

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS FOR WRC-15

Agenda Item 1.1: to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution **233 (WRC-12)**

BACKGROUND: The 2012 World Radiocommunication Conference (WRC-12) recognized a need for additional radio spectrum to support the increasing mobile data traffic, and placed consideration of additional spectrum allocations for terrestrial mobile broadband applications on the agenda for WRC-15.

Preliminary studies now underway in the ITU show that there are several frequency ranges, including some portions of the spectrum between around 1000 and 2000 MHz, that have propagation characteristics and other physical properties that, without consideration of inter-service compatibility and sharing issues, may make spectrum in those ranges suitable for the provision of terrestrial mobile broadband service.

Joint Task Group 4-5-6-7 was established at the first session of the Conference Preparatory Meeting for WRC-15 (CPM15-1) in February 2012 to consider spectrum requirements for IMT/mobile broadband and the requirements and results of studies from any concerned ITU-R Working Parties on technical and operational characteristics, spectrum requirements and performance objectives or protection requirements of other services.

One of the existing services in the 1000-2000 MHz frequency range is the radionavigation-satellite service (“RNSS”), which has allocations used for space-to-Earth and space-to-space RNSS systems in the 1164-1215 MHz, 1215-1300 MHz, and 1559-1610 MHz band. Several global non-geostationary orbit RNSS systems – including the Global Positioning System (GPS), the Russian GLONASS system, and the European Galileo system, and a number of geostationary-orbit satellites that provide space-based augmentation services – have operated in these bands with multiple generations of satellites. RNSS receivers and applications are deployed by the tens of millions worldwide, and are pervasive in every facet of everyday life. RNSS receivers are used in the Global Navigation Satellite System (GNSS) and other safety-of-life applications; precision surveying, construction, agriculture, and mining; environmental monitoring (including earthquake and tsunami monitoring); timing applications throughout the wireless industry; and so on. RNSS shares its allocations at 1559-1610 MHz and 1164-1215 MHz with the aeronautical radionavigation service (ARNS), also a safety service.

There is a long history of protecting RNSS operations in the ITU. Multiple RNSS systems and networks transmit signals around-the-clock across all three RNSS allocations in the 1000-2000 MHz frequency range and radiate across the entire surface of the Earth; RNSS frequency bands thus are fully operational at all times in all locations on Earth. RNSS signals are very low-power, spread-spectrum signals coming from space that are difficult to detect. It takes special

processing by RNSS receivers to extract the signal from the background noise. If a high-power signal in the same frequency range is broadcast near an RNSS receiver, it could desensitize the RNSS receiver to the degree that the RNSS receiver is unable to extract the RNSS signal from space. Studies in the ITU in preparation for WRC-2000 concluded that even relatively weak signals from mobile-satellite service satellites in geostationary orbit would not be able to be provided on a co-frequency basis with the RNSS and ARNS in the 1559-1610 MHz band. CPM-99 concluded, in Section 2.2.1.3 of the CPM Report for WRC-2000, that “[a]lthough studies were not carried out on every different type of RNSS receiver used in all the numerous applications of RNSS, it was nevertheless possible to conclude that sharing between ARNS/RNSS and MSS (space-to-Earth) is not feasible in any portion of the 1 559-1 567 MHz band.” WRC-2000 agreed, and declined to add a co-primary MSS allocation to a portion of the RNSS band. Just this year, WRC-12 modified Resolution 417 to include strict power limits on high-powered terrestrial transmitters in the aeronautical radionavigation service band at 960-1164 MHz to protect RNSS in the 1164-1215 MHz band.

U.S. VIEW: The United States supports studies in the ITU-R under Agenda Item 1.1, and believes that there will be the opportunity for WRC-15 to make new co-primary allocation to the mobile service in some bands that will help to alleviate the mobile broadband spectrum shortfall. Due to the vital and global role of the radionavigation-satellite service, and demonstrated in-band frequency sharing difficulties, it is inappropriate to consider a mobile allocation or identification for IMT in the 1164-1215 MHz, 1215-1300 MHz, and 1559-1610 MHz RNSS bands.