

EUROCONTROL comments on ICAO Position for WRC 2003 (attachment to State letter E 3/5-01/79)

(presented by C. Pelmoine, EUROCONTROL)

1. On agenda item 1.4, 1.5 and 1.6

In the highly density parts of Europe, there is currently a shortage of spectrum capacity for short-range communications in the VHF AM(R)S band (118-136 MHz). It is anticipated, that in spite of the 8.33 new channelisation, the ATC communications requirement will not be fulfilled in the 5-10 next years. A new AM@S system based on 3G-mobile like-technology is under investigation, with the objective to move some existing and planned short range applications at major airports from the VHF band into the 5091-5250 MHz in order to increase the aircraft traffic capacity at these airports and to release some spectrum capacity in the VHF band to create line of sight communications capacity to cope with the increase of air traffic.

New ARNS applications, such as the Airport Network and Location Equipment (ANLE) in the band 5150-5250 MHz, are also investigated in various regions of the world to enhance the safety of ground movements of aircrafts at major airport whilst increasing the air traffic capacity.

The band 5091-5150 MHz is a natural candidate under the condition that the MLS requirements must be allocated on priority to these futures developments. Based on MLS requirements by States, ICAO is reviewing the MLS frequency plan to answer the question if an extension of MLS requirement is necessary for the band 5091-5150 MHz.

The band 5150-5250 MHz is allocated to ARNS with a primary status. This band has been later allocated to other service (FSS, MS, ...) with the consequence that the allocation is no more exclusive to aviation service. The band 5150-5250 MHz is also a natural candidate for safety aeronautical applications under the express conditions to find a method to remove the harmful interferences radiated by the co-located services.

The planned investigations within aviation are as follows:

- Identify the operational requirement for new aviation applications
- Identify the necessary spectrum capacity for short-range communications and for other applications such as ANLE
- Identify the technolog(ies)
- Identify the suitable band(s) among the candidate bands
- Presentation and discussion of results in ICAO
- Presentation of results to CEPT and ITU

2. On agenda item 1.15

a) Band 1164-1215 MHz:

The ICAO position does not mention TACAN, which can be also used by civilian ATC procedure

b) Band 1215-1300 MHz

WRC2000 introduced RNSS in the band 1260-1300 MHz used by surveillance radar. RNSS allocation already existed in 1215-1260 MHz (GPS L2 and GLONASS) used by surveillance radar. No cases of interference have been reported.

From current analysis, the pfd limit can vary from -130 dBW/m²/MHz to -160 dBW/m²/MHz.

The first value (-130 dBW/m²/MHz) is determined by the radiation of the existing RNSS systems. The other value (around -160 dBW/m²/MHz) is determined by theoretical analysis and [measurement] of the maximum level of RNSS signal in a co-frequency ATC radar, which does not cause harmful interference. Currently, some administrations recommend the -130 dBW/m²/MHz based on the fact that they do not want to change existing RNSS systems and on the fact that no interference has been reported. It is therefore possible that if the pfd concept is accepted at the WRC03, the value could be -130 dBW/m²/MHz, which might cause harmful interference to radar!!! . Until the huge discrepancy between the two values (30 to 40 dB!!) is not solved, it is preferable not to promote a pfd concept.

In the current uncertainty on the pfd value, it is preferable to have a more flexible approach such as:

- To support study to determine an appropriate pfd limit based on measurement
- If the pfd limit is agreed following those studies, to support the need for a pfd limit specified by aviation within the RR
- If the pfd limit proposed by the ITU-R is not agreed by aviation, to oppose any mention of pfd value in the RR and support the incorporation of regulatory mechanism to re-enforce that the RNSS must not cause harmful interference to ARNS and must not claim protection from ARNS.

3. On agenda item 7.2

a) additional spectrum for aeronautical systems

New aeronautical aviation systems are envisaged in different parts of the world. This aim is to satisfy primarily the following requirements which are still being refined:-

- Cater for foreseeable aviation traffic growth in demand for air and ground-movements
- Alleviate VHF congestion in the aviation communication 118-137 MHz band
- Support new applications to enhance safety particularly to avoid runway incursions and to support ground movements
- Provide future data links
- Cater for changes in technology with the frequency efficient merits they may bring (eg 3G radio systems and CDMA techniques)

The planned investigations within aviation are as follows:

- Identify the operational requirements for new aviation applications
- Identify the necessary spectrum capacity for these applications
- Identify the technolog(ies)
- Identify the suitable band(s) among the candidate bands
- Presentation and discussion of results in ICAO
- Presentation of results to CEPT and ITU

Create a new alinea, such as

e) To remove agenda (in particular the systems to be discussed at WRC06 and WRC09), which are a threat to aviation. To be continuously monitored and identified...

4. On attachment (suggested amendment to ITU RR)

4.1 Agenda item 1.5

The ICAO text requests the upgrading of radiolocation from secondary to primary status. As civil aviation has no interest in the upgrading, it would be preferable to be neutral, i.e. to propose nothing. It is worth to note that the ICAO position in the main part of the document is only "accept the upgrading... only in the express conditions that...", which is more satisfying.

It is suggested to replace the current ICAO text and table by the sentence "In case where the radiolocation service is upgraded to a primary status, the footnote S5.AAA must be added", and to keep the footnote S5.AAA

4.2 Agenda item 1.17

Same as above (footnote S5.BBB instead of footnote S5.AAA).

5. Recommendations

The meeting is invited to debate the above issues in order to provide guidance to ICAO, and possibly to request ICAO prepare complementary or amendments texts to the ICAO position.