International Civil Aviation Organization

Eight Meeting of the Communications/Navigation/Surveillance and Meteorology Sub-Group (CNS/MET SG/8) of APANPIRG

Bangkok, Thailand, 12-16 July 2004

Agenda Item 7: Aeronautical electromagnetic spectrum utilization

2) review preparations for WRC-2007

DRAFT ICAO POSITION FOR THE ITU WORLD RADIOCOMMUNICATION CONFERENCE 2007 (WRC-07)

(Presented by the Secretariat)

SUMMARY

This paper reviews the agenda for the ITU WRC-07, presents points of aeronautical interest and provides the ICAO position for each agenda item. The ICAO position aims at securing availability of radio frequency spectrum to meet civil aviation requirements for current and future safety-of-flight application. In particular, it stresses that safety considerations dictate the exclusive frequency bands must be allocated to highly critical aeronautical systems and that adequate protection against harmful interference must be ensured. It also includes proposals for new aeronautical allocations for air-ground communications. Support of the ICAO position by Contracting States is required to ensure that the position is supported at the WRC-07 and that aviation requirements are met.

DRAFT ICAO POSTION FOR THE ITU WRC-07

1. INTRODUCTION

1.1 This paper contains the ICAO position on issues of interest to international civil aviation to be decided at the ITU World Radiocommunication Conference 2007 (WRC-07), which is foreseen to be held in 2007. The agenda of the conference is contained in Attachment A.

2. SPECTRUM REQUIREMENTS FOR INTERNATIONAL CIVIL AVIATION

2.1 The safety of air operations is vitally dependent on the availability of reliable communications and navigation services. Future strategies are based on an increased use of space-based systems, and have been agreed as international civil aviation policy through the principles established for the ICAO communications, navigation, and surveillance/air traffic management (CNS/ ATM) system (*Statement of ICAO policy on CNS/ATM systems implementation and operation)*, approved by the Council on 9 March 1994. The 11th Air Navigation Conference (11th ANC) noted that States, international organisations and ICAO had embarked on communication, navigation and surveillance/air traffic management (CNS/ATM) systems planning, intended to improve aircraft operations by making us of modern CNS/ATM technologies. The 11th ANC developed the global ATM concept, to be used as guidance for the development of ICAO CNS/ATM related provisions. The planning horizon used for the global ATM concept was up to and beyond the yeas 2025.

2.2 The development of these CNS/ATM provisions is highly dependent upon the availability of radio-frequency spectrum that can support the high integrity and availability requirements associated with aeronautical safety systems and demands special conditions to avoid harmful interference to these systems. It was also recognised by the 11th ANC that currently available spectrum for CNS/ATM systems may need to be supplemented with new allocations to enable the introduction of new systems in aviation while the requirements for spectrum for current systems are to be maintained until a future, undetermined period. The high integrity and availability requirements associated with aeronautical safety systems demand special conditions to avoid harmful interference to these systems. Article 4.10 of the Radio Regulations states that ITU Member States recognise that the safety aspects of radionavigation and other safety services requires special measures to ensure their freedom from harmful interference. This factor needs to be taken into account in the allocation, assignment and use of frequencies for aeronautical systems. In particular, the sharing of aeronautical radio services with other aeronautical services or non-aeronautical services must be considered with extreme care. Where sharing conditions are not thoroughly proven, exclusive aeronautical allocations need to be secured to preserve the integrity of aeronautical services.

2.3 The radio frequency spectrum needs for civil aviation, arising from the growth in air transport and from the introduction of new technologies, are evolving. Requirements for additional aviation spectrum and/or for alternative uses of existing aviation spectrum are currently being identified to meet emerging needs. While some of these needs will be addressed by WRC-07, consideration by future conferences (WRC-10 and beyond) will be necessary to fully meet the future aviation requirements. The preliminary agenda for the WRC-2010 is in Attachment B.

2.4 The ICAO position has been drafted early 2004 by working group F of the Aeronautical Communications Panel (ACP) and has been reviewed by the Air Navigation Commission (ANC) on [xx] June 2004. Following the review by the ANC, it has been submitted to ICAO Contracting States and international organizations for comments. After final review by the ANC of the ICAO position and the comments received, it will be submitted for approval. It is expected that, during the course of the preparatory activities for the WRC-07 further updates to the ICAO position are necessary. Use of the ICAO position below by States and international organization in their preparatory activities for the WRC-07 on a national level, in the activities of the regional telecommunication organizations* and the ITU, to the maximum extend possible, is requested.

3. AERONAUTICAL ASPECTS ON THE AGENDA FOR WRC-07

Note 1.— The statement of the ICAO position on an agenda item is given in a text box at the end of the section addressing the agenda item, after the introductory background material.

Note 2.— Agenda items marked with an asterisk indicate that suggested amendments to the ITU Radio Regulations are provided in Annex 2.

Note 3.— No impact on aeronautical services has been identified from the following WRC-07 agenda items, which are therefore not addressed in the position:

1.2, 1.7,1.8, 1.10, 1.11, 1.12, 1.15, 1.18, 1.21, 3, 5, 6 and 7.1.

Note 4.— On the following agenda items no ICAO position has been developed. However, any proposal of a technical or regulatory nature on these agenda items needs to be considered carefully to ensure that aeronautical interests are not affected adversely. If required, an ICAO position on these agenda items will be developed in due course.

1.4, 1.9, 1.14 and 1.19.

WRC07 Agenda Item 1.1

Agenda Item Title:

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)

Discussion:

Allocations to the aeronautical services are generally made for all ITU Regions and normally on an exclusive basis. These principles reflect the global process of standardization within ICAO for the promotion of safety and to support the global interoperability of radiocommunication and radionavigation equipment used in civil aircraft. In some instances, however, footnotes to the ITU Table of Frequency Allocations allocate spectrum in a country to other radio services in addition or alternatively to the aeronautical service to which the same spectrum is allocated in the body of the table.

The use of country footnote allocations in aeronautical bands to non aeronautical services is generally not recommended by ICAO, on safety grounds, as such use may result in harmful interference to safety services. Furthermore, this practice generally leads to an inefficient use of available spectrum to aeronautical services, particularly when the radio systems sharing the band have differing technical characteristics. It also may result in undesirable (sub)regional variations with respect to the conditions under which the technical conditions under which the aeronautical allocations can be used. This can have serious impact on the safety of aviation.

A number of footnotes in aeronautical bands that should be deleted for safety and efficiency reasons are discussed below.

a) In the bands used for the ICAO **instrument landing system (ILS)**, Footnotes **5.181, 5.197** and **5.259** allow for the introduction of the mobile service on a secondary basis and subject to agreement obtained under **No. 9.21** of the Radio Regulations when these bands are no longer required for the aeronautical radionavigation service. In 1995, the ICAO Special Communications/Operations Divisional Meeting agreed to the continuation of the use of ILS for the foreseeable future and, as a result, access to these bands by the mobile service is not feasible, in particular since no acceptable sharing criteria that secure the protection of ILS have been established to date. In addition, WRC-03 has introduced Footnote **5.BA03** stipulating that the band 108–117.975 MHz may also be used by the Aeronautical Mobile (R) service on a primary basis for navigation and surveillance functions, thus further reducing the options for the use of this band by the mobile service. Introduction of GNSS ground-based augmentation systems (GBAS) and VDL Mode 4 has emerged and relevant ICAO Standards and Recommended Practices (SARPs) and frequency planning criteria have been adopted by ICAO. These footnotes should now be deleted since they do not represent a realistic expectation for an introduction of the mobile service in these bands.

b) Footnotes **5.203** and **5.203A and 5.203B** allocate the band 136–137 MHz, used for **VHF air-ground communications** (voice and data), to the meteorological satellite service (until 1 January 2002) and to the fixed and mobile, except aeronautical mobile service (until 1 January 2005), all on a secondary basis. The band 136–137 MHz was allocated to the aeronautical mobile (R) service (AM(R)S) on a primary basis by the WARC-79. The actual introduction of the AM(R)S could only take place as from 1 January 1990 to enable other users to vacate this band between 1979 and 1990. However, some of the non-aeronautical services continued to operate well beyond 1990. In Europe, the AM(R)S was introduced in 1990 and in North America in 1995 and recently in other ICAO regions. Introduction of air-ground data link is primarily concentrated in this sub-band. The band is already heavily used in Europe for AM(R)S for voice and data communications and use is increasing in North America and other parts of the world, thus restricting seriously the operations of the meteorological satellite service, which is susceptible to interference from the AM(R)S service. There are similar difficulties with

Footnote **5.203A** and **5.203B**. The provisions of this footnote, expiring in 2005, should not be extended and the footnote should be deleted at the WRC-07.

c) In the band 1 559–1 610 MHz, which is used for elements of the ICAO **Global Navigation Satellite System (GNSS),** Footnotes **5.362B** and **5.362C** allow the operation of the fixed service on a primary basis until 1 January 2005 (1 January 2010 in some countries) and on a secondary basis until 1 January 2015. This band is allocated, on a worldwide, primary basis, to the aeronautical radionavigation service and to the radionavigation-satellite service (RNSS). The band already supports operation of two prime elements of GNSS, i.e. GLONASS and GPS, which have been defined in ICAO SARPs. Other new RNSS systems, such as the European Galileo system, are under consideration. Studies undertaken in preparation for WRC-2000 indicate that a geographical separation distance exceeding line of sight (in the order of 400 km) between aircraft using GNSS and stations of the fixed service is required to ensure safe operation of GNSS. This is a very severe restriction, which can prohibit the safe use of GNSS over wide areas around any fixed service installation. To compensate for these restrictions, retention of current terrestrial radionavigation systems by aviation may be needed, leading to inefficient use of available spectrum. More importantly, harmful interference situations can arise leading to disruption to GNSS, affecting the safety of aircraft in flight. Thus, the WRC-2000 agreement to terminate use of this band on a primary basis in 2005 (2010 in some countries) and all use in 2015 still constitutes a severe and unacceptable constraint on the safe and effective use of GNSS in some areas of the world. It is therefore recommended that deletion of these footnotes be effective as from 2007 at the latest. It is further noted that in Footnote **5.362B** the allocation to the fixed service on a primary basis in a number of countries has expired at the timing of WRC-07. Finally, the alternative allocation to the aeronautical radionavigation service in Footnote **5.363** excludes the use of the band 1590-1610 MHz by the radionavigation satellite service. This is undesirable and the frequency range of this footnote should be amended to exclude the band 1590-1610 MHz.

d) In the band 4 200–4 400 MHz, which is reserved for use by **airborne radio altimeters,** Footnote **5.439** allows the operation of the fixed service on a secondary basis. Radio altimeters are a critical element in the precision landing of aircraft under automatic guidance conditions. Interference from fixed service has the potential to affect the safety of such operations. Deletion of this footnote is recommended.

ICAO Position:

a) To support deletion of Footnotes 5.181, 5.197 and 5.259, as access to these bands by the mobile service is not feasible and could create the potential for interference to important radionavigation systems used by aircraft at final approach and landing.

b) To support deletion of 5.203, 5.203A and 5.203B at WRC-07 to enable full use of the band 136–137 MHz for AM(R)S communications.

c) To support the cessation of all fixed services in the band 1559–1610 MHz as of 2007 in order to remove the interference caused by the fixed service to essential aeronautical radionavigation functions and to permit the full utilization of GNSS services to aircraft on a global basis.

d) To support the deletion of 5.363 from the band 1590-1610 MHz.

e) To support deletion of Footnote 5.439 as a measure to protect safety critical operation of radio altimeters in the band 4200–4400 MHz.

WRC-07 Agenda Item 1.3

Agenda Item Title:

In accordance with Resolution 747 (WRC-03) *(see Appendix C)* **consider the upgrading of the radiolocation service to primary allocation status in the bands 9000-9200 MHz and 9300-9500 MHz and extending by up to 200 MHz the existing primary allocations to the Earth exploration-satellite service (active) in the band 9500-9800 MHz without placing undue constraints to the services to which the bands are allocated.**

Discussion:

These 3 cm radar bands are used extensively by aeronautical (ground and airborne), maritime (land-based and shipborne) and national defence radar systems. They cater for essentially shorter range surveillance and precision functions up to a 50 km range. In aviation, they find considerable application in precision monitoring and approach functions, and in airborne weather radar (AWR) systems where their shorter wavelength is very suitable for the detection of storm clouds. In this latter role, the frequency band 9 345–9 375 MHz has been coordinated with other users within ITU-R as the agreed aeronautical airborne frequencies for this purpose. This band provides for a narrower beam than the airborne weather radar operating at 5.3 GHz and provide a better resolution and less ground clutter. One of the vital safety functions of airborne weather radar is to give warning of hazardous weather and ensure safe separation of aircraft from hazardous weather conditions. In many countries the carriage of airborne weather radar is a mandatory requirement. This band is also used for surface detection radar.

The ICAO policy for these radar bands is based upon the requirement that these radars are likely to remain in service for many years into the future. Sharing with maritime radars is very manageable and practical because of the different geographical usage, and coordination between the two services is good. The ongoing protection of the aeronautical uses of these bands needs to be assured. The operation of the radiolocation service in these bands needs to be based upon the results of studies in ITU-R, demonstrating that sharing with the radiolocation service on a primary basis is feasible. These studies should also result in ITU-R recommendations stipulating the conditions of the use of these bands by the radiolocation service. Any upgrade of the radiolocation service to a primary status should be considered with a footnote indicating that the radiolocation service will not cause harmful interference nor claim protection from the (aeronautical) radionavigation service.

ICAO Position:

Accept the upgrading of the radiolocation service to primary status in the bands 9000-9200 MHz and 9300-9500 MHz on the express condition that no harmful interference be caused to the Aeronautical Radionavigation Service and the Radionavigation Service and that no protection is required from these radionavigation services, taking into account the results of relevant ITU-R Studies and Recommendations. No change to Footnotes 5.337, 5.427, 5.474 and 5.475.

WRC-07 Agenda Item 1.5

Agenda Item Title:

To consider spectrum requirements and possible additional spectrum allocations for aeronautical telecommand and high-bit rate aeronautical telemetry, in accordance with Resolution 230 (WRC-03) *(see Appendix D)*

Discussion:

a) TELEMETRY

The development of modern aircraft requires a large test flight programme. These programmes are required to gather a large amount of data on the performance of the airframe under test. By providing a real time link between the aircraft and the ground control centre, the amount of testing and the number of flights can be kept to a minimum. This will result in faster development programmes and hence achieve a significant cost saving. This agenda item seeks to make provision for the required air ground telemetry link.

The reduction in aircraft development cycles is important to the future of aviation. Initial estimates presented within ITU working party 8B have suggested that 60 MHz will be required to meet the telemetry in the band 3-30 GHz. As stated in Resolution 230 this 60 MHz will have to be found from one of the following methods:-

- review, with a view to upgrading to primary, secondary allocations to the mobile service in the frequency range 3-16 GHz for the implementation of wideband aeronautical telemetry and associated telecommand;
- consider possible additional allocations to the mobile service, including aeronautical mobile, on a primary basis in the frequency range 3-16 GHz for the implementation of wideband aeronautical telemetry and associated telecommand;
- designate existing mobile allocations between 16 and 30 GHz for wideband aeronautical telemetry and associated telecommand,

The development of telemetry links however must not adversely affect existing and planned aeronautical systems.

b) UNMANNED AERIAL VEHICLES

There is a significant amount of development work taking place on Unmanned Aerial Vehicles (UAV). Developments have already demonstrated the capability of large UAVs to operate over long distances (including transcontinental). There is a need for aviation to consider how to integrate these aircraft into the airspace shared with civil manned aircraft safely and it therefore may be necessary to develop common standards for Telemetry and telecommand links between the UAV and the UAV ground control centre. This agenda item seeks to make provision for the required air ground telemetry/telecommand link.

The potential introduction of UAVs into controlled airspace is an important development within aviation. Further, in order to allow UAVs to be fully integrated safely into controlled airspace it is essential that suitable safety of life air ground datalinks, within the frequency band 3-30GHz, are provided. The development of telemetry and telecommand links to support UAV operations however must not adversely affect existing and planned aeronautical systems.

Note: ICAO interests only extend to the spectrum required to ensure that UAV's will operate to the same standards as required for other aeronautical safety of life services.

ICAO Position:

To support the allocation of suitable spectrum to support aeronautical mobile telemetry systems and associated telecommand applications, in the band 3-30 GHz in accordance with the provisions of Resolution **230**, provided those allocations have no adverse impact to Aviation use of the band selected.

To support the identification and allocation of suitable spectrum in the band 3-30 GHz, to support the safety related aspects of UAV operations provided they do not adversely affect existing aeronautical systems.

To support the development of regulatory text to accommodate new service definitions if required

To support the continued use and protection of current aeronautical mobile telemetry applications in the band 1 429 – 1 535 MHz.

WRC-07 Agenda Item 1.6

Agenda Item Title:

To consider allocations for the aeronautical mobile (R) service in parts of the bands between 108 MHz to 6 GHz, in accordance with Resolution 414 *(see Appendix E)***, and to study current frequency allocations that will support the modernization of civil aviation telecommunication systems, taking into account Resolution 415 (WRC-03)** *(see Appendix F)*

Discussion:

Under development

ICAO Position:

Under development

WRC-07 Agenda Item 1.13

Agenda Item Title:

Taking into account Resolutions 729 (WRC-97) *see Appendix F1)***, 351 (WRC-03)** *(see Appendix F2)* **and 544 (WRC-03)** *(see Appendix F3)***, to review the allocations to all ser vices in the HF bands between 4 and 10 MHz, excluding those allocations to services in the frequency range 7000-7200 kHz and those bands whose allotment plans are in Appendix 25, 26 and 27 and whose channelling arrangements are in Appendix 17, taking into account the impact of new modulation techniques, adaptive control techniques and spectrum requirements for HF broadcasting.**

Discussion:

Within the frequency range 4-10 MHz, various frequency bands are allocated to the aeronautical mobile (R) service and the allotment plan for these frequency bands is in Appendix 27 to the Radio Regulations. Although these bands have been excluded from consideration of this agenda item, it is of concern to aviation that any new allocation, in particular to the high-powered broadcasting service, will not cause interference to the aeronautical mobile (R) service. In addition, the introduction of any new modulation technique, in particular digital modulation by the broadcasting service, may cause interference to the aeronautical mobile (R) service if these techniques are applied in bands adjacent or in close proximity of these aeronautical bands.

ICAO Position:

Monitor developments of future allocations and techniques that are considered in the review of the bands between 4-10 MHz and ensure that these will not cause harmful interference in the aeronautical HF bands.

WRC-07 Agenda Item 1.16

Agenda Item Title:

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) *(see Appendix G)* **and 353 (WRC-03)** *(see Appendix H)*

Discussion:

Maritime Mobile Service Identities (MMSIs) are unique identifiers for individual stations and provide a rapid method of identification. Several ITU-R recommendations cover the assignment and use of these MMSIs for ship and land stations. The need to assign MMSIs for Automatic Identification Systems (AIS) on Search and rescue (SAR) aircraft, in accordance with the provision of recommendation ITU-R M.1371 in order to communicate efficiently in the maritime mobile service when engaged in SAR operations. With respect to using AIS on board an aircraft provisions for a standard format of the identification number are ecessary. WRC-07 will consider necessary changes to the Radio Regulations to allow MMSIs to be used on board SAR aircraft.

ICAO supports measures aimed at improving the use of MMSIs on board SAR aircraft. [Changes to the Radio Regulations should be made on the condition that these are compatible with ICAO Standards and Recommended Practices (SARPs).]

Editorial note: this material requires coordination with ATM and checked against any Annex 10 or 12 provisions

ICAO Position:

Support measures improving the use of MMSIs on board SAR aircraft for automatic identification system (AIS).

WRC-07 Agenda Item 1.17

Agenda Item Title:

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 745 (WRC-03) *(see Appendix I)*

Discussion:

This agenda item seeks to complete the studies undertaken in response to agenda item 1.16 of WRC-03 on feeder links for non-geostationary satellite systems. Studies completed to date have shown that there are significant difficulties with an allocation to the fixed-satellite service in this frequency range, in particular if existing (passive) services are to be afforded protection from these feeder links. Of concern to aviation is that the allocation to the aeronautical radionavigation service in Footnotes 5.334 and 5.338 (used for radar systems) are protected from harmful interference. It is also necessary to secure protection from harmful interference of the band 1429-1535 MHz (Footnotes 5.342 and 5.343, stipulating the use of this band for aeronautical telemetry).

ICAO Position:

Use of the band around 1.4 GHz by the fixed satellite service for feeder links for non-geostationary satellite systems should not be introduced in any of the aeronautical bands in this frequency range; aeronautical usage needs to be protected from harmful interference.

WRC-07 Agenda Item 1.20

Agenda Item Title:

To consider the results of studies and proposals for regulatory measures, if appropriate, regarding the Earth exploration-satellite service (passive) from unwanted emissions of active services in accordance with Resolution 738 *(see Appendix J)*

Discussion:

The Earth exploration-satellite service (passive) operates in the frequency band 1400-1427 MHz and is seeking protection from active services in the adjacent bands.

Of concern to aviation is that the band below 1400 MHz is used by the aeronautical radionavigation service (radar) through Footnotes 5.334 and 5.338 and their operations should not be unduly constrained. The use of the band above 1427 MHz (1429-1535 MHz) is regulated through Footnotes 5.342 and 5.343 for aeronautical telemetry and this usage should not be adversely affected by the wish to improve protection to the Earth exploration-satellite service.

ICAO Position:

Protection of the Earth exploration-satellite service in the band 1400-1427 MHz should not impose undue constraints to the use of the adjacent bands by aviation.

WRC03 Agenda Item 2

Agenda Item Title:

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-2000), 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-2000)

Discussion:

Currently no new or amended ITU-R recommendations referring to aeronautical radio services and incorporated by reference in the ITU Radio Regulations have been identified.

ICAO Position:

No change to the current references in the Radio Regulations to ITU-R recommendations related to aeronautical services.

WRC03 Agenda Item 4

Agenda Item Title:

In accordance with Resolution 95 (Rev. WRC-2000), to review the resolutions and recommendations of previous conferences with a view of possible revision, replacement or abrogation.

ICAO Position:

Resolutions:

Resolution No.	*Title*	*Action recommended*
18 *(Mob-83)*	Relating to the procedure for identifying and announcing the position of ships and aircraft of States not parties to an armed conflict	No change
20 *(Rev. WRC-03)*	Technical cooperation with developing countries in the field of aeronautical telecommunications	No change
26 *(Rev. WRC-97)*	Footnotes to the Table of Frequency Allocations in Article 5 of the Radio Regulations	No change (WRC-07 Agenda Item 1.1)
27 *(Rev. WRC-97)*	Use of incorporation by reference in the Radio Regulations	No change
28 *(Rev. WRC-03)*	Revision of references to the text of ITU-R Recommendations incorporated by reference in the Radio Regulations	No change
44 *(Mob. 87)*	Compatibility of equipment used in the mobile-satellite service	No change
63 *(Rev. WRC-03)*	Protection of radiocommunication services against interference caused by radiation from industrial, scientific and medical (ISM) equipment	No change
95 *(Rev. WRC-03)*	General review of the Resolutions and Recommendations of world administrative radio conferences and world radiocommunication conferences	No change
114 *(Rev. WRC-03)*	Studies on compatibility between new systems of the aeronautical radionavigation service and the fixed-satellite service (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the mobile-satellite service) in the frequency band 5091-5150 MHz	No change
205 *(Rev. Mob-87)*	Protection of the band 406–406.1 MHz allocated to the mobile-satellite service	No change
207 *(Rev. WRC-03)*	Measures to address unauthorized use of and interference to frequencies in the bands allocated to the maritime mobile service and to the aeronautical mobile (R) service	No change
217	Implementation of wind profiler radars	No change

Resolution No.	*Title*	*Action recommended*
(WRC-97)		
222 *(WRC-00)*	Use of the bands 1525–1559 MHz and 1626.5–1660.5 MHz by the mobile-satellite service	No change
225 *(Rev. WRC-03)*	Use of additional frequency bands for the satellite component of IMT-2000	No change
405	Relating to the use of frequencies of the aeronautical mobile (R) service	No change
603 *(WRC-00)*	Studies on compatibility between stations of the radionavigation-satellite service (Earth-to-space) operating in the frequency band 5000–5010 MHz and the international standard system (microwave landing system) operating in the band 5030–5150 MHz	To be deleted (Studies are completed)
607 *(WRC-00)*	Studies on compatibility between stations of the radionavigation-satellite service (Earth-to-space) and the radiolocation service operating in the frequency band 1300–1350 MHz	Delete after appropriate ITU-R recommendations are adopted
644 *(Rev. WRC-00)*	Telecommunication resources for disaster mitigation and relief operations	No change
705 *(Mob-87)*	Mutual protection of radioservices operating in the band 70–130 kHz	No change
706 *(Rev. WRC-00)*	(Rev. WRC-2000) Operation of the fixed and maritime mobile services in the band 90–110kHz	No change
725 *(WRC-97)*	Use of the frequency band 5350–5460 MHz by spaceborne active sensors	Delete
729 *(WRC-97)*	Use of frequency adaptive systems in the MF and HF bands	Delete after WRC-07
COM 4/4	Maritime mobile service identities (MMSIs) for equipment other than shipborne equipment	No change
COM 4/11	Identification of additional spectrum for the broadcasting service in the HF bands	Delete after WRC-07
COM 4/14	Compatibility analysis between the Earth exploration-satellite service and(passive) and active services	Delete after WRC-07
COM 4/17	Future compatibility analyses between the radio astronomy service and active space services in certain adjacent or nearby bands	Delete after WRC-07
COM 5/2	Use of the band 108-117.975 MHz by aeronautical services	Delete after studies completed
COM 5/5	Use of the frequency band 1215-1300 MHz by systems of the radionavigation-satellite service	Delete after studies completed
COM 5/8	Protection of aeronautical radionavigation systems from the equivalent power flux-density produced by radionavigation-satellite service networks and systems in the 1164-1215 MHz band	No change

Resolution No.	*Title*	*Action recommended*
COM 5/14	Protection of existing services in all Regions from non-geostationary-satellite networks in the fixed satellite service in the fixed-satellite service using the frequency bands around 1.4 GHz on a secondary basis	Delete after WRC-07
COM 5/18	Coordination and bilateral resolution of technical compatibility issues for radionavigation-satellite networks and systems in the band 1164-1300 MHz, 1559-1610 MHz and 5010-5030 MHz	No change
COM 7/3	Studies regarding devices using ultra-wideband technology	Delete after studies completed
COM 7/5	Consideration of mobile allocations for use by wideband aeronautical telemetry and associated telecommand	Delete after WRC-07 if studies are completed
COM 7/6	Consideration of the frequency range between 108 MHz and 6 GHz for new aeronautical applications	Delete after WRC-07 if studies are completed
COM 7/7	Study of current satellite frequency allocations that will support the modernization of civil aviation telecommunication systems	Wait outcome of WRC-07
COM 7/9	Possible upgrade of the radiolocation service to primary allocation status in the frequency bands 9000-9200 MHz and 9300-9500 MHz, and possible extension of the existing primary allocations to the Earth exploration-satellite service (active) in the band 9500-9800 MHz	Delete after WRC-07

Recommendations:

Recommendation No.	*Action Recommended*	*Reason*
REC. 7	Retain	Aircraft station and aircraft earth station standard form for station licences
REC. 9	Retain	Prevent broadcasting from ship or aircraft outside national territories
REC. 66	Retain	Continuing studies of spurious emission levels
REC. 71	Retain	Standardization activities of international bodies
REC. 401	Retain	Efficient use of worldwide allotments in Appendix 27 Aer2
REC. 604	Retain	EPIRB characteristics
REC. 606	Delete	Radio altimeter 4200–4400 MHz study completed in CCIR; concluded no change to allocation possible
REC. 709	Retain	Action not yet completed
REC. 710	Retain	Action not yet completed
REC. COM 7/2	Delete after WRC-10	Review of technical, operational and frequency issues for terrestrial wireless intercative multimedia applications on a global basis

Editorial note: check all REC/RES whether they are still in the Radioregulations

WRC-07 Agenda Item 7.2

Agenda Item Title:

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 802 (WRC-03) *see Attachment B)*

Discussion:

This agenda item addresses the preliminary agenda for WRC-10, which will be developed by WRC-07. Items of aeronautical interest that should appear in the WRC-10 include:

a) Deletion of country footnotes in aeronautical bands

b) Review of results of studies conducted in accordance with Resolution 222 (WRC-2000)

Resolution 222, *inter alia*, calls for ITU-R studies to ensure spectrum availability and protection for the aeronautical mobile-satellite (R) service in the 1.5–1.6 GHz band. The result of such studies should be reviewed by WRC-10 with a view to assessing the need of changes to the Radio Regulations to satisfy AMS(R)S spectrum requirements in the band. Participation by aviation experts to the relevant ITU-R studies is required.

c) Wireless interactive multimedia. These systems, most likely to be used on an un-licensed basis and on yet undetermined frequencies need to ensure protection to aeronautical services and systems.

ICAO Position:

To support the inclusion in the agenda of WRC-10 of an item addressing the review of results of studies conducted in accordance with Resolution 222 (WRC-2000).

Attachments:

A	Agenda WRC-07
B	Agenda WRC-10
C	Resolution 747
D	Resolution 230
E	Resolution 414
F	Resolution 415
F1	Resolution729
F2	Resolution 351
F3	Resolution 544
G	Resolution 344
H	Resolution 353
I	Resolution 745
J	Resolution 738

— END —