QATAR (STATE OF)

1. REGULATIONS

- ELT: Emergency Locator Transmitter,
- EPIRB: Emergency Position-Indicating Radio Beacon,
- LADR: Location of an Aircraft in Distress Repository,
- MMSI: Maritime Mobile Service Identity,
- PLB: Personal Locator Beacon,
- RLS: Return Link Service,
- S/N: Serial Number of the device,
- TAC : Cospas-Sarsat Type-Approval Certificate number.

1.1 General

The Doha Joint Rescue Coordination Centre (DJRCC) / Qatar Mission Control Centre (QAMCC) in cooperation with the Qatar Civil Aviation Authority (CAA) developed "Qatar Civil Aviation Regulation No.71 of 2020 - Emergency Locator Transmitters (ELTs) and Personal Locator Beacons (PLBs)" applicable from 1 December 2020.

In cooperation with the Qatar Ministry of Transport and Communications (MoTC), the DJRCC/QAMCC is finalizing a similar document for EPIRBs, PLBs and SSAS beacons in the State of Qatar.

The following are main State of Qatar reference documents:

- Amiri Decree No.18 of 1980, Chapter II, Article 19, Article 25; Amiri Decree No.8 of 2016, Article 1, Article 3, Article 17,
- Qatar Civil Aviation Regulations No.002 of 2016, CAT.IDE.A.280, CAT.IDE.A.285, CAT.IDE.A.305, CAT.IDE.H.280, CAT.IDE.H.300, CAT.IDE.S.130, CAT.IDE.B.140; Qatar Civil Aviation Regulations No.002 of 2016, NCO.IDE.A.170, NCO.IDE.H.170, NCO.IDE.S.135, NCO.IDE.B.130; Qatar Civil Aviation Regulations No.002 of 2016, SPO.IDE.A.190, SPO.IDE.A.200, SPO.IDE.H.200, SPO.IDE.H.190, SPO.IDE.S.135, SPO.IDE.H.190, SPO.IDE.S.135, SPO.IDE.B.130; Qatar Civil Aviation Regulations No.002 of 2016, CAT.GEN.105.

1.2 EPIRBs

1.2.1 According to the national regulations in the State of Qatar, 300 gross tonnage SOLAS Convention requirement was decreased to 200 gross tonnage (Amiri Decree No.18 of 1980 regarding vessel restrictions and safety requirements (vessels of 200 gross tonnage and upwards)).

1.2.2 (*) The voluntary carriage of 406 MHz EPIRBs on board small boats and pleasure vessels is actively encouraged, in particular on the following non-SOLAS Convention vessels (general provisions of the Amiri Decree No.8 of 2016 regarding small vessels):

a) small passenger vessels under 200 gross tonnage and tugboats when operating more than three nautical miles from shore in sea waters; and

b) uninspected by the Coast Guard passenger vessels which, when used for commercial service solely to carry passengers for hire or to provide non-emergency assistance to boaters (assistance towing) carrying six or fewer passengers (generally resemble recreational boats and yachts.

* Under legalization.

1.2.3 (*) For the following small vessels the beacon carriage is strictly recommended:

a) all vessels 20-foot length and over need to carry an EPIRB;

b) all vessels less than 20-foot length need an EPIRB or one PLB per crew member; and

c) if the vessel of over 20 feet is being operated single-handed, then a PLB may be carried instead of an EPIRB."

* Under legalization.

1.2.4 406 MHz EPIRBs must be compliant with respective requirements of the International Maritime Organization (IMO) (http://www.imo.org) and Cospas-Sarsat (https://www.cospas-sarsat.int/en/documents-pro/system-documents/beacon-regulations-handbook-doc).

1.2.5 406 MHz EPIRBs must meet all the technical and performance standards contained in RTCM (Radio Technical Commission for Maritime Services) 11000 document and certified according to the existing Cospas-Sarsat requirements.

1.2.6 406 MHz EPIRBs must contain as an integral part a "homing" (121.5/243 MHz).

1.2.7 An identification code (Hex ID) must be programmed in each EPIRB unit and shall be shown on the beacon plate or label.

1.3 ELTs

1.3.1 "Qatar Civil Aviation Regulation No.71 of 2020 - Emergency Locator Transmitters (ELTs) and Personal Locator Beacons (PLBs)" is applicable from 1 December 2020 – https://caa.gov.qa/en/node/485.

1.3.2 The State of Qatar, as the Member State of the International Civil Aviation Organization (ICAO), is responsible to meet provisions of the following annexes to the Convention on International Civil Aviation on installation and maintenance of the Emergency Locator Transmitters (ELTs) on board aircraft with the State of Qatar country code 466 capable of transmitting a distress alert through the Cospas-Sarsat satellite system for search and rescue and operating in 406.0 - 406.1 MHz frequency band:

a) Annex 6, Operation of Aircraft;

b) Annex 10, Aeronautical Telecommunications; and

c) Annex 12, Search and Rescue.

1.3.3 The Civil Aviation Authority of the State of Qatar (CAA) (https://www.caa.gov.qa/en-us) authorizes installation of the 406 MHz ELTs on board aircraft registered in the State of Qatar and issues radio licenses and responsible for maintaining up-to date ELTs database.

1.3.4 406 MHz ELTs must be compliant with requirements of the International Civil Aviation Organization (ICAO) (http://www.icao.int), the Middle East Aviation Safety Group (https://www.icao.int/MID/Pages/rasgmid.aspx) and Cospas-Sarsat (https://www.cospas-sarsat.int/en/documents-pro/system-documents/beacon-regulations-handbook-doc).

1.3.5 The QCAA certificate of airworthiness or permit to fly is required to carry ELTs as requested in Annex 6 of ICAO Convention.

1.3.6 Emergency Locator Transmitter (ELT) means 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. The following devices may serve as an ELT:

No.	Type of Device	International Acronym	Description
1.	Automatic fixed ELT	ELT(AF)	ELT that is permanently attached to an aircraft, and that is turned on automatically
2.	Automatic portable ELT	ELT(AP)	ELT that is rigidly attached to an aircraft but readily removable from the aircraft, and that is turned on automatically
3.	Automatically deployable ELT	ELT(AD)	ELT that is rigidly attached to an aircraft and that is deployed and turned on automatically upon impact and, in certain cases, by hydrostatic sensors (manual deployment is also provided)
4.	Survival ELT	ELT(S)	ELT that is removable from an aircraft, stowed so as to facilitate its ready use in an emergency, and turned on manually by survivors
5.	ELT for distress tracking	ELT(DT)	ELT mandated to autonomously transmit information from which an aircraft position can be determined by the operator at least once per minute when the aircraft is in distress.

1.3.7 The following minimum ELT requirements are required to be complied with the State of Qatar registered aircraft to which individual certificate of airworthiness was issued:

No.	Aircraft	Operation Type	Requirements
1.	All aeroplanes	Except as provided for in Nos. 2, 3 and 4	One automatic ELT and one survival ELT
2.	On all flights for the purpose of public transport	Long-range over-water flight [i]	One automatic ELT and two survival ELTs
3	On all flights other than public transport	Extended flights over water [ii]	One automatic ELT and two survival ELTs
4.	All aeroplanes having a maximum Total Weight authorised of 2,730 kg or less	Except as provided for in paragraph Nos. 1 and 2	One automatic ELT
5.	Performance Class 1 and 2 helicopters [iii&iv] 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)

No.	Aircraft	Operation Type	Requirements
6	Performance Class 1 and 2 helicopters [iii&iv]	Except as provided for in No. 5	One automatic ELT and one survival ELT
7.	Performance Class 3 helicopters [v] operating on flights	Flight over water beyond auto rotational 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)
8.	Performance Class 3 helicopters [v] having a Maximum Total Weight Authorised of 2,730 kg or less	Except as provided for in No. 7	One automatic ELT
9.	Performance Class 3 helicopters [v]	Except as provided for in Nos. 7 and 8	One automatic ELT and one survival ELT

Note: Classifications for (i), (ii), (iii), (iv) and (v) are defined by ICAO.

1.3.8 The pilot-in-command of a balloon operated over water shall determine when carrying more than six persons, an ELT and when carrying up to six persons, an ELT or a PLB, carried by a crew member or a passenger.

1.3.9 Touring motor gliders (TMGs) shall be operated following the requirements for aeroplanes when they are power-driven by an engine, and sailplanes when operated without using an engine.

1.3.10 The commander of a sailplane operated over water shall determine the carriage of an ELT or a PLB, carried by a crew member or a passenger.

1.3.11 ELTs must contain as an integral part a “homing” (121.5/243 MHz).

1.3.12 An identification code (Hex ID) must be programmed in each ELT unit and shall be shown on the beacon plate or label.

1.4 PLBs

1.4.1 PLBs are licence exempt in the State of Qatar for voluntary personal use in maritime, aviation and overland environments, in particular as long as the vessel/aircraft crew that they are carried on board has a radio licence.

1.4.2 PLBs shall be:

a) within battery life;

b) regularly tested to ensure they are in working condition; and

c) registered in the users’ name.

1.4.3 National Beacon Regulations for Serial-Coded PLBs

The State of Qatar national beacon regulations for serial-coded PLBs (direct link with its registered owner rather than with a mobile unit (e.g., vessel, aircraft)) are as follows:

Administration	For Terrestrial Applications	In Maritime Environment	On Aircraft	Comments
	Country Recognises PLB Activations	Country Recognises PLB Activations	Country Recognises PLB Activations	
Qatar	Y	Y	Y	Nil

Similar information is available in the new table on the Cospas-Sarsat website (www.cospas-sarsat.int) with the status indication in colors (**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).

1.5 Ship Security Alert System (SSAS) Beacons

1.5.1 Following Chapter XI-2, Regulation 6 of the SOLAS Convention that went into effect on 1 July 2004 and required SOLAS-class vessels to install Ship Security Alert Systems (SSASs), the State of Qatar adopts rules to regulate SSAS beacons designated to utilize the Cospas-Sarsat System.

1.5.2 The State of Qatar adopts also special requirements that 406 MHz SSAS beacons meet the technical and performance standards contained in the RTCM Paper 222-2009-SC110-STD, RTCM Standard 11020.0, Ship Security Alert System (SSAS) Using the Cospas-Sarsat System dated 9 October 2009.

1.5.3 The State of Qatar will assure that required vessels meet SSAS requirements during its inspection of vessels.

1.5.4 The point of contact in the State of Qatar on SSAS matter (Competent Authority) can be find in the IMO database of SSAS competent authorities via the password-protected IMO Global Integrated Shipping Information System (https://gisis.imo.org/Public/Default.aspx).

On request, this information is also available at the DJRCC/QAMCC Operations Room (Tel.: +974 44 218 877, +974 44 218 649, Email: djrccqatar@gmail.com).

2. BEACONS CODING METHODS

2.1 EPIRB Coding Methods

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

WARNING:
Note for maritime protocols that use the Maritime Mobile Service Identity (MMSI) as the vessel identifier: As a result of recent developments, the International Cospas-Sarsat Programme has become aware of maritime Emergency Position-Indicating Radio Beacons (EPIRBs) being coded pursuant to Recommendation ITU-R M.585 using as the beacon "country code" the form "98M", where "M" is the first digit of an MID (Maritime Identification Digits) assigned to an Administration, or using the form "974". No 406-MHz EPIRB should be coded in these ways. A distress message from a beacon so coded will be processed on receipt by Cospas-Sarsat as "invalid" and either discarded or subjected to exception handling. The "country code" of all 406-MHz beacons must be a valid MID assigned by the International Telecommunication Union (ITU) to an Administration, in the numerical range from 200 to 780. No exceptions.

2.2 ELT Coding Methods

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

Country Code	LOCATION PROTOCOLS		
	ELT(DT) Location		
	TAC &S/N [1]	Aircraft Operator Designator and S/N [1]	Aircraft 24-bit Address [2]
466	N	N	Y

Notes: (1) This protocol does not provide an 'Aircraft Identification' as required by ICAO for populating the LADR.

(2) This protocol provides an 'Aircraft Identification', and an 'Aircraft Operator Identity' only when the Aircraft Operator Designator (3LD) is included in the rotating PDF-2 field, as required by ICAO for populating the LADR.

2.3 PLB Coding Methods

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

2.4 Return Link Service (RLS) Protocols

Per document C/S T.001 section A.3.3.7 "RLS Location Protocol", "The RLS-MMSI protocol option is not approved for use in beacons prior to future approval by the [Cospas-Sarsat] Council".

On 10 December 2020, the State of Qatar notified the Cospas-Sarsat Programme of the implementation of proactive handling of RLS-protocol distress alert messages, and authorization for return-link-service-capable beacons to be coded with its national country codes.

3. LIST OF BEACON MODELS TYPE APPROVED BY ADMINISTRATION

All 406 MHz ELT, EPIRB and PLB models which are type-approved by Cospas-Sarsat are allowed for use by the State of Qatar, taking into account the thermal environment operating temperature range: Class 0: -55°C to +70°C, Class 1: -40°C to +55°C and Class 2: -20°C to +55°C: https://www.cospas-sarsat.int/en/beacons-pro/experts-beacon-information/approved-beacon-models-tacs.

4. BEACON TESTING REGULATION

4.1 406 MHz beacons should be tested according to the instructions of the beacon manufacturer.

4.2 Most beacons have a special switch (button) or a special switch-position setting to use for testing, and this should be the only switch/setting used for routine testing.

4.3 Activating a 406 MHz beacon with the distress switch for even a very short time will generate a Cospas-Sarsat distress alert message that will be relayed to search-and-rescue services for immediate action.

4.4 Activating a beacon for reasons other than to indicate a life-threatening 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.

4.5 If a beacon was inadvertently activated in its distress mode by using the distress switch, deactivate the beacon (if it has a deactivation function) and contact the nearest Cospas-Sarsat MCC or your local Rescue Coordination Center (RCC) as soon as possible to request cancellation of the distress alert.

4.6 Coordination of beacon tests. 406 MHz beacons coded with operational protocols shall not be used for tests, except on rare occasions when required by and under control of a national administration, or for international exercises coordinated by the Cospas-Sarsat Joint Committee.

4.7 "Live" beacon testing. In rare circumstances there may be a need to activate a 406 MHz beacon in its distress mode for test purposes. Regardless of the beacon's location or the duration of activation, a 406 MHz beacon likely will be detected by Cospas-Sarsat and the resulting distress-alert message will be routed to an MCC and RCC for search-and-rescue resource deployment.

4.8 Aircraft cockpit testing of distress beacons by aircraft maintenance facilities. Generally, remote cockpit activations are performed on initial installation and during maintenance work on the ELT itself. Routine ELT testing (for example, by cockpit crews), regardless the time during an hour, should be undertaken only by using the test-switch position

intended for that purpose. If activation of the distress-switch function is required, electromagnetic shielding of the beacon antenna should be considered prior to the "live" distress-switch-activated test.

4.9 "Live" distress-function testing of a 406 MHz ELT from the cockpit may be performed taking into account that if the switch is in the distress-alert position for more than 5 seconds, a distress transmission may be initiated, and the nearest MCC, RCC and Air Traffic Services (ATS) Centre for the location of the alert transmission must be advised so that no search-and-rescue resources will be deployed. When performing a live distress-alert-function test, also consider that a 121.5/243 MHz homing transmission may also be activated as part of this test, and precautions must be taken to ensure that the 121.5/243 MHz signal is not falsely interpreted by other aircraft or airport facilities as a distress alert (this is the one situation in which it may be advisable to test in the first five minutes of an hour).

4.10 Temporary procedure for special/irregular ELT "live" testing. As agreed between DJRCC and Qatar Airways on 17 October 2021, the temporary procedure to coordinate with DJRCC the performance of special/irregular in case of airplane loss of ELT antenna blade ELT "live" testing is as follows:

a) As soon as Qatar Airways identifies that special/irregular ELT "live" testing is required to be conducted, Qatar Airways IOC (Operations Control Center) will immediately notify DJRCC.

b) The notification to DJRCC will be done through phone call and email (+974 4421 8877, +974 4421 8649, djrccqatar@gmail.com).

c) The defined temporary procedure for special/irregular ELT "live" testing is only to be used on urgent/emergency situations.

This cooperative action is recognized as an intentional "authorized" false alert (Beacon Mishandling) - see document C/S.003, page A-9 at: https://www.cospas-sarsat.int/en/documents-pro/system-documents/systemdocuments.

4.11 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.

5. FALSE ALERT MANAGEMENT

5.1 Ensure that all relevant personnel know the importance of avoiding false distress alerts, the steps to be taken to prevent the transmission of false distress alerts, particularly about how to operate a 406 MHz beacon and test it without transmitting a false distress alert.

5.2 Be familiar with the procedures to be followed when a false distress alert has been transmitted (information to be sent immediately to the nearest RCC).

5.3 Investigate the cause when a specific model of 406 MHz beacon repeatedly transmits unwanted distress alerts and inform the appropriate organizations accordingly.

5.4 (*) Any unauthorized 406 MHz beacon activations that are considered gross negligence, wilful violation or intentional act with intent to harm or deceive can result in prosecution according to the State of Qatar national law.

* Under legalization.

5.5 The following file presents the existing text of the IMO Resolution A.814(19) "Guidelines for the Avoidance of False Distress Alerts":

https://wwwcdn.imo.org/localresources/en/OurWork/Safety/Documents/A.%20814%20-19%20-%20Guidelines%20for%20the%20avoidance%20of%20false%20distress%20alerts%20-%20adopted%2023%20November%201995.pdf

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

Updated point of contact details for administrations are available at: https://www.cospas-sarsat.int/en/contacts-pro/contacts-details-all.

7. BEACON REGISTRATION FORMS

7.1 Regulation

7.1.1 To enhance protection of life and property it is mandatory in the State of Qatar to register each 406 MHz beacon with the 466 national country code in the International Beacon Registration Database (IBRD) or national (government/military) database by contacting the Doha Joint Rescue Coordination Centre (DJRCC) / Qatar Mission Control Centre (QAMCC) (Tel.: 974 4421 8877, 974 4421 8649, e-mail: djrccqatar@gmail.com) before installation.

7.1.2 According to Annex 10 of ICAO's Chicago Convention, a valid email address is mandatory to register an ELT.

7.1.3 (*) Failure to register 406 MHz beacon with the DJRCC/QAMCC before installation could be considered gross negligence, wilful violation or intentional act with intent to harm or deceive any of which can result in prosecution according to the State of Qatar national law.

* Under legalization.

7.1.4 A respective registration card should be filled that requests the beacon owner's name , address, telephone number, type of aircraft/vessel, alternate emergency contact and other information as required to be used in the IBRD or national (government/military) database.

7.1.5 Upon successful registration, the beacon owner is issued with a copy of the database entry and a respective proof of registration label should be affixed to the beacon. The

registration label is valid for two years.

7.1.6 A beacon owner shall advise the DJRCC/QAMCC in writing upon transfer of ELT/EPIRB/PLB to another aircraft/vessel/person or any change in registration information.

7.1.7 This information should be kept up-to-date whenever necessary and its accuracy should be verified every two years. It is important to contact the DJRCC/QAMCC anytime the contact information changes. Beacon owners can update their registration information as often as it changes.

7.1.8 A 406 MHz beacon owner should be sure that his/her beacon was properly registered using the hexadecimal (0-9 and A-F) identification ("Hex ID") and respective label is available on the beacon.

7.2 Forms

Registration forms are available on the DJRCC/QAMCC website (http://www.djrcc.com.qa).

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