



International Civil Aviation Organization

North American, Central American and Caribbean Office

Second Meeting of North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/2)

Tegucigalpa, Honduras, 11 – 14 October 2005

NACC/DCA/2-WP/22

15/08/05

Agenda Item 3: Air Navigation Services

3.1 CNS/ATM

FUTURE SPECTRUM NEEDS AND PROPOSED WRC-2007 ACTIONS

(Presented by the United States of America)

SUMMARY

The International Telecommunication Union (ITU) 2003 World Radiocommunication Conference (WRC) developed the draft agenda for the WRC-2007. This paper includes select areas of critical concern to civil aviation and provides a general framework for future work to prepare for WRC-2007.

1.0 INTRODUCTION

1.1 The International Telecommunications Union (ITU) World Radiocommunication Conference 2003 (WRC-2003) developed the final agenda for the WRC-2007. Areas of critical concern to aviation on this agenda are identified in this paper. For various agenda items relevant to international civil aviation, the ITU Radiocommunication Bureau has been requested by the WRC-2003 to undertake specific studies for WRC-2007.

2.0 DISCUSSION

2.1 WRC-2007 Agenda Item topics relevant to international civil aviation are as follows (a complete list of Agenda Item topics is included in the **Appendix** to this paper):

2.1.1 Agenda Item 1.1 requests Administrations to delete their country footnotes or to have their country name deleted from footnotes, if no longer required. Among other things, deletion of footnotes such as footnote RR 5.362B, which limits Global Navigation Satellite Service (GNSS) implementation in some countries, are encouraged by the International Civil Aviation Organization (ICAO).

2.1.2 Agenda Item 1.2 considers allocations and regulatory issues related to the earth exploration-satellite (passive) service, space research (passive) service, and the meteorological satellite service. Civil aviation will need to insure that such allocations do not limit current aeronautical usage or future enhancements to aviation systems.

2.1.3 Agenda Item 1.3 considers the upgrade of the radiolocation service to a primary allocation in the bands 9000-9200 MHz and 9300-9500 MHz, and considers the extension of the existing primary allocations to the Earth exploration-satellite service (active) and the space research service (active) from 9500-9800 MHz by up to 200 MHz. The band 9000-9200 MHz is also allocated to the aeronautical radionavigation service and is used in some countries for maritime radionavigation service for shore-based radars. The band 9300-9500 MHz is also allocated to the aeronautical radionavigation service and is used in some countries for maritime radionavigation service, ground-based radar beacons, and ground-based meteorological radars. International civil aviation will need to insure that this upgrade is made in such a manner that current and future aeronautical operations are fully protected.

2.1.4 Agenda Item 1.6 considers additional allocations for the aeronautical mobile (R) service in parts of the bands between 108 MHz and 6 GHz, and to study current satellite frequency allocations that will support the modernization of civil aviation telecommunication systems. Among other things, this agenda item may be used to study the spectrum needs of the universal access transceiver (UAT), the potential for Airport Network and Location Equipment, aeronautical fixed links in the 5091-5150 MHz band, and allocations for new technologies to support aeronautical mobile communications requirements.

2.1.5 Agenda Item 7.2 incorporates a proposal from Kenya and Uganda that considers some developing countries continue to lack an appropriate communication infrastructure that meets the evolving requirements of modern civil aviation; however, the cost of providing and maintaining such an infrastructure, in particular a terrestrial infrastructure, is increasingly expensive, particularly in remote regions. The proposal also notes that Resolution 20 (Rev.WRC-2000) *resolves to instruct the Secretary-General* “to encourage ICAO to continue its assistance to developing countries which are endeavouring to improve their aeronautical telecommunications.” And finally, the proposal resolves to study as a matter of urgency the current satellite frequency allocations that could meet aeronautical requirements to support the modernization of civil aviation telecommunication systems, especially those of developing countries, and to study those radio frequencies in particular that could be used to support both ICAO CNS/ATM systems and other non-aeronautical telecommunication services.

3.0 RECOMMENDATION

3.1 The Meeting is invited to:

- a) note the contents of this paper;
- b) recommend that all States participate in ICAO groups such as the Aeronautical Communications Panel (ACP) Working Group F whenever possible,
- c) work towards the development of a common civil aviation position for the upcoming WRC-2007, and
- d) note the next meeting of the ACP Working Group F is tentatively scheduled for November 14-25, 2005 in Cairo, Egypt.

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APPENDIX

RESOLUTION [COM7/A] (WRC-03)

Agenda for the 2007 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2003),

considering

- a) that, in accordance with No. 118 of the Convention, the general scope of the agenda for a world radiocommunication conference should be established four to six years in advance and a final agenda shall be established by the Council two years before the conference;
- b) Article 13 of the Constitution relating to the competence and scheduling of world radiocommunication conferences and Article 7 of the Convention relating to their agendas;
- c) the relevant Resolutions and Recommendations of previous world administrative radio conferences (WARCs) and world radiocommunication conferences (WRCs),

recognizing

- a) that this Conference has identified a number of urgent issues requiring further examination by WRC-07;
- b) that, in preparing this agenda, many items proposed by administrations could not be included and have had to be deferred to future conference agendas,

resolves

to recommend to the Council that a world radiocommunication conference be held in 2007 for a period of four weeks, with the following agenda:

1. on the basis of proposals from administrations, taking account of the results of WRC-03 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the bands under consideration, to consider and take appropriate action with respect to the following items:

1.1 requests from administrations to delete their country footnotes or to have their country name deleted from footnotes, if no longer required, in accordance with Resolution **26 (Rev.WRC-97)**;

1.2 to consider allocations and regulatory issues related to the Earth exploration-satellite (passive) service, space research (passive) service and the meteorological satellite service in accordance with Resolutions **[COM7/8] (WRC-03)** and **[COM5/3] (WRC-03)**;

1.3 in accordance with Resolution **[COM7/9] (WRC-03)**, consider upgrading the radiolocation service to primary allocation status in the bands 9 000-9 200 MHz and 9 300-9 500 MHz and extending by up to 200 MHz the existing primary allocations to the Earth exploration-satellite service (active) and the space research service (active) in the band 9 500-9 800 MHz without placing undue constraint on the services to which the bands are allocated;

1.4 to consider frequency-related matters for the future development of IMT-2000 and systems beyond IMT-2000 taking into account the results of ITU-R studies in accordance with Resolution **228 (Rev.WRC-03)**;

1.5 to consider spectrum requirements and possible additional spectrum allocations for aeronautical telecommand and high bit-rate aeronautical telemetry, in accordance with Resolution [**COM7/5**] (**WRC-03**);

1.6 to consider additional allocations for the aeronautical mobile (R) service in parts of the bands between 108 MHz and 6 GHz, in accordance with Resolution [**COM7/6**] (**WRC-03**) and, to study current satellite frequency allocations, that will support the modernization of civil aviation telecommunication systems, taking into account Resolution [**COM7/7**] (**WRC-03**);

1.7 [to consider the results of ITU-R studies regarding sharing between the mobile-satellite service and the space research service \(passive\) in the band 1 668-1 668.4 MHz, and between the mobile-satellite service and the mobile service in the band 1 668.4-1 675 MHz in accordance with Resolution \[**COM5/12**\] \(**WRC-03**\);](#)

1.8 to consider the results of ITU-R studies on technical sharing and regulatory provisions for the application of high altitude platform stations operating in the bands 27.5-28.35 GHz and 31-31.3 GHz in response to Resolution [**COM5/17**] (**WRC-03**), and for high altitude platform stations operating in the bands 47.2-47.5 GHz and 47.9-48.2 GHz in response to Resolution **122 (Rev.WRC-03)**;

1.9 to review the technical, operational and regulatory provisions applicable to the use of the band 2 500-2 690 MHz by space services in order to facilitate sharing with current and future terrestrial services without placing undue constraint on the services to which the band is allocated;

1.10 to review the regulatory procedures and associated technical criteria of Appendix **30B** without any action on the allotments, the existing systems or the assignments in the List of Appendix **30B**;

1.11 to review sharing criteria and regulatory provisions for protection of terrestrial services, in particular the terrestrial television broadcasting service, in the band 620-790 MHz from BSS networks and systems, in accordance with Resolution [**COM4/5**] (**WRC-03**);

1.12 to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: "Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks" in accordance with Resolution [**COM4/10**] (**WRC-03**);

1.13 taking into account Resolutions **729 (WRC-97)**, [**COM4/2**] (**WRC-03**) and [**COM4/11**] (**WRC-03**), to review the allocations to all services in the HF bands between 4 MHz and 10 MHz, excluding those allocations to services in the frequency range 7 000-7 200 kHz and those bands whose allotment plans are in Appendices **25**, **26** and **27** and whose channeling arrangements are in Appendix **17**, taking account of the impact of new modulation techniques, adaptive control techniques and the spectrum requirements for HF broadcasting;

- 1.14 to review the operational procedures and requirements of the Global Maritime Distress and Safety System (GMDSS) and other related provisions of the Radio Regulations, taking into account Resolutions **331 (Rev.WRC-03)** and **342 (Rev.WRC-2000)** and the continued transition to the GMDSS, the experience since its introduction, and the needs of all classes of ships;
- 1.15 to consider a secondary allocation to the amateur service in the frequency band 135.7-137.8 kHz;
- 1.16 to consider the regulatory and operational provisions for Maritime Mobile Service Identities (MMSIs) for equipment other than shipborne mobile equipment, taking into account Resolutions **344 (Rev.WRC-03)** and **[COM4/4] (WRC-03)**;
- 1.17 to consider the results of ITU-R studies on compatibility between the fixed-satellite service and other services around 1.4 GHz, in accordance with Resolution **[COM5/14] (WRC-03)**;
- 1.18 to review pfd limits in the band 17.7-19.7 GHz for satellite systems using highly inclined orbits, in accordance with Resolution **[COM4/23] (WRC-03)**;
- 1.19 to consider the results of the ITU-R studies regarding spectrum requirement for global broadband satellite systems in order to identify possible global harmonized FSS frequency bands for the use of Internet applications, and consider the appropriate regulatory/technical provisions, taking also into account No. **5.BC03** of the Radio Regulations;
- 1.20 to consider the results of studies, and proposals for regulatory measures if appropriate regarding the protection of the Earth exploration-satellite service (passive) from unwanted emissions of active services in accordance with Resolution **[COM4/14] (WRC-03)**;
- 1.21 to consider the results of studies regarding the compatibility between the radio astronomy service and the active space services in accordance with Resolution **[COM4/17] (Rev.WRC-03)**, in order to review and update, if appropriate, the tables of threshold levels used for consultation that appear in the Annex to Resolution **[COM4/15] (WRC-03)**;
2. to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with Resolution **28 (Rev.WRC-03)**, and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with principles contained in the Annex to Resolution **27 (Rev.WRC-03)**;
3. to consider such consequential changes and amendments to the Radio Regulations as may be necessitated by the decisions of the Conference;
4. in accordance with Resolution **95 (Rev.WRC-03)**, to review the Resolutions and Recommendations of previous conferences with a view to their possible revision, replacement or abrogation;
5. to review, and take appropriate action on, the Report from the Radiocommunication Assembly submitted in accordance with Nos. 135 and 136 of the Convention;

6. to identify those items requiring urgent action by the Radiocommunication Study Groups in preparation for the next world radiocommunication conference;

7. in accordance with Article 7 of the Convention:

7.1 to consider and approve the Report of the Director of the Radiocommunication Bureau:

- on the activities of the Radiocommunication Sector since WRC-03;
- on any difficulties or inconsistencies encountered in the application of the Radio Regulations; and
- on action in response to Resolution **80 (Rev.WRC-2000)**;

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 [**COM7/B**] (**WRC-03**),

further resolves

to activate the Conference Preparatory Meeting and the Special Committee on Regulatory/Procedural Matters,

invites the Council

to finalize the agenda and arrange for the convening of WRC-07, and to initiate as soon as possible the necessary consultations with Member States,

instructs the Director of the Radiocommunication Bureau

to make the necessary arrangements to convene meetings of the Conference Preparatory Meeting and to prepare a report to WRC-07,

instructs the Secretary-General

to communicate this Resolution to international and regional organizations concerned.