



International Civil Aviation Organization

**MIDANPIRG Communication Navigation and Surveillance
Sub-Group (CNS SG)**

Fifth Meeting
(Cairo, Egypt, 11 – 13 December 2012)

Agenda Item 4: Development related to CNS

**AMENDMENTS TO THE HANDBOOK ON RADIO FREQUENCY SPECTRUM
REQUIREMENTS FOR CIVIL AVIATION (DOC 9718)
(VOLUME I)**

(Presented by the Secretariat)

SUMMARY

This paper presents the agreed updates to the ICAO Handbook on radio frequency spectrum requirements for civil aviation (Doc. 9718) Review of these updated by the ACP Working Group F has been completed. The ICAO position for ITU WRC-15 is draft, pending a review by States, the Air Navigation Commission and approval by Council.

Action by the meeting is in paragraph 3.

1. INTRODUCTION

1.1 ACP Working Group F at its 26th meeting in March 2011 has started a review of the Handbook on frequency spectrum requirements for civil aviation (Doc 9718). The review includes a partial revision of all Chapters of the Handbook with the view to:

- i. Update the (generic) material all Chapters
- ii. Incorporate in the ICAO Spectrum Strategic Objectives. These are addressed in a separate working paper.
- iii. Incorporate in Chapter 7 the revisions to the ITU Radio Regulations as per the Final Acts of the ITU World Radiocommunication Conference 2012 (WRC-12)
- iv. Update the ICAO Policy Statements in Chapter 7 in the light of the outcome of WRC-12

1.2 ACP Working Group F completed the review of the Handbook Volume I in September 2012. The agreed modifications are presented to the Air Navigation Commission for review and comments. The (newly introduced) ICAO Strategic Objectives and the revised policy statements will eventually be submitted to Council for approval and to establish the ICAO policy on spectrum matters.

1.3 In addition, the ICAO position for the ITU World Radiocommunication Conference 2015 will be, as usual, submitted to States for comments prior to approval by Council. It is expected that approval by Council will be obtained during the second quarter of 2013.

1.4 In parallel, a new Volume II of the Handbook has been developed that contains detailed material for aeronautical frequency assignment planning. To date, this Volume II contains only material on the frequency assignment planning of aeronautical VHF air/ground communication systems (voice and data). The new Volume II is presented in a separate working paper. The current Handbook is to be renamed into Volume I of the Handbook (Doc. 9718). The Handbook (Volume 1) is attached as an embedded document.

2. SUMMARY OF THE PROPOSED AMENDMENTS TO THE HANDBOOK ON RADIO FREQUENCY SPECTRUM REQUIREMENTS FOR CIVIL AVIATION (DOC. 9718)

2.1 Figure 3-2 in the Handbook (overview of spectrum allocations to aeronautical services) has been updated to reflect current allocations to (global) aeronautical radio services and aeronautical uses.

2.2 Figure 3-3 (Radio services). This Figure has been updated to better clarify the role and the position the more generic services in the ITU Radio Regulation in contrast to more specific aeronautical (safety) services as a sub-set of the more generic services as well as the nomenclature to be applied to the stations in these services.

2.3 Amendments to paragraph 4.2.1 (Communications) were introduced to more appropriately identify services used by international civil aviation and for which spectrum has been allocated.

2.4 Amendments to paragraph 4.3.1 (Navigation and Surveillance) were introduced to more specifically identify that the radio navigation service is recognized in the ITU as a safety service and this generic definition is appropriate for aeronautical applications.

2.5 Some minor modifications were made to the list of frequency bands in Section 7-I to reflect changes in allocations to aeronautical services in the ITU Radio Regulations. References to spectrum used for the LORAN system were deleted as this system no longer supports international civil aviation or any national use.

2.6 Figures 7-1 to 7-7 were updated to reflect the outcome of WRC-12.

2.7 Section 7_II – Civil aviation frequency allocations – Section “Overall Strategic Objectives and Policy Statements”

2.7.1 Frequency band 90 – 110 kHz (LORAN). Material on this frequency band was deleted since LORAN does no longer play a role in international or national radio navigation.

2.7.2 Frequency band 130 – 535 kHz

Consideration was given to the need to maintain the frequency plan for the band 415 – 435 kHz by the aeronautical radionavigation service for ITU Region 1 (Europe and Africa) that was established in 1985. No comments were received. In principle, in the view of the Secretariat, this frequency plan is obsolete since the relevant frequency assignments for NDB stations were incorporated in the relevant ICAO COM lists.

2.7.3 Aeronautical HF bands – narrative material on a revision of Appendix 27 has been replaced with statements that Appendix 27 should not be revised. It should be noted that ICAO is working on developing a new (global) ICAO COM list for HF frequency assignments that will be incorporated in Frequency Finder.

2.7.4 Frequency band 108 – 117.975 MHz

The texts on FM compatibility and the available ITU studies and Recommendations have been clarified.

2.7.5 Frequency band 117.975 – 137 MHz.

The text on ELT/EPIRB has been clarified and relevant ICAO provisions were inserted. Also, the material relative to the introduction of 8.33 kHz channel spacing was simplified.

2.7.6 960 – 1215 MHz. In this section text was added on the implementation of LDACS (L-band Data-link Aeronautical Communication System in this frequency band.

2.7.7 1559 – 1626.5 MHz. Material on GNSS interference (including jamming) and the use of IRIDIUM for aeronautical communications was added.

2.7.8 1525-1559 MHz and 1626.5 – 1660.5 MHz. Results of the modified coordination procedure for AMS(R)S spectrum as per ITU-WRC-12 was added.

2.7.9 2700 – 2900. Material on interference from WIMAX (cellular mobile system) as well as the threat of using this band for non-aeronautical mobile applications as added.

2.7.10 4200 – 4400 Material on the use of this frequency band for radio altimeters as well as the outcome of discussions relevant to the possible future use of this band at ITU WRC-12 was added. Allocations in this band, in particular for on-aeronautical purposes are expected to be reviewed at WRC-15.

2.7.11 Frequency band 5000 – 5150 MHz. Consideration on the tuning range for AeroMACS as discussed in WG F (but without conclusion) has been inserted.

2.8 7-III.3.3.2 Extensive text on the recording of the ICAO coordinated frequency assignments in the ITU Master International Frequency Register (MIFR) has been added. Review of this matter is ongoing.

2.9 Section 7-III.3.8 Order of priority of communications in the AM(R)S. Text has been added to clarify the relevant ICAO provisions.

2.10 Chapter 8

2.10.1 Chapter 8 was re-written to introduce the ICAO Spectrum Strategic Objectives. The ICAO Spectrum strategy is introduced in section 8.2 of Chapter 8. The details of the ICAO Spectrum Strategy are, for each frequency band, included in 8.2.5. Attention should be given to in particular the description of the time scales for the Spectrum Strategic Objectives. The term “medium” has been introduced to determine Spectrum Strategic Objectives (spectrum requirements) for the period up to (and likely beyond 2035 as well). The “long term” identifies Spectrum Strategic Objectives (spectrum requirements) that are foreseen to be satisfied to well beyond 2035. Chapter 8 also includes an update on future spectrum requirements for civil aviation.

2.11 Chapter 9. The table 9-1 with general protection limits should be removed since it cannot be used to assess compatibility with non-aeronautical services.

2.12 The Handbook also incorporates, for information, the draft ICAO position for WRC-15. This position still has to be reviewed by States and to be approved by Council. Approval by Council is expected in the second quarter of 2013.

3 ACTION BY THE MEETING

3.1 The meeting is invited to take note of the results of the review of the modifications to the ICAO *Handbook on radio frequency spectrum requirements for civil aviation* (Volume I; Doc 9718). Any comment on the whole of the Handbook is welcome and will be considered for future revisions.
