CANADA

1. REGULATIONS

1.1 General

Acronyms and definitions listed below are not specific to Canadian regulations. Following links are provided for information only:

- 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.

1.2 Emergency Position-Indicating Radio Beacons (EPIRBs)

Carriage Requirements

Since 2020, most commercially operated vessels, including fishing vessels, operating outside sheltered waters have been required to be equipped with a 406 MHz EPIRB. Specific regulations are found in section 209 of the *Navigation Safety Regulations, 2020*.

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

Performance and Certification

EPIRBs must meet the technical certification specified in the *Navigation Safety Regulations, 2020*. EPIRBs for sale in Canada must have a letter of recommendation from Transport Canada's Marine Safety and Security Directorate (and be technically accepted for use by Innovation, Science and Economic Development Canada (ISED, formerly Industry Canada) in accordance with Radio Standard Specification 287 (RSS-287).

The importation, use or sale of an EPIRB that operates only on 121.5 MHz or 243 MHz is prohibited by ISED's RSS 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 the 406 MHz band are required by regulations to be registered with the Canadian Beacon Registry (CBR).

1.3 Emergency Locator Transmitters (ELTs)

Carriage Requirements

Generally, most powered aircraft operated in Canada are required to be equipped with an ELT capable of transmitting on a frequency of 406 MHz as well as on a frequency of 121.5 MHz for homing purposes.

Refer to section 605.38 of the *Canadian Aviation Regulations* (CAR) for specific ELT carriage requirements.

Please note that until November 2025, these requirements are limited to Part VI aeroplanes as define in section 604.02 of the CAR, after which it will be extended to recreational aeroplanes.

Performance and Certification

Generally, ELTs must comply with CAN-TSO-C91A for 121.5 MHz ELTs and CAN-TSO-C126 or later revisions for 406 MHz ELTs.

As radio equipment, ELTs require certification to ISED's Spectrum Management and Telecommunications Radio standards and specifications. ELT manufacturers are responsible for obtaining certification of the radio equipment to ISED's standards and specifications. Once ISED certification is granted, the ELT will be listed on ISED's Radio Equipment List (REL). Applicants for ELT installation approval should consult the REL to ensure that the radio equipment has been certified.

As of March 2014, new ELT models submitted for certification must transmit on 406 MHz, as required by RSS-287.

Section 551.104 of the *Airworthiness Manual* provides detailed information on ELT certification requirements for ELTs required under Canadian operating rules. 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 with the appropriate protocol in accordance with both section 551.104(g) of the *Airworthiness Manual* and Cospas-Sarsat document C/S G.005 Cospas-Sarsat Guidelines on 406 MHz Beacon Coding, Registration and Type Approval. Generally, ELTs will be identified using the 24-bit aircraft address except for Survivor ELT(S), which use serialized protocols.

The 24-bit address for Canadian registered aircraft can be found by contacting Transport Canada or by searching the Canadian Civil Aircraft Register (CCAR).

Registration

All Canadian-coded ELTs operating on 406 MHz are required by regulations to be registered with the CBR.

1.4 Personal Locator Beacons (PLBs)

Use of PLB 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 substitutes when regulations require the use of an ELT. Under certain circumstances, the *Navigation Safety Regulations, 2020* allow PLBs to be used as an alternative for 406 MHz EPIRBs. PLBs may also be used to complement 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.

Performance and Certification

PLBs for sale in Canada must have a Cospas-Sarsat type approval certificate, a letter of recommendation from the National Search and Rescue Secretariat (NSS) stating that it complies with the Canadian PLB standard available here: The National Search and Rescue Secretariat 406 megahertz (MHz) Personal Locator Beacon (publicsafety.gc.ca) and be technically accepted for use by ISED in accordance with RSS-287.

PLBs approved for use in Canada are listed on ISED's REL. Those requiring more information are requested to contact the NSS at sarsecretariat-secretariatrs@ps-sp.gc.ca.

Importation, use or sale of a PLB that operates only on 121.5 MHz or 243 MHz is prohibited by ISED's RSS-287.

All PLBs must transmit distress information on 406 MHz and transmit a homing signal on 121.5 MHz, as required by RSS-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 CBR.

1.4.1 National Beacon Regulations for Serial-Coded PLBs

Administration	For Terrestrial Applications	In Maritime Environment	On Aircraft	Comments
	Country Recognizes PLB Activations	Country Recognizes PLB Activations	Country Recognizes PLB Activations	
Canada	Y	R	R	Response to terrestrial PLB alerts is the responsibility of the provinces and territories. PLBs may not be substituted for the required carriage of ELTs or EPIRBs. PLBs may only be used as supplementary alerting devices in this case. Users are encouraged to note any linkages between PLBs used in maritime and aviation environments to relevant vessel/aircraft data during the registration process.

Y = green, allows / **N** = red, not allowed / **R** = amber, restrictions (see comments)

Similar information is available on the Cospas-Sarsat website with relevant colour coding and the note that the national beacon regulations can be found on the Cospas-Sarsat website in document C/S S.007).

2. BEACON CODING METHODS

2.1 EPIRB Coding Methods

Country Code(s)	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 & S/N	Radio Call Sign	MMSI	TAC & S/N	Radio Call Sign	MMSI	TAC & S/N	Serial Number Assigned by Competent Administration	National RLS Number	TAC & S/N	RLS MMSI
316	N	N	Y	N	N	N	N	N	Y	N	N	Y	N

Canada does not allow maritime protocols using MMSI. However, the following warning is provided to beacon manufacturers and beacon owners as general guidance:

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(s)	USER PROTOCOLS				LOCATION PROTOCOLS									
	Serial User			Aviation User	User Location				Standard Location			National Location	RLS (Return Link Service)	
	TAC & S/N	Aircraft Operator Designator and S/Nr	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	TAC & S/N	Aircraft Operator Designator and S/N	Aircraft 24-bit Address	Aircraft Nationality and Registration Marking	TAC & S/N	Aircraft Operator Designator and S/N	Aircraft 24-bit Address	S/N Assigned by Competent Administration	National RLS Number	TAC & S/N
316	N/Y*	N	Y**	N	N	N	N	N	N/Y*	N	Y**	N	N	Y*

**For ELT(S) only*
***all except type S*

Country Code(s)	LOCATION PROTOCOLS		
	ELT(DT) Location		
	TAC & Serial Number [1]	Aircraft Operator Designator and Serial Number [1]	Aircraft 24-bit Address [2]
316	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(s)	USER PROTOCOLS	LOCATION PROTOCOLS					
	Serial User	User Location	Standard Location	National Location	RLS (Return Link Service)		
	TAC & S/N	TAC & S/N		S/N Assigned by Competent Administration	National RLS Number	TAC & S/N	RLS MMSI
316	Y	Y	Y	N	N	Y	N

2.4 Return Link Service (RLS) Protocols

On March 26, 2021, Canada supported the Cospas-Sarsat Programme decision to implement proactive handling of RLS-protocol distress alert messages, and their use in Canada was subsequently authorized (Reference: CSC-64/OPN/SR at 4.77 and 4.78).

Any beacons that are enabled for RLS (PLBs, EPIRBs and ELT(S)) must be programmed with RLS Location Protocol as per C/S T.001 Annex A "Beacon Coding".

Since Canada does not use MMSI encoding for 406 MHz beacons, the RLS Location Protocol (MMSI) is not used.

3. LIST OF BEACON MODELS TYPE APPROVED BY ADMINISTRATION

In general, all approved ELTs, EPIRBs and PLBs are available through ISED's REL.

4. BEACON TESTING REGULATION

All EPIRBs, ELTs and PLBs have a self-test capability indicating 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 the *Navigation Safety Regulations, 2020*.
ELTs installed in Canadian-registered aircraft must be inspected at intervals not exceeding 12 months as required by CAR Standard 625 Appendix C.

There is no fine or penalty for accidentally activating a beacon in Canada, though such accidental activations are reported in the Canadian Aviation Daily Occurrence Reporting System (CADORS).

In the event of an accidental activation, beacon owners should immediately contact the 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.

In Canada, there are penalties for deliberately activating an ELT if there is no emergency or for not advising the nearest ATS unit of an inadvertent in-flight activation. (See subsection 605.40 of the CAR)

Testing of distress transmissions on distress frequencies 121.5 MHz, 243.0 MHz and 406 MHz is forbidden in Canada. 406 MHz beacons coded with the Test Protocol described in 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 RSS-287 are followed.

As per subsection 605.40(2) of the CAR, beacons that transmit only on 121.5 MHz or on both the 406 MHz and the 121.5 MHz frequencies may be operationally tested, as per manufacturer's instructions, for a duration of not more than five seconds during the first five minutes of any hour (UTC).

5. POINT OF CONTACT FOR BEACON MATTERS (CODING, REGISTRATION AND TECHNICAL ACCEPTANCE)

The points of contact for beacon matters (coding and technical acceptance) are:

- 406 MHz Beacon Technical Acceptance: ISED (with letter of recommendation)
- EPIRBs: Marine Safety Directorate – Transport Canada
- ELTs: Aircraft Certification Engineering – Transport Canada
- PLBs: National Search and Rescue Secretariat – Public Safety Canada

The point of contact for beacon matters (registration) are:

- All types: CBR
- Aircraft: CCAR

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

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 CBR online or by calling 1-877-406-7671 (toll-free). Registering a beacon with the CBR is free of charge. Canadian-coded beacons cannot be registered elsewhere.

The CBR online 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.

Beacon registrations with the CBR do not expire. However, 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 emergency contact information. Verifying registrations at least once per year is recommended.

The CBR supports the checksum feature for verifying beacon coding upon initial registration. Using checksum is optional when registering a beacon.

Canadian beacon registration information can be obtained at the CBR.

6.2 Forms

Online beacon registration forms (EPIRBs, ELTs, PLBs) are available here.

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