Informal Working Group 4

Draft Preliminary View on WRC-07 Agenda Item 1.11

1.11 to review sharing criteria and regulatory provisions for protection of terrestrial services, in particular the terrestrial television broadcasting service, in the band 620-790 MHz from broadcasting-satellite service networks and systems, in accordance with Resolution 545 (WRC-03);

ISSUE

In the United State (US) the 620-790 MHz band is used only by terrestrial services. This band has been mostly used by the broadcasting services; however, with the transition to digital TV, other terrestrial users in the mobile service will start to use parts of this band.

Therefore, the protection of these terrestrial services from harmful interference from broadcast-satellite transmissions is a relevant issue in the US. Given the possibility that satellites using the HEO orbit may be deployed in the band (see **BACKGROUND** for more information), US interests should participate in the AI (agenda item) 1.11 studies to insure minimum adverse impact to their operations in the 620-790 MHz.

Res. 545 details the technical and regulatory procedures relating to the operation of BSS networks in this band. In summary, BSS networks that were not operational at the end of WRC-03, will neither be coordinated, nor notified, nor brought into use until the end of WRC-07, so that this WRC can reach a conclusion based on the AI 1.11 studies. Per *resolves 6)* of Res. 545, the relationship between GSO and non-GSO networks in this band will be decided by WRC-07. In the interim, No. 22.2 applies to networks received by the Bureau before WRC-03. Even though the US does not use this band for BSS, which type of network would have precedence over the other in coordination is of interest to the US, since non-GSO (such as HEO) and GSO networks impact terrestrial networks differently in terms of interference mechanisms.

BACKGROUND

This matter actually had its genesis in discussions surrounding AI 1.37 **(**to consider the regulatory and technical provisions for satellite networks using highly elliptical orbits) at WRC-03. Proposal EUR/13A37/3, a draft Resolution on the study of provisional pfd limits and studies concerning regulatory and technical provisions for satellite systems using highly elliptical orbits (HEOs), included a *resolve* on provisions applicable to HEO satellite systems using the 620-790 MHz BSS allocation. Likewise, Arab administrations proposed that HEO use in the 620-790 MHz band also be studied for WRC-07 (see ARB/27A31/3).

These proposals resulted in WRC-03 establishing agenda item 1.11 for WRC-2007 and resolution, **Res. 545(WRC-03),** *"Technical and regulatory procedures relating to the broadcasting-satellite service networks operating in the 620-790 MHz band."*

BSS operation can occur in the 620-790 MHz band via the provision **5.311 (WRC-03)** of the Radio Regulations, subject to agreement by affected administrations and with a pfd constraint.

What renders the landscape of this issue even more complicated in the Regional Radiocommunication Conference (RRC) activity, which is to plan for the digital TV transition in the 174-230 MHz and 470-862 MHz bands for all of Region 1 and some adjoining parts of Region 3. The 2nd and final RRC will occur in May 2006. Therefore, any space-terrestrial co-existence studies undertaken for this agenda item must take this into consideration. Analog and digital systems will have different transmitter/receiver characteristics, and the results of sharing studies may be impacted by RRC activity. The first RRC meeting, RRC-04, produced Resolution COM 4/1, "Protection of digital terrestrial broadcasting from broadcasting-satellite service networks operating in the 620-790 MHz band", that specifically treats the matter of the use of the 620-790 MHz band by BSS satellites. The two resolves of this Res. essentially render the BSS space and earth station usage in this band secondary.

In 1997 the US Congress passed legislation requiring TV channels 60 to 69 to be made available for other services as a result of the transition to digital TV. In view of this statutory mandate, the US Federal Communications Commission (FCC) conducted proceedings that also made available channels 52 to 59 and developed and adopted two band plans; one for 698-746 MHz, the lower 700 MHz band plan (former UHF broadcasting channels 52-59); and the upper 700 MHz plan for the 746-806 MHz band (former UHF channels 60-69). The upper 700 MHz band has 36 MHz allocated for commercial use (746-794 MHz), and the remaining 24 MHz allocated for public safety use.

Congress established 31 December 2006 as the target date for the completion of the transition to digital TV. The FCC has already auctioned off 18 MHz of the lower 700 MHz band, and no auction date for the remaining spectrum in this segment has been announced. A 6 MHz channel in the upper 700 MHz spectrum has so far been auctioned.

The 620-698MHz band (UHF channels 39-51) will constitute a major part of the total bands allocated to television broadcasting, particularly as the US transitions from analog to digital television.

For further details on the reallocation of the 698-790 MHz band in the US, see Doc. 8A-160, *"Information paper on the reallocation of the 698-806 MHz frequency band in the United States,"* April 11-15, 2005 meeting of ITU-R WP 8A.

US VIEW

Since the US has a long history of terrestrial broadcasting in the band 620-790 MHz, and the future US use of this band will continue to be for terrestrial applications; the US is first and foremost concerned with the unconstrained and unhindered development and of these applications, be they broadcasts, public safety, and other mobile applications in the reallocated segment. In order for the US to support the deployment of BSS networks in the band 620-790 MHz, sharing studies underway in the ITU-R need to demonstrate that BSS deployment in this band will not negatively impact the current and future use of this band by terrestrial services. US interests should participate in these ITU-R studies.