

**Informal Working Group 3 (IWG-3)**  
**Preparation for WRC-03**

**DRAFT PRELIMINARY VIEWS**

**WRC-2003 Agenda Item 1.39:** to examine the spectrum requirements in the fixed-satellite service bands below 17 GHz for telemetry, tracking and telecommand of fixed-satellite service networks operating with service links in the frequency bands above 17 GHz;

**Issue:** Spectrum requirements for space operations in fixed-satellite service (FSS) bands below 17 GHz for telemetry, tracking and telecommand (TT&C) of FSS networks operating with service links in the frequency bands above 17 GHz.

**Background:** Propagation conditions and spectrum availability are of primary consideration when implementing TT&C subsystems, which must meet high reliability criteria. Some systems utilize the existing Space Operation Service allocations (all of which are below 3 GHz) for TT&C while others use part of the FSS band allocations to perform this function (FSS (space-to-Earth) for space telemetry and tracking carriers, FSS (Earth-to-space) for telecommand).

Many advance publication and coordination notices for GSO and non-GSO systems in the FSS bands above 17 GHz have been received by the BR. Many of these systems propose use of bands below 17 GHz for TT&C operation, and filed accordingly. Under the ITU regulatory structure, FSS satellites systems may use any FSS allocation to perform TT&C functions.

WRC-2000 established an agenda item 1.39 for WRC-03 to examine the spectrum requirements in the FSS bands below 17 GHz for TT&C operation of FSS networks operating with service links in the frequency bands above 17 GHz. Transmissions above 17 GHz experience higher free-space and rain attenuation losses than those below 17 GHz. The U.S. is participating in the technical studies being performed in Working Party (WP) 4A and WP 4B in response to agenda item 1.39. These studies are investigating, among other things, the reliability and availability requirements of TT&C systems operating with service links in frequency bands above 17 GHz.

**Preliminary View:** Once the ITU-R studies are completed, the U.S. can make a recommendation, if needed, regarding how the TT&C requirements for FSS systems operating above 17 GHz can best be satisfied, while keeping in mind the necessary reliability and flexibility needed for FSS systems to perform TT&C operations.

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