

**DRAFT**

**WRC-2003 Advisory Committee**

**IWG-4**

**Fixed-Satellite Service Issues**

**Meeting Minutes**

**Meeting:** Fifth Meeting of IWG-4

**Date/Time:** 07 August 2001 at 5:00 PM

**Location:** Federal Communications Commission, Room 7-B516

**Committee Officers Present:** J. Wengryniuk, Chairperson  
W. Rummler, Vice Chairperson

**Committee Members Present:** See **Annex 1**

**FCC Employees Present:** A. Roytblat

**Minutes from the June 21 Meeting:** The minutes from the previous meeting were distributed and the Chairperson requested comments by e-mail by CoB of August 8 for any requested modifications.

**SkyTower Submission:** Earl Cox of SkyTower presented a paper proposing changes to the U.S. Preliminary View on Agenda Item 1.13 (see **Annex 2**). Ms. Creeser pointed out that the U.S. view must include comments on the specific frequency bands identified in Resolution 734. She also pointed out that it was the U.S. that proposed that HAPS be defined as within a specific ITU-R service. Mr. Jansky suggested to the SkyTower representatives that the appropriate action to achieve their aim would be to propose at WRC-03 a revision to Agenda Item 1.13 to be considered for the subsequent WRC. Mr. Roytblat and others supported these views and raised other concerns about the submission.

**Future Meetings:** The next meeting of IWG-4 is scheduled for September 12, 2001, immediately following the US WP4-9S meeting that begins at 1:30 PM, at the FCC (7-B516).

**Other Business:** There being no other business the meeting was adjourned at 5:28 PM.

**Documents Distributed:** The documents that were distributed included the minutes of the previous meeting (IWG-4/013) and the SkyTower submission.

**Public Participation Statement:** The IWG-4 meeting was open to the public and was attended by 25 members from the public sector as listed in ANNEX 1.

**Author:** Tom Hayden

## *WAC IWG 4 – August 7, 2001*

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**ANNEX 2**

Aug 1, 2001

Julie Garcia  
FCC WRC-03 Director  
Federal Communications Commission  
Room 6-B554  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Re: **Proposed Changes to Preliminary Views on High Altitude Platform Use in FSS Bands, IWG-4, WRC-2000**  
**Agenda Item 1.13, Document WAC/015**

Encl: SkyTower Draft Preliminary View of United States on HAPS issues

Dear Ms. Garcia:

SkyTower is submitting proposed changes to the IWG-4 committee to implement in the US position on the Preliminary View on regulations regarding High Altitude Platform Systems (HAPS). The changes simplify the wording to reduce restrictions on spectrum that can be allocated to HAPS until further studies can develop an adequate understanding of the technical impacts of HAPS sharing with other spectrum users.

It is the intent of SkyTower to use HAPS technology to supplement services by traditional wireless communications providers including terrestrial and satellite systems. SkyTower does not intend to impair their existing service but rather augment it through the different deployment geometries HAPS can offer.

While many different aircraft technologies are being proposed for HAPS, there are only a small number of flying HAPS platforms in existence in the world today. All but one of these existing platforms have been developed and are owned by the US government or US companies. These HAPS technologies, including Helios, which is being jointly developed by NASA and SkyTower's parent company, AeroVironment Inc., are still in their early stages of development. Therefore, it is in the interest of the US to leave the allocation of spectrum to HAPS open until actual services are proposed for use by HAPS and interference studies are completed. Such studies will demonstrate the actual ability of HAPS to share spectrum with other users from traditional terrestrial and space platforms.

Restrictions on spectrum which can be allocated to HAPS prior to the completion of studies can only serve to block the completion of development of the HAPS platform technology. In the end, the

stopping of HAPS development will not help anyone who may need services that can only be enabled by this emerging technology, including the US satellite and terrestrial communications industry.

SkyTower does not believe that enough is known about the effects of HAPS on other spectrum users to regulate or allocate spectrum at this time. SkyTower intends to conduct live testing using the Helios platform to determine actual interference parameters in order to facilitate the creation of acceptable, validated, spectrum sharing requirements. These tests are scheduled through 2004, however, the results are not expected to be ready by WRC 2003. While spectrum at 47 GHz was allocated for some particular services from HAPS. Other services to be provided by HAPS are expected to need allocations in other bands.

If you need any additional information please contact me at telephone number (805) 581-2187, or by fax at (805) 581-4512.

Very Truly Yours,

Earl Cox  
Director, Communications Technology

cc: IWG-4 attendees (via email)

Regulations governing HAPS should include high altitude air stations with altitudes from 15 km to 50 km.

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 consideration of bands should incorporate spectrum sharing criteria/techniques in two categories: (1) Spectru sharing with point-to-point HAPS service. (2) Spectrum sharing with point-to-multipoint HAPS service. 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 Fixed Service bands for HAPS should not impact the ability to operateinclude identification of spectrum sharing techniques and parameters to protect 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 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 systems 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.