# UNITED STATES OF AMERICA

## 1. REGULATIONS

### 1.1 General

Nil.

### 1.2 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 3 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.

47 CFR Part 80 - Stations in the Maritime Services Subpart V - Emergency Position Indicating Radiobeacons (EPIRB's) contain the specifications and regulations for 406 MHz EPIRBS

**80.1051 Scope.**

This subpart describes the technical and performance requirements for EPIRB stations.

**80.1053 Prohibition on certification, manufacture, importation, sale or use of Class A, Class B, Class S, and INMARSAT-E EPIRBs.**

The manufacture, importation, sale or use of Class A, Class B, Class S, or INMARSAT-E EPIRBs is prohibited. New Class A, Class B, Class S, or INMARSAT-E EPIRBs will no longer be certified by the Commission.

**80.1061 Special requirements for 406.0-406.1 MHz EPIRB stations.**

(a) Notwithstanding the provisions in paragraph (b) of this section, 406.0-406.1 MHz EPIRBs must meet all the technical and performance standards contained in RTCM 11000 (incorporated by reference, *see*§ 80.7), and must also comply with the standards specified in § 80.1101(c)(5). Beginning January 17, 2018, all new applications for certification of 406.0-406.1 MHz EPIRBs must demonstrate compliance with the requirements of RTCM 11000. 406.0-406.1

MHz EPIRBs that do not meet the requirements of RTCM 11000 shall not be manufactured, imported, or sold in the United States beginning January 17, 2020. Operation of 406.0-406.1 MHz EPIRBs that do not meet the requirements of RTCM 11000 shall be prohibited on vessels subject to 47 CFR subparts R, S, or W beginning January 17, 2023. Existing 406.0-406.1 MHz EPIRBs that do not meet the requirements of RTCM 11000 must be operated as certified.

(b) The 406.0-406.1 EPIRB must contain as an integral part a "homing" beacon operating only on 121.500 MHz that meets all the requirements described in the RTCM Recommended Standards document described in paragraph (a) of this section. The 121.500 MHz "homing" beacon must have a continuous duty cycle that may be interrupted during the transmission of the 406.0-406.1 MHz signal only. Additionally, at least 30 percent of the total power emitted during any transmission cycle must be contained within plus or minus 30 Hz of the carrier frequency.

(c) Prior to submitting a certification application for a 406.0-406.1 MHz radiobeacon, the radiobeacon must be certified by a test facility recognized by one of the COSPAS-SARSAT Partners that the equipment satisfies the design characteristics associated with the measurement methods incorporated in RTCM Standard 11000 (incorporated by reference, *see*§ 80.7). Additionally, the radiobeacon must be subjected to the environmental and operational tests associated with the test procedures described in Appendix A of RTCM Standard 11000, by a test facility accepted by the U.S. Coast Guard for this purpose. Information regarding accepted test facilities may be obtained from Commandant (CG-ENG-4), U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Ave. SE., Washington, DC 20593-7126, *http://cgmix.uscg.mil/EQLabs/EQLabsSearch.aspx.*

(1) After a 406.0-406.1 MHz EPIRB has been certified by the recognized test facilities the following information must be submitted in duplicate to *typeapproval@uscg.mil* or the Commandant (CG-ENF-4), U.S. Coast Guard Stop 7509, 2703 Martin Luther King Jr. Ave. SE., Washington, DC 20593-7509:

(i) The name of the manufacturer or grantee and model number of the EPIRB;

(ii) Copies of the certificate and test data obtained from the test facility recognized by a COSPAS/SARSAT Partner showing that the radiobeacon complies with the COSPAS-SARSAT design characteristics associated with the measurement methods incorporated in RTCM 11000;

(iii) Copies of the test report and test data obtained from the test facility recognized by the U.S. Coast Guard showing that the radiobeacon complies with the U.S. Coast Guard environmental and operational characteristics associated with the measurement methods described in Appendix A of the RTCM Recommended Standards; and

(iv) Instruction manuals associated with the radiobeacon, description of the test characteristics of the readiobeacon including assembly drawings, electrical schematics, description of parts list, specifications of materials and the manufacturer's quality assurance program.

(2) After reviewing the information described in paragraph (c)(1) of this section the U.S. Coast Guard will issue a letter stating whether the radiobeacon satisfies all RTCM Recommended Standards.

(d) A certification application for a 406.0-406.1 MHz EPIRB must also contain a copy of the U.S. Coast Guard letter that states the radiobeacon satisfies all RTCM Recommended Standards, a copy of the technical test data, and the instruction manual(s).

(e) An identification code, recognized by the National Oceanic and Atmospheric Administration (NOAA), the United States Program Manager for the 406.0-406.1 MHz COSPAS/SARSAT satellite system, must be programmed in each EPIRB unit to establish a unique identification for each EPIRB station. With each marketable EPIRB unit, the manufacturer or grantee must include a postage pre-paid registration card printed with the EPIRB identification code addressed to: NOAA/SARSAT Beacon Registration, NSOF, E/SPO53, 1315 East West Hwy, Silver Spring, MD 20910-3282. The registration card must request the owner's name, address, telephone number, type of ship, alternate emergency contact and other information as required by NOAA. The registration card must also contain information regarding the availability to register the EPIRB at NOAA's online web-based registration database at: *http://www.beaconregistration.noaa.gov.* In addition, the following statement must be included: "WARNING - failure to register this EPIRB with NOAA before installation could result in a monetary forfeiture being issued to the owner."

(f) To enhance protection of life and property it is mandatory that each 406.0-406.1 MHz EPIRB be registered with NOAA before installation and that information be kept up-to-date. Therefore, in addition to the identification plate or label requirements contained in §§ 2.925 and 2.926 of this chapter, each 406.0-406.1 MHz EPIRB must be provided on the outside with a clearly discernible permanent plate or label containing the following statement: "The owner of this 406.0-406.1 MHz EPIRB must register the NOAA identification code contained on this label with the National Oceanic and Atmospheric Administration (NOAA) whose address is: NOAA/SARSAT Beacon Registration, NSOF, E/SPO53, 1315 East West Hwy, Silver Spring, MD 20910-3282." Vessel owners shall advise NOAA in writing upon change of vessel or EPIRB ownership, transfer of EPIRB to another vessel, or any other change in registration information. NOAA will provide registrants with proof of registration and change of registration postcards.

(g) For 406.0-406.1 MHz EPIRBs whose identification code can be changed after manufacture, the identification code shown on the plate or label must be easily replaceable using commonly available tools.

### 1.3 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 9 October 2009. The U.S. Coast Guard will assure that required vessels meet SSAS requirements during its inspection of vessels.

## 1.4 ELTs

14 CFR 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 Technical Standard Order (TSO) C91a or C126. or later TSOs issued for ELTs.

**14 CFR Section 91-207**

(a) Except as provided in paragraphs (e) and (f) of this section, no person may operate a U.S.-registered civil airplane unless -

(1) There is attached to the airplane an approved automatic type emergency locator transmitter that is in operable condition for the following operations, except that after June 21, 1995, an emergency locator transmitter that meets the requirements of TSO-C91 may not be used for new installations:

(i) Those operations governed by the supplemental air carrier and commercial operator rules of parts 121 and 125;

(ii) Charter flights governed by the domestic and flag air carrier rules of part 121 of this chapter; and

(iii) Operations governed by part 135 of this chapter; or

(2) For operations other than those specified in paragraph (a)(1) of this section, there must be attached to the airplane an approved personal type or an approved automatic type emergency locator transmitter that is in operable condition, except that after June 21, 1995, an emergency locator transmitter that meets the requirements of TSO-C91 may not be used for new installations.

(b) Each emergency locator transmitter required by paragraph (a) of this section must be attached to the airplane in such a manner that the probability of damage to the transmitter in the event of crash impact is minimized. Fixed and deployable automatic type transmitters must be attached to the airplane as far aft as practicable.

(c) Batteries used in the emergency locator transmitters required by paragraphs (a) and (b) of this section must be replaced (or recharged, if the batteries are rechargeable) -

(1) When the transmitter has been in use for more than 1 cumulative hour; or

(2) When 50 percent of their useful life (or, for rechargeable batteries, 50 percent of their useful life of charge) has expired, as established by the transmitter manufacturer under its approval.

The new expiration date for replacing (or recharging) the battery must be legibly marked on the outside of the transmitter and entered in the aircraft maintenance record. Paragraph (c)(2) of this section does not apply to batteries (such as water-activated batteries) that are essentially unaffected during probable storage intervals.

(d) Each emergency locator transmitter required by paragraph (a) of this section must be inspected within 12 calendar months after the last inspection for -

(1) Proper installation;

(2) Battery corrosion;
(3) Operation of the controls and crash sensor; and
(4) The presence of a sufficient signal radiated from its antenna.

(e) Notwithstanding paragraph (a) of this section, a person may -
(1) Ferry a newly acquired airplane from the place where possession of it was taken to a place where the emergency locator transmitter is to be installed; and
(2) Ferry an airplane with an inoperative emergency locator transmitter from a place where repairs or replacements cannot be made to a place where they can be made.
No person other than required crewmembers may be carried aboard an airplane being ferried under paragraph (e) of this section.

(f)Paragraph (a) of this section does not apply to -
(1) Before January 1, 2004, turbojet-powered aircraft;
(2)Aircraft while engaged in scheduled flights by scheduled air carriers;
(3)Aircraft while engaged in training operations conducted entirely within a 50-nautical mile radius of the airport from which such local flight operations began;
(4)Aircraft while engaged in flight operations incident to design and testing;
(5) New aircraft while engaged in flight operations incident to their manufacture, preparation, and delivery;
(6)Aircraft while engaged in flight operations incident to the aerial application of chemicals and other substances for agricultural purposes;
(7)Aircraft certificated by the Administrator for research and development purposes;
(8)Aircraft while used for showing compliance with regulations, crew training, exhibition, air racing, or market surveys;
(9)Aircraft equipped to carry not more than one person.
(10) An aircraft during any period for which the transmitter has been temporarily removed for inspection, repair, modification, or replacement, subject to the following:
(i) No person may operate the aircraft unless the aircraft records contain an entry which includes the date of initial removal, the make, model, serial number, and reason for removing the transmitter, and a placard located in view of the pilot to show "ELT not installed."
+(ii) No person may operate the aircraft more than 90 days after the ELT is initially removed from the aircraft; and
(11) On and after January 1, 2004, aircraft with a maximum payload capacity of more than 18,000 pounds when used in air transportation.

**47 CFR 87.199 Special requirements for 406.0-406.1 MHz ELTs**.

(a) 406.0-406.1 MHz ELTs use G1D emission. Except for the spurious emission limits specified in § 87.139(h), 406.0-406.1 MHz ELTs must meet all the technical and performance standards contained in the Radio Technical Commission for Aeronautics document titled "Minimum Operational Performance Standards 406 MHz Emergency Locator Transmitters (ELT)" Document No. RTCA/DO-204 dated September 29, 1989. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C 552(a) and 1 CFR part 51. Copies of this standard can be inspected at the Federal Communications Commission, 445 12th Street SW., Washington, DC (Reference Information Center) or at the National

Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.* Copies of the RTCA standards also may be obtained from the Radio Technical Commission for Aeronautics, Inc., 1150 18th Street NW., Suite 910, Washington, DC 20036.

(b) The 406.0-406.1 MHz ELT must contain as an integral part a homing beacon operating only on 121.500 MHz that meets all the requirements described in the RTCA Recommended Standards document described in paragraph (a) of this section. The 121.500 MHz homing beacon must have a continuous duty cycle that may be interrupted during the transmission of the 406.0-406.1 MHz signal only.

(c) As part of its Supplier's Declaration of Conformity a 406.0-406.1 MHz ELT, the ELT must be certified by a test facility recognized by one of the COSPAS/SARSAT Partners that the equipment satisfies the design characteristics associated with the COSPAS/SARSAT document COSPAS/SARSAT 406 MHz Distress Beacon Type Approval Standard (C/S T.007). Additionally, an independent test facility must certify that the ELT complies with the electrical and environmental standards associated with the RTCA Recommended Standards.

Note 1 to paragraph (C):

The verification procedure has been replaced by Supplier's Declaration of Conformity. Equipment previously authorized under subpart J of part 2 of this chapter may remain in use. See § 2.950 of this chapter.

(d) The procedures for Supplier's Declaration of Conformity are contained in subpart J of part 2 of this chapter.

(e) An identification code, issued by the National Oceanic and Atmospheric Administration (NOAA), the United States Program Manager for the 406.0-406.1 MHz COSPAS/SARSAT satellite system, must be programmed in each ELT unit to establish a unique identification for each ELT station. With each marketable ELT unit the manufacturer or grantee must include a postage pre-paid registration card printed with the ELT identification code addressed to: NOAA/SARSAT Beacon Registration, NSOF, E/SPO53, 1315 East West Hwy, Silver Spring, MD 20910-3282. The registration card must request the owner's name, address, telephone, type of aircraft, alternate emergency contact, and other information as required by NOAA. The registration card must also contain information regarding the availability to register the ELT at NOAA's online Web-based registration database at: *http://www.beaconregistration.noaa.gov.* Further, the following statement must be included: “WARNING - failure to register this ELT with NOAA before installation could result in a monetary forfeiture being issued to the owner.”

(f) To enhance protection of life and property, it is mandatory that each 406.0-406.1 MHz ELT must be registered with NOAA before installation and that information be kept up-to-date. In addition to the identification plate or label requirements contained in §§ 2.925 and 2.926 of this chapter, each 406.0-406.1 MHz ELT must be provided on the outside with a clearly discernable permanent plate or label containing the following statement: “The owner of this 406.0-406.1 MHz ELT must register the NOAA identification code contained on this label with the National Oceanic and Atmospheric Administration (NOAA), whose address is: NOAA/SARSAT Beacon Registration, NSOF, E/SPO53, 1315 East West Hwy, Silver Spring, MD 20910-3282.” Aircraft owners shall advise NOAA in writing upon change of aircraft or ELT ownership, or any other

change in registration information. Fleet operators must notify NOAA upon transfer of ELT to another aircraft outside of the owner's control, or any other change in registration information. NOAA will provide registrants with proof of registration and change of registration postcards.

(g) For 406.0-406.1 MHz ELTs whose identification code can be changed after manufacture, the identification code shown on the plant or label must be easily replaceable using commonly available tools.

On November 8, 2019 the FCC in its Fourth Report and Order amended 47 CFR 87.195 to state that ELTs that operate only on frequency 121.5 MHz will no longer be certified. The manufacture, importation, and sale of ELTs that operate only on frequency 121.5 MHz is prohibited beginning July 10, 2019. Existing ELTs that operate only on frequency 121.5 MHz must be operated as certified

## 1.5 PLBs

47 CFR Part 95 - Personal Radio Services Subpart K - Personal Locator Beacons and Maritime Survivor Locating Devices contain the rules and regulations for 406 MHz Personal Locator Beacons and Maritime Survivor Locating Devices. The MSLD Information is included for completeness of the regulatory reference

**95.2901 Scope.**

This subpart contains rules that apply only to Personal Locator Beacons (PLBs) and Maritime Survivor Locating Devices (MSLDs).

**95.2903 Definitions, PLBs and MSLDs.**

Identification code. An identification code issued by the National Oceanic and Atmospheric Administration (NOAA) to establish a unique identification for each PLB.

National Oceanic and Atmospheric Administration (NOAA). The U.S. Government Agency that is the United States Program Manager for the 406 MHz COSPAS/SARSAT satellite system.

Maritime Survivor Locating Device (MSLD). A device intended to aid in the location of persons in the water.

Personal Locator Beacon (PLB). A small portable transmitter, compliant with all of the rules in this subpart, that is intended to provide individuals in remote areas a means to alert others of an emergency situation and to aid search and rescue personnel to locate those in distress.

**95.2905 PLB registration.**

Each PLB owner must initially register their PLB with National Oceanic and Atmospheric Administration (NOAA) and must advise NOAA of any subsequent change of ownership or other change in the registration information. Each PLB is registered by its identification code (*see*§ 95.2987(b)).

(a)PLB owners are encouraged to register their PLBs through the internet using the following Web site: *http://www.beaconregistration.noaa.gov*

(b)PLB owners may also register their PLBs by mailing a completed registration card to the following address: NOAA SARSAT Beacon Registration, NSOF, E/SPO53, 1315 East West Hwy., Silver Spring, MD 20910-9684.

**95.2931 Permissible use of PLBs and MSLDs.**

(a)PLBs may be used only for transmission of distress and safety of life communications.

(b)MSLDs may be used only to aid in the location of persons in the water.

**95.2933 Prohibited use of PLBs and MSLDs.**

(a)PLBs must not be used for any purpose other than transmission of distress and safety of life communications.

(b) Use of MSLDs on land is not authorized.

**95.2961 PLB and MSLD transmitter certification.**

(a) Each PLB and MSLD transmitter must be certified in accordance with this subpart and part 2 of this chapter.

(b) A grant of equipment certification will not be issued for any PLB or MSLD transmitter type that fails to comply with all of the applicable rules in this subpart.

**95.2963 PLB and MSLD frequency bands.**

(a) The frequency band 406.0-406.1 MHz is an emergency and distress frequency band available for use by Personal Locator Beacons (PLBs). Use of these frequencies must be limited to transmission of distress and safety of life communications.

(b)MSLDs must:

(1)Transmit on at least one of the following frequencies: 121.5 MHz, 156.525 MHz, 156.750 MHz, 156.800 MHz, 156.850 MHz, 161.975 MHz, or 162.025 MHz; or

(2) Include a function intended to send a distress message directly to the U.S. Coast Guard or any other search and rescue organization.

**95.2971 PLB emission type.**

PLB transmitter types must be designed to use emission type G1D on the frequency band 406.0-406.1 MHz.

**95.2987 Additional PLB and MSLD certification requirements.**

(a) To be certified for use under this subpart, 406 MHz PLB transmitter types must be designed to satisfy the following additional requirements.

(1)*Certifications.* Beginning January 17, 2018, before submitting an application for FCC certification of a 406 MHz PLB transmitter type, the applicant must obtain:

(i) Certification from a test facility recognized by one of the COSPAS/SARSAT Partners that the PLB transmitter type satisfies the standards in RTCM 11010; and,

(ii) Certification from an independent test facility that the PLB transmitter type complies with the electrical and environmental standards associated with RTCM 11010.

(2)*Identification code.* An identification code, recognized by the National Oceanic and Atmospheric Administration (NOAA), the United States Program Manager for the 406 MHz COSPAS/SARSAT satellite system, must be programmed into each PLB to establish a unique identification for that PLB.

(b) To be certified for use under this subpart, MSLD transmitter types must be designed to satisfy the following additional requirements.

(1) A test report from a test laboratory which shows that the MSLD complies with the electrical and environmental standards associated with RTCM 11901. The test laboratory must be accredited to ISO-IEC 17025 with a scope covering the applicable requirements and test procedures.

(2) After the MSLD has been certified by a test laboratory, the following information must be submitted in duplicate to the U.S. Coast Guard, 2703 Martin Luther King Jr. Ave. SE., Stop 7126, Washington, DC 20593-7126:

(i) The name of the manufacturer or grantee and model number of the MSLD;

(ii) Copies of the test report and test data showing that the MSLD complies with the electrical and environmental standards associated with RTCM 11901; and

(iii) Instruction manuals associated with the MSLD, description of the test characteristics of the MSLD including assembly drawings, electrical schematics, description of parts list, specifications of materials and the manufacturer's quality assurance program.

(3) After reviewing the information described in paragraph (b)(2) of this section, the U.S. Coast Guard will issue a letter stating whether the MSLD satisfies all RTCM Recommended Standards. In the case of an MSLD that includes a function intended to send a distress message directly to the U.S. Coast Guard or any other search and rescue organization, the letter will also state whether the U.S. Coast Guard endorses that function.

(4) A certification application for an MSLD must contain a copy of the U.S. Coast Guard letter stating that the device satisfies all RTCM Recommended Standards, a copy of the technical test data, and the instruction manual(s).

**95.2989 PLB and MSLD technical standards.**

(a) PLB transmitter types must be designed to comply with technical standard RTCM 1010.2. MSLD transmitter types must be designed to comply with technical standard RTCM 11901.1.

(b) The standards required in this section are incorporated by reference into this section with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at FCC headquarters at 445 12th Street SW., Washington, DC 20554, and is available from the sources indicated in this paragraph (b). It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA call 202-741-6030 or go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

(1) The following standards are available from the Radio Technical Commission for Maritime Services, 1611 N. Kent St., Suite 605, Arlington, Virginia 22209-2128.

(i) RTCM 11010.2, "406 MHz Satellite Personal Locator Beacons (PLBs)," including Amendments 1 and 2, dated June 8, 2012 (RTCM 11010).

(ii) RTCM 11901.1, "Maritime Survivor Locating Devices (MSLD)," dated June 4, 2012.

(2) [Reserved].

**95.2991 PLB and MSLD marketing limitations.**

(a) No device may be marketed or sold in the United States as a "PLB" or "Personal Locator Beacon" unless it is compliant with all of the rules in this subpart. Previously approved PLBs that do not meet the requirements of RTCM 11010 shall not be manufactured, imported, or sold in the United States beginning January 17, 2020.

(b) No device may be marketed or sold in the United States as a "MSLD" or "Maritime Survivor Locating Device" unless it complies with the requirements of RTCM 11901. Previously approved devices intended to aid in the location of persons in the water that do not meet the requirements of this subpart shall not be manufactured, imported, or sold in the United States beginning January 17, 2018.

**95.2993 PLB identification plate or label and registration card.**

To enhance protection of life and property, it is mandatory that each 406 MHz PLB be registered with NOAA and that information be kept up-to-date.

(a) *Identification plate or label.* In addition to the identification plate or label requirements contained in §§ 2.925 and 2.926 of this chapter, each 406 MHz PLB must be provided on the outside with a clearly discernable permanent plate or label.

(1) The plate or label must contain the following statement:

The label must contain the following statement "The owner of this PLB must register it with the relevant national authority. In the US the owner must register the ID code on this label at www.beaconregistration.noaa.gov."[1]

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(2) For PLBs with identification codes that can be changed after manufacture, the identification code shown on the plate or label must be easily replaceable using commonly available tools.

(b)*Registration card.* With each marketable PLB unit, the manufacturer or equipment certification grantee must include a postage pre-paid registration card.

[1] A petition for a change to the regulation has been submitted to the Federal Communications Commission (FCC) to revise section 95.2993 and update the label requirements to align with the requirements as set forth in the RTCM Standards 11000.5 (EPRIB) and 11010.4 (PLB).

(1) The identification code of the PLB (*see*§ 95.2987(c)) must be printed on the registration card.

(2) The registration card must be addressed to: NOAA SARSAT Beacon Registration, NSOF, E/SPO53, 1315 East West Hwy., Silver Spring, MD 20910-3282.

(3) The registration card must request the owner's name, address, telephone number and alternate emergency contact.

(4) The registration card must include the following statement:

WARNING - failure to register this PLB with NOAA could result in a monetary forfeiture order being issued to the owner.

### 1.5.1 National Beacon Regulations for Serial-Coded PLBs

| Administration | 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 | 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).

## 2. BEACONS CODING METHODS

Sections 2.1 to 2.5 reference First Generation Beacons (FGBs), coded per document C/S T.001. Section 2.6 references Second Generation Beacons (SGBs), coded per document C/S T.018.

### 2.1 EPIRB Coding Methods (FGBs)

| | Country Code | USER PROTOCOLS | | | | LOCATION PROTOCOLS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Maritime User | | Serial User | Radio Call Sign | User Location (Location in External Field) | | | | Standard Location | | National Location | RLS (Return Link Service) 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** | Serial Number Assigned by NOAA** or C/S TAC# |
| **Bits 37-39** | | 010 | 010 | 011 | 110 | 010 | 010 | 011 | 110 | | | | |
| **Bits 37-40** | | | | | | | | | | 0010 | 0110 | 1010 | *1101* |
| **Bits 40-42** | | | | 010 or 100 | | | | 010 or 100 | | | | | *101* |
| **Protocol Allowed*****| 366, 367 | N | Y | Y | Y | N | Y | Y | Y | N | Y | Y | *Y* |
| **Protocol Currently in Use** | 366, 367 | N | Y | Y | Y | | | | | N | 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. RLS beacons with a value of 920 - 948 in bits 43 - 52 are reserved for national use and shall only be coded as allocated by NOAA. RLS beacons with a value of 949 in bits 43 - 52 are reserved for type approval testing. Per document C/S A.001 Table 4-6, RLS beacons shall not be coded for any country code with a value of 0 or a value of 950 – 959 in bits 43 – 52. RLS beacons shall not be coded with an MMSI (where MMSI is indicated if bits 43 – 46 = 1111).

*** Country Code 366 should be used prior to 367

## 2.2 ELT Coding Methods (FGBs)

| | Country Code | USER PROTOCOLS | | | | LOCATION PROTOCOLS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Serial User | | | Aviation User | User Location (Location in External Field) | | | | Standard Location | | | National Location | RLS (Return Link Service) 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** | Serial Number Assigned by NOAA** or C/S TAC# |
| **Bits 37-39** | | 011 | 011 | 011 | 001 | 011 | 011 | 011 | 001 | | | | | |
| **Bits 37-40** | | | | | | | | | | 0100 | 0101 | 0011 | 1000 | *1101* |
| **Bits 40-42** | | 000 | 001 | 011 | | 000 | 001 | 011 | | | | | | *100* |
| **Protocol Allowed** *** | 366, 367 | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | *Y* |
| **Protocol Currently in Use** | 366, 367 | Y | 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. RLS beacons with a value of 920 - 948 in bits 43 - 52 are reserved for national use and shall only be coded as allocated by NOAA. RLS beacons with a value of 949 in bits 43 - 52 are reserved for type approval testing. Per document C/S A.001 Table 4-6, RLS beacons shall not be coded for any country code with a value of 0 or a value of 950 – 959 in bits 43 – 52.

*** Country Code 366 should be used prior to 367

## 2.3 PLB Coding Methods (FGBs)

| | Country Code | USER PROTOCOLS | LOCATION PROTOCOLS | | | |
|---|---|---|---|---|---|---|
| | | Serial User | User Location | Standard Location± | National Location | RLS (Return Link Service) Location |
| | | PLB with Serial Number* | PLB with Serial Number | PLB with Serial Number* | Serial Number Assigned by NOAA** | Serial Number Assigned by NOAA** or C/S TAC# |
| **Bits 37-39** | | 011 | 011 | | | |
| **Bits 37-40** | | | | 0111 | 1011 | *1101* |
| **Bits 40-42** | | 110 | 110 | | | *110* |
| **Protocol Allowed***** | 366, 367 | Y | Y | Y | Y | *Y* |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Protocol Currently in Use** | 366, 367 | 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. RLS beacons with a value of 920 - 948 in bits 43 - 52 are reserved for national use and shall only be coded as allocated by NOAA. RLS beacons with a value of 949 in bits 43 - 52 are reserved for type approval testing. Per document C/S A.001 Table 4-6, RLS beacons shall not be coded for any country code with a value of 0 or a value of 950 – 959 in bits 43 – 52.

*** Country Code 366 should be used prior to 367.

## 2.4 National User Coding Methods (FGBs)

| | **Country Code** | **USER PROTOCOLS** |
|---|---|---|
| **Bits 37-39** | | 100 |
| **Bits 40-85** | | * |
| **Bits 107-112** | | * |
| **Protocol Allowed** | 366, 367 | Y |
| **Protocol Currently in Use** | 366, 367 | Y |

Note: * Bits allocated by NOAA to National Programs. Manufacturers must have National Program Manager contact NOAA for bit allocation.

## 2.5 Ship Security Alert System (SSAS) Coding Methods (FGBs)

| | **Country Code** | **USER PROTOCOLS** |
|---|---|---|
| **Bits 37-40** | | 1100 |
| **Protocol Allowed** | 366, 367 | Y |
| **Protocol Currently in Use** | 366, 367 | Y |

## 2.6 Second Generation Beacon Coding Methods

Per document C/S T.018 Table 3.1, bits 91 - 93 of the SGB message identify the type of Vessel Id and related Vessel Id information (such as MMSI or Aircraft Registration Marking) is provided in bits 94 -137 of the SGB message. Per T.018, if bits 91 - 93 = 0, then either there is no associated Vessel Id information (if bits 94 - 137 are all zeroes) or national use information is provided (if bits 94 -137 are not all zeroes). If bits 91-93 = 0, bits 94 - 137 shall be set to all zeroes unless another value for these bits has been allocated by NOAA to a beacon manufacturer or National Program.

Other aspects of the coding of SGBs are TBD.

## 3. LIST OF BEACON MODELS TYPE APPROVED BY ADMINISTRATION

Not available.

## 4. BEACON TESTING REGULATION

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.

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

The points of contact for beacon matters are:

- EPIRBs (type approval):

United States Coast Guard (CG-ENG) / Lifesaving & Fire Safety Standards Division,

- ELTs (type approval):

Federal Aviation Administration / Aircraft Certification and Regulation

- EPIRBs, ELTs, PLBs (coding and registration):

NOAA / NSOF, E/SPO53

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

## 6. BEACON REGISTRATION

### 6.1 Regulation

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 United States 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.

## 6.2 Forms

Online beacon registration forms (EPIRBs, ELTs, PLBs): www.beaconregistration.noaa.gov.

- END OF SECTION -