs, as required by SOLAS regulation IV/15.9.

2 Member Governments are invited to bring these Guidelines to the attention of shipping companies, shipowners, ship operators, equipment manufacturers, classification societies, shipmasters and all parties concerned.

3 This circular supersedes MSC/Circ.1040.

ANNEX

GUIDELINES ON ANNUAL TESTING OF 406 MHz SATELLITE EPIRBs

1 The annual testing of 406 MHz satellite EPIRBs is required by SOLAS regulation IV/15.9.

2 The testing should be carried out using suitable test equipment capable of performing all the relevant measurements required in these guidelines. All checks of electrical parameters should be performed in the self-test mode, if possible.

3 The examination of the installed 406 MHz satellite EPIRB should include:

.1 checking position and mounting for float-free operation;

.2 verifying the presence of a firmly attached lanyard in good condition; the lanyard should be neatly stowed, and must not be tied to the vessel or the mounting bracket;

.3 carrying out visual inspection for defects;

.4 carrying out the self-test routine;

.5 checking that the EPIRB identification (15 Hex ID and other required information) is clearly marked on the outside of the equipment;

.6 decoding the EPIRB 15 Hexadecimal Identification Digits (15 Hex ID) and other information from the transmitted signal, checking that the decoded information (15 Hex ID or MMSI/callsign data, as required by the Administration) is identical to the identification marked on the beacon;

.7 checking that the MMSI number encoded in the beacon corresponds with the MMSI number assigned to the ship;

.8 checking registration through documentation or through the point of contact associated with that country code;

.9 checking the battery expiry date;

.10 checking the hydrostatic release and its expiry date, as appropriate;

.11 checking the emission in the 406 MHz band using the self-test mode or an appropriate device to avoid transmission of a distress call to the satellites;

.12 if possible, checking emission on the 121.5 MHz frequency using the self-test mode or an appropriate device to avoid activating the SAR system;

.13 checking that the EPIRB has been maintained by an approved shore-based maintenance provider at intervals required by the Administration;

.14 after the test, remounting the EPIRB in its bracket, checking that no transmission has been started; and

.15 verifying the presence of beacon operating instructions.

MSC/Circ.1174

20 May 2005

BASIC SAFETY GUIDANCE FOR OCEANIC VOYAGES BY NON-REGULATED CRAFT

1 The Sub-Committee on Radiocommunications and Search and Rescue (COMSAR), at its ninth session (7 to 11 February 2005), developed Basic safety guidance for oceanic voyages by non-regulated craft, given in the annex.

2 The Maritime Safety Committee, at its eightieth session (11 to 20 May 2005), with a view to providing basic safety guidance for oceanic voyages by non-regulated craft to reduce those risks that could lead to loss of life or severe physical injuries to both crew and would-be rescuers, agreed to the annexed Guidance.

3 Member Governments are invited to bring the annexed Guidance to the attention of all parties concerned for consideration and action, as appropriate.

ANNEX

BASIC SAFETY GUIDANCE FOR OCEANIC VOYAGES BY NON-REGULATED CRAFT

I PURPOSE

The purpose of this circular is to provide basic safety guidance for oceanic voyages by non-regulated craft to reduce those risks that could lead to loss of life or severe physical injuries to both crew and would-be rescuers, and to reduce the need for extended and expensive SAR operations. Furthermore, these craft can, during their voyages, cross congested areas and create a risk for the safety of the traffic in these areas.

II BASIC SAFETY GUIDANCE

1 Type of craft

1.1 The craft should be of suitable construction for the intended voyage, possess adequate buoyancy and stability and carry appropriate high visibility markings.

2 Provisions and safety equipment in the craft

2.1 Life-raft(s) of an approved type.

2.2 Sufficient life jacket(s) of an approved type for all crew members.

2.3 Electronic positioning system.

2.4 Pyrotechnics, hand flares and other signalling devices.

2.5 Radar reflector of an approved type.

2.6 Sufficient food, water and, if required, fuel for the voyage. (Emergency water making kit may be an advantage.)

2.7 Adequate medical equipment.

3 Radiocommunications

3.1 The craft should be equipped with adequate communications and distress alerting systems within the Global Maritime Distress & Safety System, for example:

.1.1 two types of alerting systems, e.g. long-range communications (radio or satellite) and a satellite EPIRB properly registered; and

.1.2 hand held radios capable of operating on maritime and aeronautical short-rangefrequencies.

4 Voyage planning

4.1 The person in charge of the craft should prepare a voyage plan and leave that plan with a responsible person ashore together with details of the craft. Normally, the responsible person ashore will be the primary contact with the craft for normal communications throughout the voyage. If the responsible person ashore becomes concerned for the safety of the craft, he/she should contact the appropriate MRCC. The person in charge of the craft should submit a voyage plan to the Maritime Administration at the port of departure, if required by that Maritime Administration.

5 Crew gear

5.1 Suitable clothing with high visibility markings and survival equipment appropriate for the voyage should be provided.

6 Crew training

6.1 All members of the crew should have satisfactorily completed appropriate:

.1.1 training for the intended voyage, e.g. navigation and communications with appropriate certification where necessary;

.1.2 survival course(s); and

.1.3 first aid course(s).

III GUIDANCE FOR ADMINISTRATIONS

7.1 A Maritime Administration that becomes aware of a planned oceanic voyage by a non-regulated craft that does not meet the basic safety guidance herein should use its best endeavours to prevent the craft from departing.

7.2 If the craft does depart, then the Maritime Administration should ensure that the MRCC(s) responsible for the SAR Region(s) through which the craft is expected to pass are made aware of the particular voyage.

IV DETAILED GUIDANCE

8.1 Further detailed guidance can be obtained from:

.1.1 ISAF Offshore Special Regulations . www.sailing.org

.1.2 International Ocean Rowing Society . www.oceanrowing.com/index.htm

MSC.1/Circ.1210/Rev.1

21 November 2014

GUIDANCE ON THE COSPAS-SARSAT INTERNATIONAL 406 MHz BEACON REGISTRATION DATABEASE

1 The Maritime Safety Committee, at its eighty-fourth session (7 to 21 November 2014), recognizing the continuous importance of 406 MHz EPIRB registration databases to be available to SAR Authorities at all times, approved the revised guidance on Cospas-Sarsat International 406 MHz Beacon Registration Database (IBRD) prepared by the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR), at its first session, as set out in the annex.

2 This circular revokes MSC.1/Circ.1210.

3 Member Governments are invited to bring the annexed guidance to the attention of all parties concerned.

ANNEX

GUIDANCE ON THE COSPAS-SARSAT INTERNATIONAL 406 MHz BEACON REGISTRATION DATABASE

Need for EPIRB registration and associated databases

1 Emergency position-indicating radio beacons (EPIRBs) perform distress alerting and other functions to support search and rescue (SAR) services covered by the 1979 International Convention on Maritime Search and Rescue, as amended, for any person in distress at sea, and the 1974 International Convention on Safety of Life at Sea (SOLAS), as amended, requires EPIRB carriage (chapter IV, regulation 7.6) and registration.

2 The provisions relevant to EPIRB registration in chapter IV, regulation 5-1 apply to all ships on all voyages, and are as follows:

> "Each Contracting Government undertakes to ensure that suitable arrangements are made for registering global maritime distress and safety system (GMDSS) identities and for making information on these identities available to rescue co-ordination centres on a 24-hour basis. Where appropriate, international organizations maintaining a registry of these identities shall be notified by the Contracting Government of these assignments."

3 It is crucial that 406 MHz EPIRBs be registered, and that the registration data be available to SAR authorities at all times. Experience has shown that EPIRB registration data is either critically important or otherwise often helpful in the majority of SAR cases involving an EPIRB alert.

4 406 MHz EPIRBs should be registered regardless of whether they are carried aboard ships or other marine craft, and registrations should be reinforced by national requirements.

5 It is essential that IMO Member States provide a readily-accessible mechanism (preferably one that is available by internet, as well as other conventional means) to enable EPIRB owners to fulfill their obligation to register the beacons, and to make this data available for SAR authorities 24-hours-per-day, seven-days-per-week for use in an emergency. Such arrangements can be implemented nationally, on a regional basis in cooperation with other Administrations, or by other suitable means. The Cospas-Sarsat International Beacon Registration Database is a facility available free of charge to enable beacon owners to directly register their beacons and/or to allow Administrations to upload their national registration data to ensure that it is available to SAR authorities worldwide on a 24-hours-per-day, seven-days-per-week basis.

International Beacon Registration Database

6 The International Cospas-Sarsat Programme processes 406 MHz EPIRB alerts and routes them to the identified SAR authorities. It also operates the International Beacon Registration Database (IBRD) for 406 MHz beacons, operational since January 2006.

7 The IBRD is hosted on the internet at www.406registration.com, with online help capabilities.

8 Cospas-Sarsat provides the IBRD as a readily-available means for beacon owners to register their beacons unless an alternative method of registration is required by their national Administration. The registration information contained in the IBRD, whether directly entered by beacon owners or uploaded from national registration databases maintained by Administrations, is available 24-hours-per-day, seven-days-per-week for assisting SAR Services in SAR operations. The IBRD is available free of charge to individuals directly registering beacons and to Administrations uploading or retrieving registration data.

9 Administrations that maintain their own national registers are encouraged to upload their registration data to the IBRD to make their national beacon registration data available as quickly and easily as possible to SAR personnel on a 24-hour basis.

10 The IBRD can be used not only for registering 406 MHz EPIRBs, but also 406 MHz emergency locator transmitters (ELTs) carried on board aircraft, and personal locator beacons (PLBs) designed for personal use.

Background

11 The Cospas-Sarsat 406 MHz system provides distress alerts that include the unique 15-character hexadecimal identification of the transmitting beacon. This beacon identification can be decoded to obtain information that include*s*:

.1 the type of beacon, i.e. ELT, EPIRB or PLB;

.2 the country code and identification data which form the unique beacon identification; and

.3 the type of auxiliary radio locating (homing) device, e.g. 121.5 MHz transmitter.

12 If a beacon is properly registered, the 15-character hexadecimal identification of the beacon can be used to access additional information. Beacon registration databases can provide information of great use to SAR personnel, including:

.1 specific owner identification information;
.2 the make/model and identification of aircraft or vessel in distress;
.3 communications equipment available;
.4 the total number of persons onboard; and
.5 emergency contact information.

13 To have this valuable information available to SAR authorities in an emergency, it must be available from either a national database available 24-hours-per-day, seven-days-per-week maintained by a national Administration and/or from the IBRD provided that the national

Administration allows direct registration in the IBRD by beacon owners or the Administration uploads its registration data to the IBRD for access by other SAR authorities.

14 Registration of 406 MHz beacons is required in accordance with international regulations on SAR established by the International Civil Aviation Organization (ICAO) and by the SOLAS Convention. In addition, some countries have made 406 MHz beacon registration mandatory.

IBRD concept of operations

15 The IBRD is designed to support:

.1 beacon owners who wish to directly register their beacons;

.2 Administrations to make their registration data easily available to other SAR authorities in an emergency by uploading that information to the IBRD; and

.3 SAR authorities that need to efficiently access beacon registration data to assist persons in distress.

16 Cospas-Sarsat has configured the IBRD to accept by default beacon registrations from beacon owners, unless the Administration associated with the beacon's country code(s) has advised Cospas-Sarsat that it:

.1 operates a national database with a 24-hour point of contact and does not want EPIRBs with its country code(s) included in the IBRD; or

.2 wishes to control the inclusion of beacons with its country code(s) in the IBRD.

Establishing an IBRD point of contact

17 Each Administration should provide Cospas-Sarsat with a national IBRD point of contact for coordinating use of the IBRD. This contact will decide the settings in the IBRD related to beacons with its country code and help to resolve problems arising with registration of beacons with that Administration's country code(s).

18 The national IBRD point of contact should be officially identified to the Cospas-Sarsat Secretariat using a letter of the form that may be found at the Cospas-Sarsat website (www.cospas-sarsat.int – on the "Cospas-Sarsat Professionals" page choose the "Documents" tab, then "Document Templates, and select the "IBRD" tab). This letter must be signed by the Administration's IMO representative, or by its representative to Cospas-Sarsat or to the International Civil Aviation Organization (ICAO), and sent to the Cospas-Sarsat Secretariat. Based on the letter, the Cospas-Sarsat Secretariat will allocate the requested user identifications and passwords to the Administration's national IBRD point of contact.

19 The request should specify whether user identification and passwords to be issued to the Administration's IBRD point of contact are required to:

.1 enable the Administration to upload registration data about its beacons to the IBRD;

.2 enable its SAR Services to access IBRD registration data in an emergency; and/or

.3 make IBRD registration data available to authorized shore-based service facilities and vessel inspectors.

20 Passwords and user identifications will be sent via post to the national IBRD point of contact. The national IBRD point of contact must then forward the user identifications and passwords to those entities authorized by its Administration to access the IBRD.

21 It is critical that, at a minimum, passwords be requested for SAR Services to access beacon registration information in the IBRD during an emergency.

Providing details of your national beacon registry

22 If an Administration maintains its own national beacon registry and decides not to allow beacons with its country code(s) to be registered in the IBRD, the Administration should review the information provided on the Cospas-Sarsat website to the public (such as beacon owners) relating to its beacon-registration policies (please see the information contained on www.cospas-sarsat.int on the "Cospas-Sarsat Professionals" page choose the "Contact Lists" tab and select "406 MHz Beacon Register"). Please provide the Cospas-Sarsat Secretariat immediately with any updates, as appropriate. This is a source very commonly used by beacon owners to learn where to register their beacons and, therefore, it is critically important that accurate information is provided in order to keep these web pages up to date.

23 Based on the information that Administrations provide, beacon owner who attempts to register *a* beacon on the IBRD will be advised through a "pop up" window on the IBRD website of how and/or where to register the beacon (based on the country code programmed into the beacon and the polices of that Administration reported to the Cospas-Sarsat Secretariat).

24 If no information is available regarding a national beacon registry for an Administration, Cospas-Sarsat policy is to assume that no such registry exists and allow the direct registration in the IBRD by owners of beacons with that Administration's country code(s) (www.406registration.com).

National Administration control of beacon registration in the IBRD

25 If an Administration has elected to prohibit direct registration by owners of their beacons in the IBRD, but wishes upload to the IBRD some or all of its national beacon registration records, a national IBRD Point of Contact should be designated as described above so that the necessary arrangements can be made to enable the uploading of records.

26 The Administration will be able to upload in bulk its beacon registration data or, if desired, keep sole control of individual record inputs or updates. In that case, beacon owners who attempt

to register beacons with that Administration's country code(s) will be directed by the IBRD website to the Administration's national website or point of contact for beacon registration.

Means of registration

27 Beacon registrations allowed on the IBRD only will be accepted via the online facilities of www.406registration.com and, under no circumstances can registrations be accepted in paper format nor by telephone, facsimile or any other communication facilities.

Other supported beacon types

28 In addition to EPIRBs, the IBRD supports two other types of beacons:

.1 Emergency Locator Transmitters (ELTs), for use in aircraft; and

.2 Personal Locator Beacons (PLBs), small beacons for individuals to carry or wear; these beacons sometimes may be used for purposes similar to an EPIRB or ELT, as allowed by local regulations and, therefore, sometimes may be coded to transmit distress messages that have the same content as an EPIRB or ELT, and/or registered as an EPIRB or ELT in the IBRD.

Further information

29 Further information can be found at www.cospas-sarsat.int, or by email at dbadmin@406registration.com.

Resolution MSC.83(70)
(adopted on 10 December 1998)

ADOPTION OF AMENDMENTS TO THE SURVEY GUIDELINES UNDER THE HARMONIZED SYSTEM OF SURVEY AND CERTIFICATION (RESOLUTION A.746(18))

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO that the Assembly, when adopting resolution A.746(18) on Survey Guidelines under the Harmonized System of Survey and Certification, authorized the Maritime Safety Committee and the Marine Environment Protection Committee to keep the Survey Guidelines under review for their further improvement,

NOTING that new SOLAS regulation II-1/3-4 requires that all tankers of not less than 20,000 tonnes deadweight shall be fitted with emergency towing arrangements, the designe and construction of which shall be approved by the Administration based on the guidelines adopted by the Organization by resolution MSC.35(63),

MINDFUL of the fact that the above-mentioned Guidelines do not contain any provisions for the periodical surveying of the emergency towing arrangements, other than in paragraph 3.2 therein which refers to regular inspection and maintenance,

RECOGNIZING that the exposed location and limited usage of such arrangements justify surveys to be carried out on an annual basis as a condition for the issuance and endorsement of the Cargo Ship Safety Construction Certificate or the Cargo Ship Safety Certificate, as appropriate,

BEING AWARE that new SOLAS regulation IV/15.9, adopted by resolution MSC.69(69), requires that satellite EPIRBs shall be tested at intervals not exceeding 12 months for all aspects of operational efficiency with particular emphasis frequency stability, signal strength and coding,

HAVING CONSIDERED the recommendations made by the Sub-Committee on Radiocommunications and Search and Rescue at its third session and Sub-committee on flag State Implementation at its sixth session,

1. ADOPTS amendments to the Survey Guidelines under the Harmonized System of Survey and Certification (resolution A.746(18)0, the text of which is set out in the Annex to the present resolution;

2. INVITES Governments carrying out surveys in accordance with resolution A.746(18) to take appropriate steps to implement the amendments annexed to this resolution.

ANNEX

AMENDMENTS TO THE SURVEY GUIDELINES UNDER THE HARMONIZED SYSTEM OF SURVEY AND CERTIFICATION (RESOLUTION A.746(18))

8 GUIDELINES FOR SURVEYS FOR THE CARGO SHIP SAFETY RADIO CERTIFICATE

8a.1 Initial surveys

9 The existing text of subparagraph .17.4 of paragraph 8a.1.2 replaced by the following:

"(RI) .17.4 checking the EPIRB identification (ID) is clearly marked on the outside of the equipment and decoding the EPIRB identity number and other information from the transmitted signal."

10 The following new subparagraphs .17.7, .17.8, .17.9 and .17.10 are added after existing subparagraph .17.6 of paragraph 8a.1.2:

"(RI) .17.7 checking the frequency of the 406 MHz signal without transmission of a distress call to the satellites;

(RI) .17.8 if possible, checking the frequency of the 121.5 MHz homing signal without activating the satellite system;

(RI) .17.9 after the above checking, remounting the EPIRB in its bracket, checking that no transmission has been started;

(RI) .17.10 checking that the EPIRB has been maintained at an approved testing or servicing station, if appropriate."

COMSAR/Circ.32

16 August 2004

HARMONIZATION OF GMDSS REQUIREMENTS FOR RADIO INSTALLATIONS ON BOARD SOLAS SHIPS

…/…

ANNEX

GUIDELINES FOR THE HARMONIZATION OF GMDSS REQUIREMENTS FOR RADIO INSTALLATIONS ON BOARD SOLAS SHIPS

…/…

4.10 Satellite float-free EPIRB

The satellite float-free EPIRB should be located/installed so that the following requirements are fulfilled:

.1 The EPIRB should, with greatest possible probability, float-free and avoid being caught in railings, superstructure, etc., if the ship sinks.

.2 The EPIRB should be located so that it may be easily released manually and brought to the survival craft by one person. It should therefore not be located in a radar mast or any other places which can only be reached by vertical ladder.

(SOLAS 1974, as amended, regulations IV/7.1.6, 8.1.5.2, 9.1.3.1, 10.1.4.1, 10.2.3.1 and IMO resolutions A.763(18), A.810(19), as amended, and A.812(19))

Note: - A float-free EPIRB may also be used to fulfil the requirements for one piece of equipment (of two), which is capable of transmitting distress alert to shore from or near the navigating bridge of the ship. Under such conditions the float-free EPIRB should fulfil the following **additional requirements** with regards to location/installation:

.3 The EPIRB must be installed in the vicinity of the navigation bridge, i.e. on the wings of the navigation bridge. Access via vertical ladder should not be accepted. A location on the top of the wheelhouse may be accepted to fulfil the requirement if accessible by stairs; or

(SOLAS 1974, as amended, regulation IV/7 and COM/Circ.105)

.4 It may be possible to activate the EPIRB remotely from the bridge. If remote activation is used, the EPIRB should be installed so that it has unobstructed hemispherical line of sight to the satellites.

(COM/Circ.105)

Note: - It should be considered that the main function of the EPIRB is float-free activation. If the additional requirements mentioned above cannot be met without reducing the reliability of the float-free activation, priority should be given to this requirement. Alternatively, two float-free EPIRBs should be installed.

.5 The EPIRB should be equipped with a buoyant lanyard suitable for use as a tether to life raft etc. Such buoyant lanyard should be so arranged as to prevent its being trapped in the ship.s structure.

(IMO resolutions A.810(19) and A.812 (19), as amended)

.6 The EPIRB should be marked with the ship.s call sign, serial number of EPIRB, MMSI number (if applicable),15 Hex ID, and battery expiry date.

Convention
on International Civil Aviation
(extracts from Annexes 6, 10 and 12)

ANNEX 6 - OPERATION OF AIRCRAFT

PART I
INTERNATIONAL COMMERCIAL AIR TRANSPORT - AEROPLANES

CHAPTER 1. DEFINITIONS

.../...

Emergency locator transmitter (ELT). A generic term describing equipment which broadcast distinctive signals on designated frequencies and, depending on application, may be automatically activated by impact or be manually activated. An ELT may be any of the following:

Automatic fixed ELT (ELT(AF)). An automatically activated ELT which is permanently attached to an aircraft.

Automatic portable ELT (ELT(AP)). An automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft.

Automatic deployable ELT (ELT(AD)). An ELT which is rigidly attached to an aircraft and which is automatically deployed and activated by impact, and, in some cases, also by hydrostatic sensors. Manual deployment is also provided.

Survival ELT (ELT(S)). An ELT which is removable from an aircraft, stowed so as to facilitate its ready use in an emergency, and manually activated by survivors.

.../...

CHAPTER 6. AEROPLANE INSTRUMENTS, EQUIPMENT, AND FLIGHT DOCUMENTS

.../...

6.17 Emergency locator transmitter (ELT)

Applicable until 30 June 2008

6.17.1 All aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2002, operated on long-range over-water flights as described in 6.5.3, shall be equipped with at least two ELTs, one of which shall be automatic.

6.17.2 From 1 January 2005, all aeroplanes operated on long-range over-water flights as described in 6.5.3 shall be equipped with at least two ELTs, one of which shall be automatic.

6.17.3 All aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2002, on flights over designated land areas as described in 6.6, shall be equipped with at least one automatic ELT.

6.17.4 From 1 January 2005, aeroplanes on flights over designated land areas as described in 6.6 shall be equipped with at least one automatic ELT.

6.17.5 **Recommendation.-** *All aeroplanes should carry an automatic ELT.*

6.17.6 ELT equipment carried to satisfy the requirements of 6.17.1, 6.17.2, 6.17.3, 6.17.4 and 6.17.5 shall operate in accordance with the relevant provisions of Annex 10, Volume III.

Applicable from 1 July 2008

6.17.7 **Recommendation.-** *All aeroplanes should carry an automatic ELT.*

6.17.8 Except as provided for in 6.17.9, from 1 July 2008, all aeroplanes authorized to carry more than 19 passengers shall be equipped with at least one automatic ELT or two ELTs of any type.

6.17.9 All aeroplanes authorized to carry more than 19 passengers for which the individual certificate of airworthiness is first issued after 1 July 2008 shall be equipped with at least two ELTs, one of which shall be automatic.

6.17.10 Except as provided for in 6.17.11, from 1 July 2008, all aeroplanes authorized to carry 19 passengers or less shall be equipped with at least one ELT of any type.

6.17.11 All aeroplanes authorized to carry 19 passengers or less for which the individual certificate of airworthiness is first issued after 1 July 2008 shall be equipped with at least one automatic ELT.

6.17.12 ELT equipment carried to satisfy the requirements of 6.17.7, 6.17.8, 6.17.9, 6.17.10 and 6.17.11 shall operate in accordance with the relevant provisions of Annex 10, Volume III.

Note.- The judicious choice of numbers of ELTs, their type and placement on aircraft and associated floatable life support systems will ensure the greatest chance of ELT activation in the event of an accident for aircraft operating over water or land, including areas especially difficult for search and rescue. Placement of transmitter units is a vital factor in ensuring optimal crash and fire protection. The placement of the control and switching devices (activation monitors) of automatic fixed ELTs and their associated operational procedures will also take into consideration the need for rapid detection of inadvertent activation and convenient manual switching by crew members.

PART II
INTERNATIONAL GENERAL AVIATION - AEROPLANES

.../...

CHAPTER 2.4 AEROPLANE INSTRUMENTS, EQUIPMENT AND FLIGHT DOCUMENTS

.../...

2.4.12 Emergency locator transmitter (ELT)

2.4.12.1 **Recommendation. -** *All aeroplanes should carry an automatic ELT.*

2.4.12.2 Except as provided for in 2.4.12.3, from 1 July 2008, all aeroplanes shall be equipped with at least one ELT of any type.

2.4.12.3 All aeroplanes for which the individual certificate of airworthiness is first issued after 1 July 2008 shall be equipped with at least one automatic ELT.

2.4.12.4 ELT equipment carried to satisfy the requirements of 2.4.12.1, 2.4.12.2 and 2.4.12.3 shall operate in accordance with the relevant provisions of Annex 10, Volume III.

Note.- The judicious choice of numbers of ELTs, their type and placement on aircraft, and associated floatable life support systems, will ensure the greatest chance of ELT activation in the event of an accident for aircraft operating over water or land, including areas especially difficult for search and rescue. Placement of transmitter units is a vital factor in ensuring optimal crash and fire protection. The placement of the control and switching devices (activation monitors) of automatic fixed ELTs and their associated operational procedures will also take into consideration the need for rapid detection of inadvertent activation and convenient manual switching by crew members.

PART III
INTERNATIONAL OPERATIONS - HELICOPTERS

.../...

SECTION II
INTERNATIONAL COMMERCIAL AIR TRANSPORT

.../...

CHAPTER 4. HELICOPTER INSTRUMENTS, EQUIPMENT, AND FLIGHT DOCUMENTS

.../...

4.7 Emergency locator transmitter (ELT)

Applicable until 30 June 2008

4.7.1 Performance Class 1 and 2 helicopters for which the individual certificate of airworthiness is first issued after 1 January 2002, operating on flights over water as described in 4.5.1 a) and performance Class 3 helicopters for which the individual certificate of airworthiness is first issued after 1 January 2002, operating as described in 4.5.1 b) shall be equipped with at least one automatic ELT and at least one ELT(S) in a raft.

4.7.2 From 1 January 2005, all performance Class 1 and 2 helicopters operating on flights over water as described in 4.5.1 a) and performance Class 3 helicopters operating as described in 4.5.1 b) shall be equipped with at least one automatic ELT and at least one ELT(S) in a raft.

4.7.3 Helicopters for which the individual certificate of airworthiness is first issued after 1 January 2002, on flights over designated land areas as described in 4.6 shall be equipped with at least one automatic ELT.

4.7.4 From 1 January 2005, helicopters on flights over designated land areas as described in 4.6 shall be equipped with at least one automatic ELT.

4.7.5 **Recommendation.—** *All helicopters should carry an automatic ELT.*

4.7.6 ELT equipment carried to satisfy the requirements of 4.7.1, 4.7.2, 4.7.3, 4.7.4 and 4.7.5 shall operate in accordance with the relevant provisions of Annex 10, Volume III.

Applicable from 1 July 2008

4.7.7 From 1 July 2008, all helicopters operating in performance Class 1 and 2 shall be equipped with at least one automatic ELT and, when operating on flights over water as described in 4.5.1 a), with at least one automatic ELT and one ELT(S) in a raft or life jacket.

4.7.8 From 1 July 2008, all helicopters operating in performance Class 3 shall be equipped with at least one automatic ELT and, when operating on flights over water as described in 4.5.1 b), with at least one automatic ELT and one ELT(S) in a raft or life jacket.

4.7.9 ELT equipment carried to satisfy the requirements of 4.7.7 and 4.7.8 shall operate in accordance with the relevant provisions of Annex 10, Volume III.

Note.- The judicious choice of numbers of ELTs, their type and placement on aircraft and associated floatable life support systems will ensure the greatest chance of ELT activation in the event of an accident for aircraft operating over water or land, including areas especially difficult for search and rescue. Placement of transmitter units is a vital factor in ensuring optimal crash and fire protection. The placement of the control and switching devices (activation monitors) of automatic fixed ELTs and their associated operational procedures will also take into consideration the need for rapid detection of inadvertent activation and convenient manual switching by crew members.

ANNEX 10 - AERONAUTICAL TELECOMMUNICATIONS

VOLUME III, PART II - VOICE COMMUNICATION SYSTEMS

.../...

CHAPTER 5. EMERGENCY LOCATOR TRANSMITTER (ELT) FOR SEARCH AND RESCUE

5.1 GENERAL

5.1.1 Until 1 January 2005, emergency locator transmitters shall operate either on both 406 MHz and 121.5 MHz or on 121.5 MHz.

Note.- From 1 January 2000, ELTs operating on 121.5 MHz will be required to meet the improved technical characteristics contained in 5.2.1.8.

5.1.2 All installations of emergency locator transmitters operating on 406 MHz shall meet the provisions of 5.3.

5.1.3 All installations of emergency locator transmitters operating on 121.5 MHz shall meet the provisions of 5.2.

5.1.4 From 1 January 2005, emergency locator transmitters shall operate on 406 MHz and 121.5 MHz simultaneously.

5.1.5 All emergency locator transmitters installed on or after 1 January 2002 shall operate simultaneously on 406 MHz and 121.5 MHz.

5.1.6 The technical characteristics for the 406 MHz component of an integrated ELT shall be in accordance with 5.3.

5.1.7 The technical characteristics for the 121.5 MHz component of an integrated ELT shall be in accordance with 5.2.

5.1.8 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.

5.1.9 ELT register information shall include the following:

a) transmitter identification (expressed in the form of an alphanumerical code of 15 hexadecimal characters);

b) transmitter manufacturer, model and, when available, manufacturer's serial number;

c) COSPAS-SARSAT[5] type approval number;

d) name, address (postal and e-mail) and emergency telephone number of the owner and operator;

e) name, address (postal and e-mail) and telephone number of other emergency contacts (two, if possible) to whom the owner or the operator is known;

f) aircraft manufacturer and type; and

[5] COSPAS = Space system for search of vessels in distress;
SARSAT = Search and rescue satellite-aided tracking.

g) colour of the aircraft.

Note 1.- Various coding protocols are available to States. Depending on the protocol adopted, States may, at their discretion, include one of the following as supplementary identification information to be registered:

a) aircraft operating agency designator and operator's serial number; or

b) 24-bit aircraft address; or

c) aircraft nationality and registration marks.

The aircraft operating agency designator is allocated to the operator by ICAO through the State administration, and the operator's serial number is allocated by the operator from the block 0001 to 4096.

Note 2.- At their discretion, depending on arrangements in place, States may include other relevant information to be registered such as the last date of register, battery expiry date and place of ELT in the aircraft (e.g. "primary ELT" or "life-raft No. 1").

5.2 SPECIFICATION FOR THE 121.5 MHz COMPONENT OF EMERGENCY LOCATOR TRANSMITTER (ELT) FOR SEARCH AND RESCUE

Note 1.- Information on technical characteristics and operational performance of 121.5 MHz ELTs is contained in RTCA Document DO-183 and European Organization for Civil Aviation Equipment (EUROCAE) Document ED.62.

Note 2.- Technical characteristics of emergency locator transmitters operating on 121.5 MHz are contained in ITU-R Recommendation M.690-1. The ITU designation for an ELT is Emergency Position — Indicating Radio Beacon (EPIRB).

5.2.1 Technical characteristics

5.2.1.1 Emergency locator transmitters (ELT) shall operate on 121.5 MHz. The frequency tolerance shall not exceed plus or minus 0.005 per cent.

5.2.1.2 The emission from an ELT under normal conditions and attitudes of the antenna shall be vertically polarized and essentially omnidirectional in the horizontal plane.

5.2.1.3 Over a period of 48 hours of continuous operation, at an operating temperature of minus 20°C, the peak effective radiated power (PERP) shall at no time be less than 50 mW.

5.2.1.4 The type of emission shall be A3X. Any other type of modulation that meets the requirements of 5.2.1.5, 5.2.1.6 and 5.2.1.7 may be used provided that it will not prejudice precise location of the beacon by homing equipment.

Note.- Some ELTs are equipped with an optional voice capability (A3E) in addition to the A3X emission.

5.2.1.5 The carrier shall be amplitude modulated at a modulation factor of at least 0.85.

5.2.1.6 The modulation applied to the carrier shall have a minimum duty cycle of 33 per cent.

5.2.1.7 The emission shall have a distinctive audio characteristic achieved by amplitude

modulating the carrier with an audio frequency sweeping downward over a range of not less than 700 Hz within the range 1 600 Hz to 300 Hz and with a sweep repetition rate of between 2 Hz and 4 Hz.

5.2.1.8 After 1 January 2000, the emission shall include a clearly defined carrier frequency distinct from the modulation sideband components; in particular, at least 30 per cent of the power shall be contained at all times within plus or minus 30 Hz of the carrier frequency on 121.5 MHz.

5.3 SPECIFICATION FOR THE 406 MHz COMPONENT OF EMERGENCY LOCATOR TRANSMITTER (ELT) FOR SEARCH AND RESCUE

5.3.1 Technical characteristics

Note 1.- Transmission characteristics for 406 MHz emergency locator transmitters are contained in ITU-R M.633.

Note 2.- Information on technical characteristics and operational performance of 406 MHz ELTs is contained in RTCA Document DO-204 and European Organization for Civil Aviation Equipment (EUROCAE) Document ED-62.

5.3.1.1 Emergency locator transmitters shall operate on one of the frequency channels assigned for use in the frequency band 406.0 to 406.1 MHz.

Note.- The COSPAS-SARSAT 406 MHz channel assignment plan is contained in COSPAS-SARSAT Document C/S T.012.

5.3.1.2 The period between transmissions shall be 50 seconds plus or minus 5 per cent.

5.3.1.3 Over a period of 24 hours of continuous operation at an operating temperature of –20°C, the transmitter power output shall be within the limits of 5 W plus or minus 2 dB.

5.3.1.4 The 406 MHz ELT shall be capable of transmitting a digital message.

5.3.2 Transmitter identification coding

5.3.2.1 Emergency locator transmitters operating on 406 MHz shall be assigned a unique coding for identification of the transmitter or aircraft on which it is carried.

5.3.2.2 The emergency locator transmitter shall be coded in accordance with either the aviation user protocol or one of the serialized user protocols described in the Appendix to this chapter, and shall be registered with the appropriate authority.

APPENDIX TO CHAPTER 5.
EMERGENCY LOCATOR TRANSMITTER CODING
(see Chapter 5, 5.3.2)

Note.- A detailed description of beacon coding is contained in Specification for COSPAS-SARSAT 406 MHz Distress Beacons (C/S T.001). The following technical specifications are specific to emergency locator transmitters used in aviation.

1. GENERAL

1.1 The emergency locator transmitter (ELT) operating on 406 MHz shall have the capacity to transmit a programmed digital message which contains information related to the ELT and/or the aircraft on which it is carried.

1.2 The ELT shall be uniquely coded in accordance with 1.3 and be registered with the appropriate authority.

1.3 The ELT digital message shall contain either the transmitter serial number or one of the following information elements:

a) aircraft operating agency designator and a serial number;

b) 24-bit aircraft address;

c) aircraft nationality and registration marks.

1.4 All ELTs shall be designed for operation with the COSPAS-SARSAT[6] system and be type approved.

Note.- Transmission characteristics of the ELT signal can be confirmed by making use of the COSPAS-SARSAT Type Approval Standard (C/S T.007).

2. ELT CODING

2.1 The ELT digital message shall contain information relating to the message format, coding protocol, country code, identification data and location data, as appropriate.

2.2 For ELTs with no navigation data provided, the short message format C/S T.001 shall be used, making use of bits 1 through 112. For ELTs with navigation data, if provided, the long message format shall be used, making use of bits 1 through 144.

2.3 Protected data field

2.3.1 The protected data field consisting of bits 25 through 85 shall be protected by an error correcting code and shall be the portion of the message which shall be unique in every distress ELT.

2.3.2 A message format flag indicated by bit 25 shall be set to “0” to indicate the short message format or set to “1” to indicate the long format for ELTs capable of providing location data.

2.3.3 A protocol flag shall be indicated by bit 26 and shall be set to “1” for user and user

[6] COSPAS = Space system for search of vessels in distress;
SARSAT = Search and rescue satellite-aided tracking.

location protocols, and “0” for location protocols.

2.3.4 A country code, which indicates the State where additional data are available on the aircraft on which the ELT is carried, shall be contained in bits 27 through 36 which designate a three-digit decimal country code number expressed in binary notation.

Note.- Country codes are based on the International Telecommunication Union (ITU) country codes shown in Table 4 of Part I, Volume I of the ITU List of Call Signs and Numerical Identities.

2.3.5 Bits 37 through 39 (user and user location protocols) or bits 37 through 40 (location protocols) shall designate one of the protocols where values “001” and “011” or “0011”, “0100”, “0101”, and “1000” are used for aviation as shown in the examples contained in this appendix.

2.3.6 The ELT digital message shall contain either the transmitter serial number or an identification of the aircraft or operator as shown below.

2.3.7 In the serial user and serial user location protocol (designated by bit 26=1 and bits 37 through 39 being “011”), the serial identification data shall be encoded in binary notation with the least significant bit on the right. Bits 40 through 42 shall indicate type of ELT serial identification data encoded where:

— “000” indicates ELT serial number (binary notation) is encoded in bits 44 through 63;

— “001” indicates aircraft operator (3 letter encoded using modified Baudot code shown in Table 5-1) and a serial number (binary notation) are encoded in bits 44 through 61 and 62 through 73, respectively;

— “011” indicates the 24-bit aircraft address is encoded in bits 44 through 67 and each additional ELT number (binary notation) on the same aircraft is encoded in bits 68 through 73.

Note - States will ensure that each beacon, coded with the country code of the State, is uniquely coded and registered in a database. Unique coding of serialized coded beacons can be facilitated by including the COSPAS-SARSAT Type Approval Certificate Number which is a unique number assigned by COSPAS-SARSAT for each approved ELT model, as part of the ELT message.

2.3.8 In the aviation user or user location protocol (designated by bit 26=1 and bits 37 through 39 being “001”), the aircraft nationality and registration marking shall be encoded in bits 40 through 81, using the modified Baudot code shown in Table 5-1 to encode seven alphanumeric characters. This data shall be right justified with the modified Baudot “space” (“100100”) being used where no character exists.

2.3.9 Bits 84 and 85 (user or user location protocol) or bit 112 (location protocols) shall indicate any homing transmitter that may be integrated in the ELT.

2.3.10 In standard and national location protocols, all identification and location data shall be encoded in binary notation with the least significant bit right justified. The aircraft operator designator (3 letter code) shall be encoded in 15 bits using a modified Baudot code (Table 5-1) using only the 5 right most bits per letter and dropping the left most bit which has a value of 1 for letters.

Table 5-1. Modified Baudot code

Letter	*Code* MSB LSB	*Figure*	*Code* MSB LSB
A	111000	(-)*	011000
B	110011		
C	101110		
D	110010		
E	110000	3	010000
F	110110		
G	101011		
H	100101		
I	101100		
J	111010	8	001100
K	111110		
L	101001		
M	100111		
N	100110		
O	100011	9	000011
P	101101	0	001101
Q	111101	1	011101
R	101010	4	001010
S	110100		
T	100001	5	000001
U	111100	7	011100
V	101111		
W	111001	2	011001
X	110111	/	010111
Y	110101	6	010101
Z	110001		
( )**	100100		

MSB = most significant bit
LSB = least significant bit
* = hyphen
** = space

EXAMPLES OF CODING

ELT serial number

25		27 36	37			40				44 63	64 73	74 83	85	
F	1	COUNTRY	0	1	1	T	T	T	C	SERIAL NUMBER DATA (20 BITS)	SEE NOTE 1	SEE NOTE 2	A	A

Aircraft address

25		27 36	37			40				44 67	68 73	74 83	85	
F	1	COUNTRY	0	1	1	T	T	T	C	AIRCRAFT ADDRESS (24 BITS)	SEE NOTE 3	SEE NOTE 2	A	A

Aircraft operator designator and serial number

25		27 36	37			40				44 61	62 73	74 83	85	
F	1	COUNTRY	0	1	1	T	T	T	C	OPERATOR 3-LETTER DESIGNATOR	SERIAL NUMBER 1-4096	SEE NOTE 2	A	A

Aircraft registration marking

25		27 36	37			40 81	83		85	
F	1	COUNTRY	0	0	1	AIRCRAFT REGISTRATION MARKING (UP TO 7 ALPHANUMERIC CHARACTERS) (42 BITS)	0	0	A	A

T = Beacon type TTT: = 000 indicates ELT serial number is encoded;
= 001 indicates operating agency and serial number are encoded;
= 011 indicates 24-bit aircraft address is encoded.

C = Certificate flag bit: 1 = to indicate that COSPAS-SARSAT Type Approval Certificate number is encoded in bits 74 through 83 and
0 = Otherwise

F = Format flag: 0 = Short Message
1 = Long Message

A = Auxiliary radio-locating device: 00 = no auxiliary radio-locating device
01 = 121.5 MHz
11 = other auxiliary radio-locating device

Note 1.- 10 bits, all 0s or National use.

Note 2.- COSPAS-SARSAT Type Approval Certificate number in binary notation with the least significant bit on the right, or National use.

Note 3.- Serial number, in binary notation with the least significant bit on the right, of additional ELTs carried in the same aircraft or default to 0s when only one ELT is carried.

EXAMPLE OF CODING (USER LOCATION PROTOCOL)

25	26	←27 36→	←37 39→	←40 83→	85→	←86 106→	←107 112→	←113 132→			←133 144→
1	1	10	3	44	2	21	1	12		13	12
1	1	CC	T	IDENTIFICATION DATA (AS IN ANY OF USER PROTOCOLS ABOVE)	A	21-BIT BCH ERROR CORRECTING CODE	E	LATITUDE		LONGITUDE	12-BIT BCH ERROR CORRECTING CODE
								1	7	4	1	8	4	
								N / S	DEG 0–90 (1 d)	MIN 0–56 (4m)	E / W	DEG 0–180 (1 d)	MIN 0–56 (4m)	

CC = Country Code;
E = Encoded position data source: 1 = Internal navigation device, 0 = External navigation device

EXAMPLE OF CODING (STANDARD LOCATION PROTOCOL)

25	26	←27 36→	←37 40→ |←41 85→	←86 106→	107 112	←113 132→	←133 144→
← 61 BITS →					← 26 BITS →		
1	1	10	4	45	21	6	20	12
1	0	CC	PC	IDENTIFICATION DATA 24	LATITUDE 1	9	LONGITUDE 1	10	21-BIT BCH CODE	SD	Δ LATITUDE 1	5	4	Δ LONGITUDE 1	5	4	12-BIT BCH CODE
			0011	AIRCRAFT 24 BIT ADDRESS	N = 0 S = 1	LAT DEG 0–90 (1/4 d)	E = 0 W = 1	LON DEG 0–180 (1/4 d)			– = 0 + = 1	MINUTES 0–30 (1 m)	SECONDS 0–56 (4 s)	– = 0 + = 1	MINUTES 0–30 (1 m)	SECONDS 0–56 (4 s)	
			0101	15 AIRCRAFT OPER. DESIGNATOR / 9 SERIAL No 1–511													
			0100	10 C/STA No 1–1023 / 14 SERIAL No 1–16383													

CC = Country Code;
PC = Protocol Code — 0011 indicates 24-bit aircraft address is encoded;
0101 indicates operating agency and serial number are encoded;
0100 indicates ELT serial number is encoded.
SD = Supplementary Data — bits 107 – 110 = 1101;
bit 111 = Encoded Position Data Source (1 = internal; 0 = external)
bit 112: 1 = 121.5 MHz auxiliary radio locating device;
0 = other or no auxiliary radio locating device.

Note 1.- Further details on protocol coding can be found in Specification for COSPAS-SARSAT 406 MHz Distress Beacon (C/S T.001).

Note 2. - All identification and location data are to be encoded in binary notation with the least significant bit on the right except for the aircraft operator designator (3 letter code).

Note 3. - For details on BCH error correcting code see Specification for COSPAS-SARSAT 406 MHz Distress Beacon (C/S T.001).

EXAMPLE OF CODING (NATIONAL LOCATION PROTOCOL)

25	26	←27 36→	←37 40→|←41							85→	←86 106→	107 112	←113						132→	←133 144→
← 61 BITS PDF-1 →											BCH-1	← 26 BITS PDF-2 →								BCH-2
1	1	10	4	45							21	6	7			7			6	12
1	0	CC	1000	18 bits ID	27 bits LATITUDE LONGITUDE							SD	Δ LATITUDE			Δ LONGITUDE				
				18	1	7	5	1	8	5			1	2	4	1	2	4	NU	
				NATIONAL ID NUMBER	N = 0 S = 1	DEGREES 0–90 (1 d)	MINUTES 0–58 (2 m)	E = 0 W = 1	DEGREES 0–180 (1 d)	MINUTES 0–58 (2 m)	21-BIT BCH CODE		– = 0 + = 1	MINUTES 0–3 (1 m)	SECONDS 0–56 (4 s)	– = 0 + = 1	MINUTES 0–3 (1 m)	SECONDS 0–56 (4 s)		12-BIT BCH CODE

CC = Country Code;
ID = Identification Data = 8-bit identification data consisting of a serial number assigned by the appropriate national authority
SD = Supplementary Data = bits 107 – 109 = 110;
bit 110 = Additional Data Flag describing the use of bits 113 to 132:
1 = Delta position; 0 = National assignment;
bit 111 = Encoded Position Data Source: 1 = internal, 0 = external;
bit 112: 1 = 121.5 MHz auxiliary radio locating device;
0 = other or no device
NU = National use = 6 bits reserved for national use (additional beacon type identification or other uses).

Note 1.- Further details on protocol coding can be found in Specification for COSPAS-SARSAT 406 MHz Distress Beacon (C/S T.001).

Note 2.- All identification and location data are to be encoded in binary notation with the least significant bit on the right.

Note 3.- For details on BCH error correcting code see Specification for COSPAS-SARSAT 406 MHZ Distress Beacon (C/S T.001).

ANNEX 12 - SEARCH AND RESCUE

CHAPTER 2. ORGANIZATION

.../...

2.4 Search and rescue communications

.../...

2.4.1 Each rescue coordination centre shall have means of rapid and reliable two-way communication with:

a) associated air traffic services units;

b) associated rescue subcentres;

c) appropriate direction-finding and position-fixing stations;

d) where appropriate, coastal radio stations capable of alerting and communicating with surface vessels in the region;

e) the headquarters of search and rescue units in the region;

f) all maritime rescue coordination centres in the region and aeronautical, maritime or joint rescue coordination centres in adjacent regions;

g) a designated meteorological office or meteorological watch office;

h) search and rescue units;

i) alerting posts; and

j) the Cospas-Sarsat Mission Control Centre servicing the search and rescue region.

Note.- Maritime rescue coordination centres are identified in relevant documents of the International Maritime Organization.

…/…

2.6 Search and rescue equipment

…/…

2.6.4 Each search and rescue aircraft shall be equipped with a device for homing on distress frequencies.

Note 1. - Emergency locator transmitter (ELT) carriage requirements are given in Annex 6, Parts I, II and III.

Note 2.- Specifications for ELTs are given in Annex 10, Volume III.

2.6.5 Each search and rescue aircraft, when used for search and rescue over maritime areas, shall be equipped to be able to communicate with vessels.

Note- Many vessels can communicate with aircraft on 2182 kHz, 4125 kHz and 121.5 MHz. However, these frequencies, and in particular 121.5 MHz, may not be routinely monitored by vessels.

.../...

CHAPTER 3. CO-OPERATION

3.2 Co-operation with other services

.../...

3.2.5 States shall designate a search and rescue point of contact for the receipt of Cospas-Sarsat distress data.

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