SWITZERLAND

1. REGULATIONS

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 by the owner within the International Beacon Registration Database (IBRD) available at https://www.406registration.com/.

Beacons must be coded with the MMSI attributed by BAKOM.

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.

1.3 PLBs

Switzerland is authorizing the use of PLBs on Swiss territory for all purposes.

PLBs must be registered by the owner within the IBRD at: https://www.406registration.com/.

**Note:** PLBs used on small aircraft (according to EASA NCO/NCC) must be coded with an ELT Standard Location Protocol (if GPS-equipped) or ELT User Protocol (if no GPS).

1.3.1 National Beacon Regulations for Serial-Coded PLBs

<table>
<thead>
<tr>
<th>Country / Territory</th>
<th>For Terrestrial Applications</th>
<th>In Maritime Environment</th>
<th>On Aircraft</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Country Recognises PLB Activations</td>
<td>Country Recognises PLB Activations</td>
<td>Country Recognises PLB Activations</td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>R</td>
<td>Y</td>
<td>Y</td>
<td>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.</td>
</tr>
</tbody>
</table>
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 / 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).

2. **BEACONS CODING METHODS**

2.1 **EPIRB Coding Methods**

<table>
<thead>
<tr>
<th>Country Code</th>
<th><strong>MARITIME USER PROTOCOLS</strong></th>
<th><strong>LOCATION PROTOCOLS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maritime User Serial User Radio Call Sign</td>
<td>User Location Standard Location National Location RLS (Return Link Service)</td>
</tr>
<tr>
<td></td>
<td>MMSI</td>
<td>TAC &amp; S/N</td>
</tr>
<tr>
<td>269</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

2.2 **ELT Coding Methods**

<table>
<thead>
<tr>
<th>Country Code</th>
<th><strong>SERIAL USER PROTOCOLS</strong></th>
<th><strong>AVIATION USER PROTOCOLS</strong></th>
<th><strong>LOCATION PROTOCOLS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aircraft User Serial Number</td>
<td>Aviation User Serial Number</td>
<td>Aircraft Location Standard Location Aviation User RLS (Return Link Service)</td>
</tr>
<tr>
<td></td>
<td>Aircraft 24-bit Address Aircraft Nationality and Registration Marking</td>
<td>Aircraft 24-bit Address Aircraft Nationality and Registration Marking</td>
<td>TAC &amp; S/N</td>
</tr>
<tr>
<td>269</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

2.3 **PLB Coding Methods**

<table>
<thead>
<tr>
<th>Country Code</th>
<th><strong>SERIAL USER PROTOCOLS</strong></th>
<th><strong>LOCATION PROTOCOLS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Serial User</td>
<td>User Location</td>
</tr>
<tr>
<td></td>
<td>TAC &amp; S/N</td>
<td>TAC &amp; S/N</td>
</tr>
<tr>
<td>269</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Notes: PLBs which are used on aircraft in accordance to EASA NCO must be coded as ELT.

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 [CSC-64 in November 2020 pending Council approval]”.

On 10 January 2020, Switzerland 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 code.
3. **LIST OF BEACON MODELS TYPE APPROVED BY ADMINISTRATION**

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 and ED.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 406 MHz band.

4. **BEACON TESTING REGULATION**

4.1 **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 (ELT's) are applicable to Switzerland.

4.2 **Summary**

- All 406 MHz distress beacons can be tested at any time using the self-test functions (see Chapter 4.3 Beacon Self-test) without any notification to the Swiss Civil Aviation Authority (FOCA).

- Any test of a 406 MHz distress beacon in the operational mode requires prior approval from the Swiss Civil Aviation Authority (FOCA) and the requirements set out in sections 4.5 and 4.6 below must be satisfied.

4.3 **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.
4.4 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,
- 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 Centers (RCCs) worldwide and may inhibit the processing of genuine distress beacon alerts, therefore delaying a response to a distress situation.

4.5 Operational Testing Requirements

All beacon types (ELTs, EPIRBs and PLBs) can be tested at any time using the self-test function (see Chapter 4.3) without the need to notify the Swiss Civil Aviation Authority (FOCA).

Operational testing of any beacon type, including ELTs and irrespective of the duration and location is only permitted with prior approval of the Swiss Civil Aviation Authority (FOCA).

Operational testing can be permitted under the following circumstances:

- beacon has to be coded with TEST protocol,
- 121.5/243 MHz homing signal is disabled, 10-day notice shall be provided to the Swiss Civil Aviation Authority (FOCA),
- responses are provided to the questions listed in section 4.7, 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.

4.6 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.

Manufacturers, suppliers and other beacon maintenance staff shall only undertake this type of testing.

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,
- the Swiss Civil Aviation Authority (FOCA) 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 and MEO satellite and LEOLUT and MEOLUT respectively,
- **provision of the information in section 4.7**, including the Cospas-Sarsat type approval certificate number,
- 10-day pre-notice to be provided.

### 4.7 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 10 days in advance** of the requested day of testing to the Swiss Civil Aviation Authority (FOCA):

Email elt@bazl.admin.ch

Mailing Address Swiss Civil Aviation Authority (FOCA), SIFS, CH-3003 Berne

A. TEST OBJECTIVE:
B. TEST DESCRIPTION:
C. COORDINATS OF LOCATION OF TEST:
D. DATE, TIME AND DURATION OF TEST:
E. BEACON ID & COSPAS-SARSAT TYPE APPROVAL CERTIFICATE NUMBER:
F. CONTACT DETAILS OF PERSON ON SIGHT IN CHARGE:

### 5. Beacon Registration

ELTs must be registered within the Swiss national registry: elt@bazl.admin.ch

EPIRBs and PLBs must be registered by the owners themselves at: www.406registration.com.
6. **POINTS OF CONTACT FOR BEACON MATTERS (Coding, Registration and Type Approval)**

Updated point of contact details for administrations are available at:

7. **BEACON REGISTRATION FORMS**

Online beacon registration forms for ELTs are available at [www.bazl.admin.ch](http://www.bazl.admin.ch).
Online beacon registration for EPIRBs and PLBs within IBRD at [www.406registration.com](http://www.406registration.com).

- END OF SECTION -