

RTCM 11010.3 Standard for 406 MHz Satellite Personal Locator Beacons (PLBs), June 9, 2014

This document contains minimum requirements for the functional and technical performance of Personal Locator Beacons (satellite PLBs) operating in the 406.0 to 406.1 MHz band through Cospas-Sarsat geostationary, Low Earth Orbiting (LEO), and Medium Earth Orbiting (MEO or MEOSAR) satellite systems.

A 406 MHz satellite PLB designed and manufactured to the standards contained in this document meets the satellite PLB portion of the COSPAS SARSAT System developed and implemented by the Cospas-Sarsat Partners (the Russian Federation, Canada, France, and the United States) as well as the environmental requirements considered necessary for satellite PLB use.

The satellite PLBs are intended to be carried by individuals engaged in activities in remote locations and exposed to the risk of grave mortal danger. The purpose of the satellite PLB is to alert authorities to a distress situation and the location of the alerting beacon. The satellite PLB consists of a transmitter module, an integral antenna, and a battery power source, all contained in an impact resistant watertight case.

Satellite PLBs are envisioned to be used in two general environments, areas with water (e.g. rivers, lakes, oceans, flooding) and areas without significant water (e.g. deserts, mountains). Therefore, this recommended standard includes two categories of satellite PLBs, Category 1 which must float and Category 2 which is not required to float.

This edition of the standard allows for the construction of "second generation" PLBs as well as first generation PLBs. Second generation PLBs are designed to work with specific features of the new MEOSAR satellites. The standard also provides for optional use of Automatic Identification System (AIS) technology for locating. In addition to classes of PLBs designed to work at low temperatures of -20°C or -40°C, a new Class 0 PLB would be designed for use in temperatures as low as -55°C.