RESOLUTION 205 (REV.WRC-12)

Protection of the systems operating in the mobile-satellite service in the band 406-406.1 MHz

The World Radiocommunication Conference (Geneva, 2012),

considering

a) that WARC-79 allocated the band 406-406.1 MHz to the mobile-satellite service in the Earth-to-space direction;

b) that No. **5.266** limits the use of the band 406-406.1 MHz to low-power satellite emergency position-indicating radiobeacons (EPIRBs);

c) that WARC Mob-83 made provision in the Radio Regulations for the introduction and development of a global distress and safety system;

d) that the use of satellite EPIRBs is an essential element of this system;

e) that, like any frequency band reserved for a distress and safety system, the band 406-406.1 MHz is entitled to full protection against all harmful interference;

f) that Nos. **5.267** and **4.22** and Appendix **15** (Table 15-2) require the protection of the mobile-satellite service (MSS) within the frequency band 406-406.1 MHz from all emissions of systems, including systems operating in the lower adjacent bands (390-406 MHz) and in the upper adjacent bands (406.1-420 MHz);

g) that Recommendation ITU-R M.1478 provides protection requirements for the various types of instruments mounted on board operational satellites receiving EPIRB signals in the frequency band 406-406.1 MHz against both broadband out-of-band emissions and narrowband spurious emissions;

h) that studies are needed to adequately address the consequence of aggregate emissions from a large number of transmitters operating in adjacent bands and the consequent risk to space receivers intended to detect low-power distress-beacon transmissions,

considering further

a) that some administrations have initially developed and implemented an operational low-altitude, near-polar orbiting satellite system (Cospas-Sarsat) operating in the frequency band 406-406.1 MHz to provide alerting and to aid in the locating of distress incidents;

b) that thousands of human lives have been saved through the use of spaceborne distress-beacon detection instruments, initially on 121.5 MHz and 243 MHz, and subsequently in the frequency band 406-406.1 MHz;

c) that the 406 MHz distress transmissions are relayed through many instruments mounted on geostationary, low-Earth and medium-Earth satellite orbits;

d) that the digital processing of these emissions provides accurate, timely and reliable distress alert and location data to help search and rescue authorities assist persons in distress;

e) that the International Maritime Organization (IMO) has decided that satellite EPIRBs operating in the Cospas-Sarsat system form part of the Global Maritime Distress and Safety System (GMDSS);

f) that observations of the use of frequencies in the band 406-406.1 MHz show that they are being used by stations other than those authorized by No. **5.266**, and that these stations have caused harmful interference to the mobile-satellite service, and particularly to the reception of satellite EPIRB signals by the Cospas-Sarsat system,

recognizing

a) that it is essential for the protection of human life and property that bands allocated exclusively to a service for distress and safety purposes be kept free from harmful interference;

b) that the deployment of mobile systems near the frequency band 406-406.1 MHz is currently envisaged in many countries;

c) that this deployment raises significant concerns on the reliability of future distress and safety communications since the global monitoring of the 406 MHz search and rescue system already shows a high level of noise measured in many areas of the world for the frequency band 406-406.1 MHz;

d) that it is essential to preserve the MSS frequency band 406-406.1 MHz free from out-of-band emissions that would degrade the operation of the 406 MHz satellite transponders and receivers, with the risk that satellite EPIRB signals would go undetected,

noting

a) that the 406 MHz search and rescue system will be enhanced by placing 406-406.1 MHz transponders on global navigation satellite systems;

b) that this enhanced constellation of spaceborne search and rescue instruments will improve geographic coverage and reduce distress-alert transmission delays because of larger uplink footprints and an increased number of satellites;

c) that the characteristics of these spacecraft with larger footprints, and the low power available from satellite EPIRB transmitters, means that aggregate levels of electromagnetic noise, including noise from transmissions in adjacent bands, may present a risk of satellite EPIRB transmissions being undetected, or delayed in reception, thereby putting lives at risk,

resolves to invite ITU-R

1 to conduct, and complete in time for WRC-15, the appropriate regulatory, technical and operational studies with a view to ensuring the adequate protection of MSS systems in the frequency band 406-406.1 MHz from any emissions that could cause harmful interference (see No. **5.267**), taking into account the current and future deployment of services in adjacent bands as noted in *considering f)*;

2 to consider whether there is a need for regulatory action, based on the studies carried out under *resolves* 1, to facilitate the protection of MSS systems in the frequency band 406-406.1 MHz, or whether it is sufficient to include the results of the above studies in appropriate ITU-R Recommendations and/or Reports,

instructs the Director of the Radiocommunication Bureau

1 to include the results of these studies in his Report to WRC-15 for the purposes of considering adequate actions in response to *resolves to invite ITU-R* above;

2 to organize monitoring programmes in the frequency band 406-406.1 MHz in order to identify the source of any unauthorized emission in that band,

urges administrations

1 to take part in monitoring programmes requested by the Bureau in accordance with No. **16.5**, in the frequency band 406-406.1 MHz, with a view to identifying and locating stations of services other than those authorized in the band;

2 to ensure that stations other than those operated under No. **5.266** abstain from using frequencies in the frequency band 406-406.1 MHz;

3 to take the appropriate measures to eliminate harmful interference caused to the distress and safety system;

4 to work with participating countries of the system and ITU to resolve reported cases of interference to the Cospas-Sarsat system;

5 to participate actively in the studies by submitting contributions to ITU-R.