

***Radio Conference Subcommittee (RCS)***  
Preparation for ITU Radiocommunication Conferences

**UNITED STATES OF AMERICA**

**PRELIMINARY VIEWS ON WRC-11**

**AGENDA ITEM 1.4:** To consider, based on the results of ITU-R studies, any further regulatory measures to facilitate introduction of new aeronautical mobile (R) service (AM(R)S) systems in the bands 112-117.975 MHz, 960-1 164 MHz and 5 000-5 030 MHz in accordance with Resolutions **413 (Rev.WRC-07)**, **417 (WRC-07)** and **420 (WRC-07)**

**ISSUE:** WRC-11 agenda item 1.4 includes for the completion of studies listed in Resolutions **413 (WRC-07)** and **417 (WRC-07)**, and any additional regulatory measures that might be required to facilitate the introduction of new aeronautical mobile (route) service (AM(R)S) systems in the bands 112–117.975 and 960–1 164 MHz. The agenda item includes, under Resolution **420 (WRC-07)**, for a new allocation to AM(R)S in the frequency band 5 000-5 030 MHz for surface applications at airports, provided that the radionavigation-satellite service (RNSS) in the 5 000-5 030 MHz band and the radio astronomy service (RAS) in the adjacent 4 990-5 000 MHz band are protected. The ITU-R will determine if the spectrum requirements for these new applications can be fulfilled in the 5 091-5 150 MHz band. Resolution **417 (WRC-07)** calls for compatibility studies between ARNS and AM(R)S systems in the 960-1164 MHz band. ITU-R studies do not exist for the 1024-1164 MHz scenario. The ITU-R needs to conduct studies in the 1024-1164 MHz band, based on the conditions outlined in Resolution **417 (WRC-07)**, as the sharing environment below and above the 1 024 MHz band is different.

**BACKGROUND:** WRC-07 made or modified AM(R)S allocations to support the aeronautical Future Communications System (FCS). In particular, WRC-07 modified the AM(R)S allocation in the band 112 – 117.975 MHz and allocated the band 960 – 1 164 MHz to the AM(R)S, in accordance with Resolutions **413 (WRC-07)** and **417 (WRC-07)** respectively. The resolutions specify regulatory restrictions on the operation of AM(R)S in those bands, limiting systems to those meeting International Civil Aviation Organization (ICAO) standards (i.e., ‘systems operating in accordance with international aeronautical standards’). ICAO will address compatibility of the AM(R)S with ICAO standardized systems. The ITU-R will address compatibility with in-band and adjacent band non-ICAO systems identified in the resolutions.

The United States has approved plans for the next-generation Global Positioning System (GPS) use of the 5 010-5 030 MHz band for tracking, telemetry, and command (TT&C) functions. Internationally, both the 5 000-5 010 MHz and 5 010-5 030 MHz bands are contained in specifications for TT&C links. Initial studies have shown that compatibility between planned AM(R)S and RNSS feeder links in the 5 000-5 010 MHz band is feasible under worst case conditions. For RNSS feeder links in the 5 010-5 030 MHz bands, separation distances are required, the extent of which will be determined based on ITU-R defined AM(R)S and RNSS system characteristics. These separation distances are between the TT&C stations and airports,

and may be a viable solution depending upon results of studies. Though all current GPS TT&C stations are fixed, it is possible that in the future: 1) GPS TT&C stations may be transportable and 2) TT&C stations may need to be located near an airport.

The United States is providing preliminary design parameters to ITU-R WP4C for proposed GPS service links to operate in 5 010-5 030 MHz. Internationally, the 5010-5030 MHz frequency band is under consideration as a potential band for RNSS service links.

Administrations will work with ICAO and the ITU to provide the relevant data and technical expertise to conduct the required compatibility studies between the FCS and non-ICAO standardized systems, as listed in the WRC-07 resolutions, The 5 000-5 030 MHz band is the primary focus of the studies. Administrations will closely monitor the studies regarding the 960-1 164 MHz band. ICAO will undertake any compatibility issues between ICAO standardized systems.

**U.S. VIEW:** If the spectrum requirements for surface applications at airports cannot be fully accommodated within the 5 091-5 150 MHz band, and if compatibility studies identified in Resolution **420 (WRC-07)** ensure protection of RNSS and RAS from AM(R)S surface applications, the United States supports a new allocation to the AM(R)S in the band 5 000-5 030 MHz.

Furthermore, the United States supports compatibility studies between AM(R)S systems operating in the band 960-1 164 MHz and non-ICAO standardized ARNS systems, and based on the results of studies, will consider if further regulatory measures are required to facilitate introduction of new AM(R)S systems in the band. (August 27, 2008)

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