

WRC-2003 Advisory Committee
Informal Working Group-4

IWG-4 PRELIMINARY VIEWS
ON WRC-03 AGENDA ITEM 1.32

WRC-2003 Agenda Item 1.32a: to consider technical and regulatory provisions concerning the band 37.5 - 43.5 GHz, in accordance with Resolutions **128 (Rev. WRC-2000)** and **84 (WRC-2000)**.

ISSUES: 1. Adequacy of provisional limits on power flux-density (“PFD”) produced into the radio astronomy (“RA”) service band at 42.5 - 43.5 GHz by non-GSO satellites operating in the space-to-Earth direction in the fixed-satellite service (“FSS”) or broadcasting-satellite service (“BSS”) in the band 41.5 - 42.5 GHz, and by GSO FSS or BSS satellites operating in the space-to-Earth direction in the band 42.0 - 42.5 GHz.

2. Identification of technical and operational measures that FSS/BSS satellite networks can take to protect RA operations in the 42.5 - 43.5 GHz band, and of measures that may be implemented by RA service users to reduce the susceptibility of stations in the RA service to harmful interference.

BACKGROUND: The band 42.5 - 43.5 GHz is allocated to the RA service on a co-primary basis, while the frequency bands immediately below 42.5 GHz are allocated to the FSS and BSS (both space-to-Earth) on a co-primary basis with each other and with terrestrial services. To protect operating RA stations, WRC-2000 established a new footnote **S5.551G**, which contains a provisional PFD limit - not to exceed -167 dB(W/m²) in any 1 MHz band at the site of a radio astronomy station for more than 2% of the time - on emissions produced into the 42.5 - 43.5 GHz band by non-GSO FSS or BSS systems operating in the 41.5 - 42.5 GHz band. A similar limit was imposed on emissions that GSO FSS or BSS satellites operating in the 42.0 - 42.5 GHz band may produce at the sites of RA stations operating in the 42.5 - 43.5 GHz band.

Pursuant to Resolution **128 (Rev. WRC-2000)**, the ITU-R is to conduct studies to review these provisional PFD limits; to identify technical and operational measures in the band 41.5 – 42.5 GHz, including possible mitigation techniques to protect RA operations; and to propose measures that may be implemented to reduce the susceptibility of stations in the RA to harmful interference.

PRELIMINARY VIEWS:

For Agenda Item 1.32a, protection should be provided for RA sites, during periods of observations, from emissions produced into the 42.5 - 43.5 GHz band by non-GSO FSS and BSS satellites operating in the 41.5 - 42.5 GHz band, as well as from GSO FSS or BSS satellites operating in the 42.0 - 42.5 GHz band. The United States is participating in studies now ongoing within the ITU-R. For the protection of RA from FSS, a guardband of 500 MHz appears to be adequate.
