

WAC Informal Working Group (IWG)-1

[Administration(s)]

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 8.2: *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 806 (WRC 07).*

Introduction

The aerospace industry is developing the future generation of commercial aircraft to provide airlines and the flying public more cost-efficient, safe, and reliable aircraft. One important way of accomplishing these aims is to reduce aircraft weight while providing multiple and redundant methods to transmit information on an aircraft. Wireless technologies can be employed to accomplish these goals while also providing environmental benefits and cost savings to manufacturers and operators.

Installed Wireless Avionics Intra-Communications (WAIC) systems are one way to derive these benefits. WAIC systems consist of radiocommunications between two or more transmitters and receivers on a single aircraft. Both the transmitter and receiver will be integrated with or installed on the aircraft. In all cases, communication is part of a closed, exclusive network required for aircraft operation. WAIC systems will not provide air-to-ground or air-to-air communications, and will only be used for safety-related applications.

ITU-R Working Party 5B is currently considering a [Draft New Report (ITU-R M.[WAIC], Document 5B/417 Annex 19).] This DNR provides findings on the technical characteristics and operational requirements of WAIC systems for a single aircraft. In addition, the DNR presents data and analysis on the potential bandwidth characteristics and related frequency band ranges required to support the introduction of WAIC systems.

~~As provided in ITU-R M.[WAIC], WAIC systems could require up to 200 MHz bandwidth within the existing aeronautical allocations below 15.7 GHz, and could require one or more new allocations utilizing up to 2000 MHz of spectrum above 2 GHz and below 71 GHz.~~

Because WAIC systems will impact the safety and regularity of flight of an aircraft, the International Civil Aviation Organization (ICAO) has expressed an opinion that WAIC systems must operate in a safety service allocation. Because a critical regulatory component of introducing WAIC systems into the National Airspace System is the need to incorporate WAIC radio frequency spectrum allocations into the ICAO Convention, WAIC systems should be classified as either falling within the Aeronautical Mobile (Route) Service or obtain similar regulatory requirements.

Because of the ICAO requirement, and WAIC bandwidth requirements, the aerospace industry believes current AM(R)S spectrum allocations are not sufficient to permit the introduction of WAIC systems without a WRC-15 Agenda Item. Therefore, there is a need to conduct appropriate studies in order to accommodate WAIC systems.

Therefore, the United States is proposing an item for the preliminary agenda for the next World Radiocommunication Conference together with a draft resolution to address aeronautical mobile (route) service or other regulatory requirements to enable WAIC systems to be operated, as shown in the attachment.

Attachment: 1

ATTACHMENT

ADD USA/5BXX/1

RESOLUTION XXX (WRC-12)

Preliminary agenda for the 2015 World Radiocommunication Conference

2.WAIC to consider spectrum requirements and possible additional spectrum allocations in the aeronautical mobile (route) service to support the introduction of wireless avionics intra-communications (WAIC) systems, in accordance with Resolution [WAIC-X] (WRC-12);

Reasons: Agenda item 8.2. WAIC is submitted as an agenda item for WRC-15 to enable the appropriate studies on the spectrum requirements for wireless avionics intra-communications (WAIC) systems.

ADD USA/XX/2

RESOLUTION [WAIC] (WRC-12)

Consideration of spectrum allocations for use by Wireless Avionics Intra-Communications (WAIC)

The World Radiocommunication Conference (Geneva, 2012),

considering

- a) that future generation of commercial aircraft are planned to provide airlines and the flying public with more cost-efficient, safe, and reliable aircraft that are also environmentally friendly;
- b) that because WAIC systems impact the safety and regularity of flight of an aircraft, there is a possible need for additional aeronautical mobile (route) service to support the implementation of WAIC systems;
- c) that WAIC systems will be utilized onboard aircraft on the ground and during all phases of flight;
- d) that there is a need to protect existing services,

recognizing

- a) that the aerospace industry is developing WAIC systems to operate safely and efficiently in one or more radio frequency bands below 15.7 GHz that are currently being utilized by aeronautical applications;
- b) that the aerospace industry is developing WAIC systems to operate safely and efficiently in one or more non-contiguous radio frequency bands above 24 GHz;
- c) that WAIC systems operating inside an aircraft will utilize the benefits of fuselage attenuation and other aircraft surface attenuation;
- d) that due to the importance of ensuring the safe operation of aircraft, this spectrum must be afforded special consideration as a safety service according to No. **4.10** of the Radio Regulations (RR);

e) that studies will be required to provide a basis for considering regulatory changes, including additional allocations, designed to accommodate justified spectrum requirements of WAIC systems consistent with the protection of incumbent services,

resolves

1) that WRC-15 consider regulatory requirements, including possible additional primary spectrum allocations in the aeronautical mobile (route) service within existing radio frequency bands utilized by aeronautical mobile service applications, to support the implementation of WAIC systems in radio frequency bands below 15.7 GHz; and

2) that WRC-15 consider regulatory requirements, including possible additional primary spectrum allocations in the aeronautical mobile (route) service to support the implementation of WAIC systems in one or more non-contiguous radio frequency bands between 24 GHz to 71 GHz.

invites ITU-R

1 to conduct, as a matter of urgency, studies to determine the spectrum requirements to support the introduction of WAIC systems within existing aeronautical mobile service allocations below 15.7 GHz;

2. to conduct, as a matter of urgency, studies to determine the spectrum requirements to support the introduction of WAIC systems between 24 and 71 GHz.

3 that the studies referred to in *invites 1* and *invites 2* should include sharing and compatibility studies with services already having allocations in potential frequency bands identified in *resolves 1* and *2*,

further invites

all members of the Radiocommunication 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 wireless avionics intra-communications systems. This resolution will enable the required analysis to determine the spectrum requirements and potential frequency bands to take place in the appropriate ITU-R Study Group(s).
