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RESOLUTION 428 (WRC-19)

Studies on a possible new allocation to the aeronautical mobile-satellite (R) service within the frequency band 117.975-137 MHz in order to support aeronautical VHF communications in the Earth-to-space and space-to-Earth directions

The World Radiocommunication Conference (Sharm el-Sheikh, 2019),

considering

- a)* that the optimization of air traffic management (ATM) over oceanic and remote areas necessitates appropriate aeronautical surveillance and communication means, in order to meet the required communication performance for reduced separation minima, without modification to aircraft equipment;
- b)* that the availability of appropriate communication means is still an issue over oceanic and remote areas, where there is currently no suitable solution to provide aeronautical VHF services;
- c)* that, to meet the evolving requirements of modern civil aviation, satellite systems may be used for the relay of VHF communications compliant with International Civil Aviation Organization (ICAO) standards, operating under the aeronautical mobile (R) service (AM(R)S), in order to complement terrestrial communication infrastructures when aircraft are operating in oceanic and remote areas;
- d)* that the VHF channels have become congested in some areas and the new aeronautical mobile-satellite (R) service (AMS(R)S) system would need to operate in such a manner as not to constrain existing systems;
- e)* that the frequency band 1 087.7-1 092.3 MHz was allocated to the AMS(R)S (Earth-to-space) on a primary basis in order to extend reception of Automatic Dependent Surveillance-Broadcast (ADS-B) signals beyond terrestrial line-of-sight, thereby facilitating the availability of surveillance means anywhere in the world;
- f)* that aeronautical VHF communications, when available in geographically remote and oceanic areas, may be used in combination with satellite ADS-B to support radar-like separation of aircraft, thus greatly improving airspace capacity, efficiency and safety,

recognizing

- a)* that the frequency band 108-117.975 MHz is allocated on a primary basis to the aeronautical radionavigation service (ARNS), and to the AM(R)S in accordance with Resolution **413 (Rev.WRC-12)**;
- b)* that the frequency band 117.975-137 MHz is allocated on a primary basis to the AM(R)S and is used by air-ground, air-air and ground-air systems operated in accordance with ICAO Standards and Recommended Practices (SARPs), providing critical voice and data communications for ATM on a global basis;

- c) that under Nos. **5.201** and **5.202**, the frequency bands 132-136 MHz and 136-137 MHz are also allocated in several countries to the aeronautical mobile (OR) service on a primary basis;
- d) that the AM(R)S VHF frequency band (117.975-137 MHz) is currently used by air traffic communication and airline operational communication;
- e) that the frequency band 117.975-137 MHz is only used by systems that operate in accordance with recognized international aeronautical standards,

noting

- a) that Annex 10 to the Convention on International Civil Aviation contains SARPs for safety aeronautical radionavigation and radiocommunication systems used by international civil aviation;
- b) that the development of compatibility criteria between new AMS(R)S systems proposed for operations in the frequency band 117.975-137 MHz and ICAO-standardized aeronautical systems in this frequency band is the responsibility of ICAO;
- c) that there are SARPs developed by ICAO detailing frequency assignment planning criteria for VHF air-ground communication systems;
- d) that feeder links of AMS(R)S systems may be accommodated in the fixed-satellite service,

resolves to invite the ITU Radiocommunication Sector

1 to define the relevant technical characteristics and to study, taking into account *considering c)* and taking into account No. **5.200**, compatibility between potential new AMS(R)S systems that operate within the frequency band 117.975-137 MHz in the Earth-to-space and space-to-Earth directions and existing primary services in that frequency band and in adjacent frequency bands, while ensuring the protection of systems using existing primary services in those frequency bands and not constraining planned usage of those systems;

2 to take into account the results of the studies to provide technical and regulatory recommendations relative to a possible new AMS(R)S allocation within the frequency band 117.975-137 MHz, taking into consideration the responsibility of ICAO referred to in *noting b)*,

invites the 2023 World Radiocommunication Conference

to consider the results of the studies and take appropriate actions, including a possible primary allocation to the AMS(R)S within the frequency band 117.975-137 MHz,

invites Member States and Sector Members

to participate actively in the studies and to submit the characteristics of any current and planned systems to be studied, as appropriate,

invites the International Civil Aviation Organization

to participate in the studies by providing aeronautical operational requirements and relevant available technical characteristics to be taken into account in ITU Radiocommunication Sector (ITU-R) studies and to take into account the sharing and compatibility conclusions reached at ITU-R in the SARPs to be developed for the AMS(R)S,

instructs the Secretary-General

to bring this Resolution to the attention of ICAO.