Radio Technical Commission for Maritime Services (RTCM)

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Beacon Manufacturers Workshop 2017

RTCM Overview

▸ RTCM is an international non-profit scientific, professional and educational organization
▸ Members are both government and non-government organizations
▸ Established in 1947 as a U.S. government advisory organization
▸ Now an independent organization with members from all over the world
▸ Headquartered in Arlington VA, (Washington DC)
▸ Moving offices next month (but only to building next door)

RTCM Main Activities

- RTCMs main area of activity is related to commercial shipping and navigation and radiocommunications systems for these vessels

- It also works in other areas when requested such as Differential GPS and Terrestrial Satellite Distress Alerting

- RTCMs main role is in developing standards, but it also plays a major part in national and international committees, information dissemination to its members and advising on legislation and regulatory changes

RTCM
SC110 Sub-Committee
Emergency Beacons
(EPIRBs and PLBs)
Update

RTCM Special Committee SC110 on Emergency Beacons

- SC110's primary role is to develop and maintain standards for Emergency Beacons – 406 MHz EPIRBs, PLBs and 406 MHz Ship Security Alert Systems (SSAS)

- It is also involved in:
  - Considering new technology, ideas and other related matters of interest to its members e.g. AIS EPIRB, C/S MEOSAR system
  - RTCM also plays a very active role in the work of Cospas-Sarsat and in particular in its Joint Committee (JC) meetings
  - Developing input towards Second Generation Beacon Standards for MEOSAR
  - New EPIRB and PLB AIS standards

EPIRB Status

- Current standard RTCM 11000.4 Amendment 1 published July 2016
  - Addresses differences from the IEC standard
    - Mandatory Internal Navigation Device
    - Internal Navigation Device Timing
    - GNSS Self Test
    - Inadvertent Activation
    - Incorrect Mounting
    - Ergonomics Requirements and Tests
    - Cold Thermal Shock Tests
  - Includes options for AIS Homing signals
  - The latest amendment updates the maritime scenarios used to test the correct functioning of the internal navigation (GPS) receiver

PLB Status

- **Current Standard RTCM 11010.2 Published July 2008**
  - Amendment 1 to above Std Published Aug 2010 – added Internal Navigation Device Test Methods and Test Procedures
  - Amendment 2 to the above Published June 2012 – updates amendment 1
  - Amendment 3 to the above Published June 2014 – Introduces
    - Mandatory internal GNSS, Altitude Test, Wet Self-Test
  - Amendment 4 to the above Published October 2015 – Updates GNSS timing requirements
  - Amendment 5 to above Published July 2016 updates the maritime scenarios used to test the correct functioning of the internal navigation (GPS) receiver

RTCM
SC128 Sub-Committee
Satellite Emergency Notification Devices (SEND)

RTCM SC128 SEND STANDARD

▸ Current standard RTCM 12800.0 published August 2011

▸ Amendment 1 to the above standard was published August 2013, it added a Patent annex

▸ Amendment 2 to the above standard was published June 2014, it contained minor editorial clarifications to the Distress Alert Transmission Schedule for SENDs and to the distress message format to be sent to SAR services to match the IAMSAR Manual

RTCM
SC119 Sub-Committee
Maritime Survivor Locator Devices (MSLDs)
(or Manoverboard devices)

RTCM SC119 MSLD STANDARD

- Current standard RTCM 11901.1 published June 2012

- Amendment 1 to the above standard was published June 2014, it contained changes to permit both 'open loop' and 'closed loop' DSC devices

- The MSLD standard currently covers devices
  - Transmit on 121.5 MHz
  - Operate on VHF DSC Channel 70
  - Use Active Signalling
  - Transmit on VHF AIS frequencies

- A further update is required to address ITU-R M.493-14
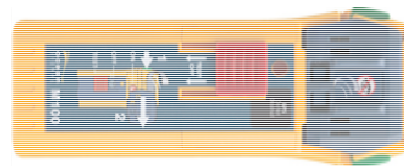
FCC Rules Update

FCC Rules Update – 1

- Final Rule Updating Parts 25, 80 and 95 – FCC 16–119

- Published in the Federal Register on December 15, 2016, with an effective date of January 17, 2017

- Office of Management and Budget (OMB), delayed the introduction of some parts of the rules which are effective from February 27, 2017

- The final rule affects SENDs, AIS SARTs, EPIRBs, PLBs and MSLD devices

- <u>Pt 25 SEND Devices</u>

- No device can be marketed or sold as a SEND or Satellite Emergency Notification Device in the USA unless it complies with the RTCM 12800.0 standard from January 17, 2017.

FCC Rules Update - 2

▸ <u>Part 80 AIS SARTs</u>

▸ AIS SARTs must comply with IEC 61097-14 and MSC.246(83) from February 27, 2017.

▸ <u>Part 80 EPIRBs</u>

▸ Must comply with RTCM 11000.3 dated June 2012 (this is the updated standard with mandatory internal GNSS and the hands free function etc, but excludes AIS Locating/Homing) as follows:

  ◦ All new EPIRBs must be approved to the new standard beginning February 27, 2018.
  ◦ No EPIRB can be manufactured, imported or sold in the USA that does not comply with the new standard after January 17, 2020.
  ◦ All EPIRBs on board Part 80 Sub-Parts R, S and W vessels (Cargo Vessels, Small Passenger Boats and GMDSS Vessels) must be fitted with an EPIRB that complies with the new rule beginning January 17, 2023.

FCC Rules Update - 3

- Part 95 PLBs

- Must comply with RTCM 11010.2 dated Jun 2012 with Amendments 1 and 2 (inc GPS Scenario Testing, but not mandatory GPS, updated self-tests etc) as follows:

- All new PLBs must be approved to the new standard beginning February 27, 2018.
- No PLB can be manufactured, imported or sold in the USA that does not comply with the new standard after January 17, 2020.

- Part 95 MSLDs

- Any new MSLD devices manufactured, imported or sold in the USA (as defined by the frequencies in RTCM 11901.1) must comply with this standard beginning February 27, 2017.

- All existing MSLD devices manufactured, imported or sold in the USA (as defined by the frequencies in RTCM 11901.1) must comply with this standard beginning January 17, 2018.

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Questions?

Thank you

For further information on RTCM and details of membership and the work of SC110 visit

www.rtcm.org