

Mr. John Giusti  
Acting Chief of the International Bureau  
Federal Communications Commission  
445 12<sup>th</sup> Street SW  
Washington, D.C. 20554

Dear Mr. Giusti:

The National Telecommunications and Information Administration (NTIA), on behalf of the Executive Branch agencies, has approved the release of an additional draft Executive Branch proposal for WRC-07. This proposal considers the federal agency inputs toward the development of U.S. Proposals for WRC-07.

The enclosure contains an additional proposal for Agenda Item 7.2 that would add an additional agenda item to the WRC-10 Agenda. This additional agenda item addresses the accommodation of unmanned aerial vehicles (UAVs) that will likely have an impact on overall aviation spectrum requirements. This proposal is forwarded for your consideration and review by your WRC-07 Advisory Committee. Jim Vorhies of my staff is the primary contact for NTIA.

Sincerely,

*(Original Signed November 7, 2006)*  
Fredrick R. Wentland  
Associate Administrator  
Office of Spectrum Management

Enclosure

## **United States of America**

### **DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE**

**Agenda Item 7.2:** to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, taking into account Resolution **803 (WRC-03)**,

**Background Information:** At WRC-03, Agenda Item 1.6 for the 2007 Conference was adopted to, in part, “consider additional allocations for the aeronautical mobile (R) service in parts of the bands between 108 MHz and 6 GHz, in accordance with Resolution **414 (WRC-03)**.” Studies in support of that agenda item concluded that:

“The accommodation of unmanned aerial vehicles (UAVs) will likely have impact on overall aviation spectrum requirements. There is significant growth forecast in the UAV sector of aviation. Though UAVs have traditionally been used in segregated airspace where separation from other air traffic can be assured, it is planned to deploy them in non-segregated airspace. If they operate in non-segregated civil airspace, they must be integrated safely and adhere to the same operational practices as conventional manned aircraft. To accommodate such actions, additional safety communication links will be required (AM(R)S and/or aeronautical mobile satellite (R) service (AMS(R)S))”; and

“Although specific spectrum requirements have yet to be fully assessed, material has been received regarding UAV integration into non-segregated civil airspace. Because the pilot is located remotely from the UAV, bandwidth will be required to support, among other things, each UAV relaying ATC instructions to its respective pilot, additional operational data, encryption, and interference resilience. These applications will require additional safety communication links. While it is expected that short term requirements may be accommodated in either existing aeronautical bands (AM(R)S or AMS(R)S) or the new AM(R)S allocations made under this agenda item, given the longer term plans for large-scale deployment of UAVs, additional spectrum may be required in the future.”

#### **Proposal:**

**USA/ /1 MOD**

**RESOLUTION 803 (WRC-~~03~~07)**

#### **Preliminary Agenda for the 2010 World Radiocommunication Conference**

The World Radiocommunication Conference (Geneva, 2003~~7~~),

**USA/ /2    ADD**

**2. UAVCOM** to consider spectrum requirements and possible additional spectrum allocations in the aeronautical mobile and/or aeronautical mobile satellite service to support the operation of unmanned aerial vehicles (UAVs), in accordance with Resolution **UAVCOM (WRC-07)**.

**Reasons:** To have an agenda item for WRC-10 to consider the spectrum requirements for unmanned aerial vehicles.

**USA/ /3    ADD**

**DRAFT RESOLUTION [UAVCOM (WRC-07)]**

**Consideration of spectrum allocations for use by unmanned aerial vehicles (UAVs)**

The World Radiocommunication Conference (Geneva, 2007),

*considering*

- a) that world wide use of unmanned aerial vehicles (UAVs) is expected to increase significantly in the next 10 years;
- b) that there is a possible need for additional aeronautical mobile and/or aeronautical mobile-satellite service spectrum to support the operation of future UAVs;
- c) that there is a need to protect existing services,  
*recognizing*
  - a) that there are emerging UAV applications, including plans to deploy them in non-segregated airspace alongside conventional manned aircraft where the UAV must be integrated safely and adhere to the same operational practices as conventional manned aircraft;
  - b) that future technologies and performance expectations for UAVs will require the use of spectrum to support the transfer of UAV status information to its control station, transfer flight commands to the UAV from its control station, and real-time relaying of air traffic control instructions to and from the UAV operator;
  - c) that due to the importance of ensuring the safe operation of UAVs in non-segregated airspace along side conventional manned aircraft, this spectrum must be afforded special consideration as a safety service according to No. **4.10** of the Radio Regulations (RR);
  - d) that studies will be required to provide a basis for considering regulatory changes, including additional allocations, to accommodate spectrum requirements of UAVs consistent with the protection of incumbent services,

*resolves*

that WRC-10 consider spectrum requirements and possible additional spectrum allocations for terrestrial and satellite services in the aeronautical mobile and aeronautical mobile-satellite services to support the communications requirements of UAVs;

*further resolves to invite the ITU-R*

1 to conduct, as a matter of urgency, studies to determine the spectrum requirements and potential frequency bands suitable to support deployment of UAVs;

2 that the studies referred to in *further resolves* 1 should include sharing and compatibility studies with services already having allocations in those bands,

*further invites*

all members of the Radiocommunications Sector and the International Civil Aviation Organization (ICAO) to contribute to these studies.

**Reasons:** This resolution details the scope and required studies related to future spectrum requirements of unmanned aerial vehicles communications links.

---