

WRC-2003 Advisory Committee
Informal Working Group 4 (IWG-4)

IWG-4 DRAFT PRELIMINARY VIEWS

On Agenda Item 1.13

WRC-2003 Agenda Item 1.13: to consider regulatory provisions and possible identification of existing frequency allocations for services which may be used by high altitude platform stations, taking into account No. **S5.543A** and the results of the ITU-R studies conducted in accordance with Resolutions **122 (Rev.WRC-2000)** and **734/[COM5/14] (WRC-2000)**;

ISSUE: Matters related to high-altitude platform stations in the fixed and mobile services

BACKGROUND: At WRC-97, the bands 47.2-47.5 GHz and 47.9-48.2 GHz (which were already allocated for the Fixed Service) were designated within the Fixed Service for High-Altitude Radio-Relay Platform Stations (HAPS). WRC-2000 confirmed this designation and under Resolution 122 (Rev.WRC-2000) requested that studies continue on regulatory and sharing issues in these bands. While this designation does not limit the use of a band by types of services for which it is already allocated, it does give guidance to administrations wishing to implement specific service types.

WRC-2000, through Resolution 122, requested that the ITU-R conduct studies, taking into account the requirements of other Fixed Service systems and other services, on the feasibility of identifying suitable frequencies, in addition to the 2x300 MHz paired band at 47 GHz, for the use of HAPS in the Fixed Service in the range 18 – 32 GHz in Region 3. These studies were called for at the request of several Region 3 administrations because rain fade made utilizing the previously identified 47 GHz band difficult. The studies are to focus particularly, but not exclusively, on the bands 27.5 – 28.35 GHz and 31.0 – 31.3 GHz. In addition, country footnote S5.537A was adopted to permit the use of HAPS (HAPS-to-ground) in the Fixed Service allocation in the band 27.5-28.35 GHz on a non-interference, non-protected basis in certain Region 3 countries. This band, by country footnote S5.543A was paired with the 31-31.3 GHz band for use by HAPS (ground-to-HAPS) also on a non-interference, non-protected basis. Additionally use of the 31 – 31.3 GHz band is subject to not causing harmful interference to EESS (passive) and RAS services operating in the 31.3-31.8 GHz band. The footnote urged the

identified administrations to utilize only the 31.0-31.15 GHz band until studies were completed.

The same concerns expressed at WRC-00 by many Administrations, including the US, with respect to identifying HAPS use in the Fixed Service in the 18 – 32 GHz band are still valid today. Internationally the FSS is allocated on a global basis from 17.7 – 21.2 GHz and 27.5 – 31.0 GHz band. The FSS community is very concerned about their ability to deploy planned global FSS satellite systems without hindrance from HAPS deployment in the same band. The FSS community has invested large amounts of resources and time in the development of global FSS systems that will operate in certain parts of the 18 – 32 GHz band. Additionally there is concern regarding compatibility of HAPS with existing global FSS systems that operate in these bands. ITU-R Study Group 4-9S is currently studying this situation.

In addition to the above, WRC-2000 requested studies on the use of HAPS in both the fixed and mobile services in bands above 3 GHz allocated exclusively for terrestrial radiocommunication.

PRELIMINARY VIEW:

Identification of suitable Fixed Service bands for HAPS should be in bands that are already allocated to the Fixed Service on a primary basis. The bands considered should be limited to the 27.5 – 28.35 GHz and 31.0 – 31.3 GHz bands identified in Resolution 122. The identification of bands for HAPS should not impact the ability to operate existing and planned FSS systems. The identification of HAPS bands should be by country footnote and limited to Region 3 countries that expressed a need for an additional 2 x 300 MHz identification of bands because of difficulties with rain attenuation associated with the existing 2 x 300 MHz bands at 47 GHz identified for HAPS.

Prior to any identification of HAPS use in the Fixed Service bands technical studies by the ITU-R should confirm that sharing is feasible with existing and planned services in a particular frequency band. Additionally the amount of spectrum identified for HAPS systems in the referenced bands, 27.5 – 28.35 GHz and 31.0 – 31.3 GHz, should be consistent with the amount identified at 47 GHz (i.e. 2x300 MHz), unless a specific technical rationale for more spectrum is provided.

The U.S. is following the ITU-R studies being conducted in accordance with Resolution 734 on the use of HAPS in both the fixed and mobile services in bands above 3 GHz allocated exclusively for terrestrial radiocommunication and will develop a preliminary view in due course.