

**CPG19-9**

**Ankara, Turkey, 26<sup>th</sup> - 30<sup>th</sup> August 2019**

**Date issued: 21<sup>st</sup> August 2019**

**Source: France**

**Subject: AI10: information on the proposal relating to new non-safety aeronautical mobile applications**

Group membership required to read? (Y/N)

N

**Summary:**

The document in annex provides further information relating to the proposal for a WRC-23 agenda item on new non-safety aeronautical mobile applications.

In particular, it addresses comments received from IARU in document **CPG(19)115** concerning the frequency band 144-146 MHz.

**Proposal:**

to CPG19-9 to

- consider the information in annex
- adopt the ECP on AI10 with no change for the proposal relating to new non-safety aeronautical mobile applications.

**Background:**

The PTA-7 meeting developed successfully a draft ECP package and a draft CEPT brief that will be considered for adoption at the CPG19-9.

## ANNEX:

The draft resolution [EUR-C10-3] relating to new non-safety aeronautical mobile applications was the subject of constructive debates during the last CPG-PTA meeting involving European administrations, representatives of the industry, and several user communities, including radio amateurs (IARU). Consequently, the text of the draft Resolution has been improved and has taken into account some reservations expressed by IARU. In particular, the draft resolution no longer seeks only for a primary allocation to the "aeronautical mobile" service in the 144-146 MHz band.

### ANNEX 1 OF DOC. CPG(19)115:

The two VHF frequency bands that are considered by the WRC-23 agenda item (144-146 MHz and 162-174 MHz) are both close to the band 138-144 MHz which is currently allocated to the AERONAUTICAL MOBILE (OR). The objective will be to extend the frequency range that the new aeronautical systems will have access to. Until the studies are finalized, it is premature to make hypothesis on the amount of spectrum that will be finally open to sharing among these two bands. The necessary constraints to protect the incumbent services that may be nation dependant are not known. In consequence, at this stage, both bands should be retained.

France recognizes the wide range of amateur applications hosted by the 144-146 MHz band. The band will remain available for all these applications after WRC-23. However a clear vision of the band segmentation per application and associated occupancy rates will be necessary for the sharing and compatibility studies carried on during the WRC-23 preparation cycle. Such studies are essential for assessing the possibilities of frequency sharing and establishing, where appropriate, the conditions that will ensure the continuity of operation and the protection of existing services.

France welcomes the perception by IARU of multiple emerging new technology applications in the amateur and amateur satellite services to operate in the 144-146 MHz frequency band and that no decrease in these spectrum needs is envisaged in the foreseeable future. France considers however that these opportunities for new innovative amateur service applications do not provide a case for preventing investigations for additional sharing scenarios, taking into account the specificities of targeted aeronautical mobile systems with very high resiliency, decentralized, secure and flexible characteristics. Effective opportunities and addressable market would ultimately be determined by the regulatory conditions to be established.

### ANNEX 2 OF DOC. CPG(19)115:

The need for new VHF spectrum is anticipated knowing the expected growth of the considered aeronautical applications. The WRC-23 agenda item actually proposes to study spectrum needs for such new non-safety aeronautical mobile applications for air to air, ground to air and air to ground communications. France notes that no recent studies related to future aeronautical mobile applications, other than those related to safety applications, were conducted by the previous WRCs.

It is anticipated that not all the VHF bands under study will be finally authorized for sharing. Furthermore some restrictions will be defined by the WRC-23 limiting the number of accessible channels within each band and defining regulatory constraints to ensure compatibility with existing services. Such limitations and regulatory constraints will differ depending on the nature of the targeted band, either already allocated on a primary basis to the mobile except aeronautical mobile (resolves 1 of draft Resolution), or studied for possible new allocations to the aeronautical mobile service (resolves 2 of draft Resolution). The proposed methodology will be to define, for all considered VHF bands, the amount of accessible spectrum and the associated regulatory constraints. **It is anticipated that only a combination of these portions of bands will be able to cover the spectrum need for the various data rate/elongation scenario.** Imposing a priority in the targeted bands will jeopardise the feasibility of covering the need.

The statement in Annex 2 § a) of Doc. CPG(19)115 denies for instance the relevance of considering an allocation for AMS in the 144-146 MHz band on the ground that there are many MHz of alternative VHF spectrum which could be utilised for this aeronautical requirement. France considers that this view disregards the fact that the effectiveness of studied sharing opportunities will depend upon the characteristics of the incumbent services. Constraints that may apply to specific non-safety aeronautical mobile applications as a

result of sharing studies with 160 MHz PMR applications operating in the land mobile service may for instance not be relevant when considering sharing with Amateur service applications in the 144-146 MHz. The sharing methods that will be defined will have to cope with the above mentioned limitations on the accessible spectrum within the tuning range and the associated regulatory constraints. It is anticipated that such methods will be adaptive to cope with the numerous sharing conditions varying with frequency, time and location. As such they will be innovative and will map the type of communication link (air-to-ground, ground-to-air or air-to-air) to the accessible spectrum with its constraints. Use of techniques like, dynamic frequency assignment, antenna treatment, power control, duty cycle control, spread spectrum may be considered.

**ANNEX 3 & 4 OF DOC. CPG(19)115:**

The simplified preliminary analysis does not take into account:

The nature of the aeronautical systems considered with the variety of sharing scenario (air to air, ground to air and air to ground) as well as possible mitigation techniques.

The 144-146 MHz band segmentation per application and associated occupancy rates, including provision for future use.

More detailed studies are required during the WRC-23 preparation cycle. The objective will not be to modify the existing amateur allocation in the band 144-146 MHz but to study possible sharing of the band while ensuring the protection of the amateur usage.