

**3rd ITU INTER-REGIONAL WORKSHOP
ON WRC-15 PREPARATION
(Geneva, 1 – 3 September 2015)**

**RCC Preparation for the
World
Radiocommunication
Conference 2015**

***Regional
Commonwealth
in the field of
Communications***



**3rd ITU INTER-REGIONAL
WORKSHOP ON WRC-15
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**GENEVA, SWITZERLAND
1-3 SEPTEMBER 2015**

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Regional Commonwealth in
the field of Communications

RCC Preparation for the World Radiocommunication Conference 2015

Main Tasks of the WRC: Review of the Radio Regulations

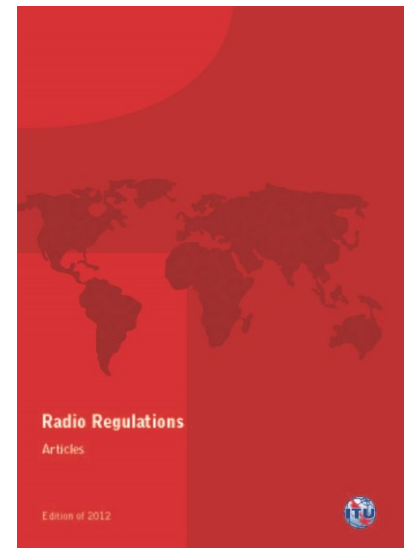
**Contributions from
Member States**

**Contributions from Group
of Member States**

**Contributions from
Regional Organisations**

**World Radio-
communication
Conference**

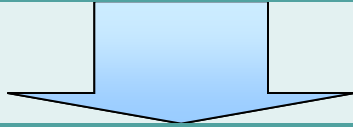
**New Edition of
Radio Regulations**



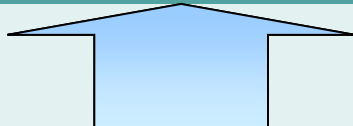
Preparation of the RCC Administrations for the WRC-15

**Developing of the RCC Position
on the WRC-15 Agenda Items**

RCC Coordinators



Working Group for WRC-15
and RA-15 Preparation



Results of Scientific Works

**RCC Radio
Frequency
and Satellite
Commission**

**Board of the
RCC CAs
Heads**

Working Group for WRC and RA preparation

WG WRC/RA was established by RCC Radio Frequency and Satellite Commission and responsible for WRC-15 and RA-15 preparation

Chairman : Albert Nalbandian, Armenia (albert.nalbandian@ties.itu.int)

WG WRC/RA develops draft Briefs and RCC Common Proposals for the work of the Conference (for actual WG WRC/RA documents see: <http://www.en.rcc.org.ru/index.php/rcc-activities/radiocommunication-preparations-for-wrc-15-and-ra-15>).

Since 2012 WG WRC/RA had 7 meetings.

1st meeting: May 2012

2nd meeting: December 2012

3^d meeting: November 2013

4th meeting: April 2014

5th meeting: November 2014

6th meeting: February 2015

7th meeting: April 2015

Next meeting: 7-10 September 2015

Basic Principles of the Developing of the RCC Position on the WRC-15 Agenda Items

RCC Position

1

**Equitable Access to Radio
Frequencies and
any Associated Orbits**

2

**Compatibility Between
Radioservices**

3

**Providing Regulatory and Technical
Provisions for Development of New
Technologies**



**POSITION OF THE RCC ADMINISTRATIONS ON
AGENDA ITEMS OF THE WORLD
RADIOCOMMUNICATION CONFERENCE 2015
*(version of 23 April, 2015)***

Available on the RCC Web site:

<http://www.en.rcc.org.ru>

Direct link: <http://www.en.rcc.org.ru/index.php/rcc-activities/radiocommunication-/preparations-for-wrc-15-and-ra-15>



Agenda Item 1.1

1.1. To consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution 233 (WRC-12)

Agenda Item 1.1 (1/4) Spectrum allocations to the MS and identification of frequency bands for IMT

The RCC Administrations support identification of additional frequency bands for IMT on the condition of optimizing the use of already identified frequency bands.

The RCC Administrations consider that by 2020 the overall spectrum requirements for IMT systems could be fulfilled for the RCC countries by using 1065 MHz of spectrum including the bands already identified for the IMT. However the spectrum requirements for IMT systems for provision of coverage don't exceed 220-260 MHz in the bands below 1.5 GHz including the bands already identified for the IMT.

The RCC Administrations consider that the protection of other services that have allocations within the subject bands and adjacent bands should be ensured and the necessity of their development be taken into account when determining possibilities and conditions for allocation of frequency bands to the MS and their identification for IMT.

Agenda Item 1.1 (2/4) Spectrum allocations to the MS and identification of frequency bands for IMT

The RCC Administrations consider that allocation to the MS on a primary basis and identification for IMT as well as identification for IMT of the bands which were already allocated to the MS on a primary basis should not pose any additional constraints to existing services in these bands.

The RCC Administrations support identification of the band 5925-6425 MHz for IMT taking into account results of compatibility studies.

The RCC Administrations do not object to the possible identification of frequency bands 4400-4500 MHz and 4800-4900 MHz for IMT providing that there is a compatibility with existing radiocommunication services.

The RCC Administrations object to the primary allocation to the MS and identification for IMT systems, as well as identification for IMT in the following bands already allocated to the MS on a primary basis, due to their intense use by the incumbent services and possible unacceptable interference to the stations of these services:

- 470-694 MHz used by BS;
- 1350-1400 MHz used by RLS and RNS under RR No **5.338**;

Agenda Item 1.1 (3/4) Spectrum allocations to the MS and identification of frequency bands for IMT

- 1427-1452 MHz, 1452-1492 MHz, 1492-1518 MHz, 1518-1525 MHz used by aeronautical telemetry operating under RR Nos **5.342** and **4.10**;
- 1695-1710 MHz used by MetSat (space-to-Earth);
- 2700-2900 MHz and 3300-3400 MHz used by RLS;
- 3600-3700 MHz, 3700-3800 MHz, 3800-4200 MHz and 4500-4800 MHz used by FSS (space-to-Earth).

The RCC Administrations oppose global allocation of the band 3400-3600 MHz to the MS on a primary basis and modification of the allocation conditions for this frequency band, established by RR No 5.430A.

The RCC Administrations also oppose the primary MS allocation for use by terrestrial broadband systems (e.g. RLAN) in the following frequency bands due to their intense use by existing services and possible unacceptable interference to stations of these services:

- 5350-5470 MHz used by RLS and EESS;
- 5725-5850 MHz used by RLS.

Agenda Item 1.1 (4/4) Spectrum allocations to the MS and identification of frequency bands for IMT

The RCC Administrations are of the view that frequency bands that have not been studied in the ITU-R as well as those bands that have been studied in the ITU-R and excluded from the list of potential candidate frequency bands in accordance with the results of studies should not be considered when making decision on this Agenda item, including the bands 410-430 MHz, 1300-1350 MHz, 1525-1559 MHz, 1626.5-1660.5 MHz, 1668-1695 MHz, 2025-2110 MHz, 2200-2290 MHz and 2900-3100 MHz.



Agenda Item 1.2

1.2 To examine the results of ITU R studies, in accordance with Resolution 232 (WRC-12), on the use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service in Region 1 and take the appropriate measures

Agenda Item 1.2 (1/5) The use of the frequency band 694-790 MHz by the mobile service in Region 1

BS and MS spectrum requirements in the band 694-790 MHz

The RCC Administrations are of the view that the BS spectrum requirements (taking into account the development of new technologies in broadcasting including HDTV) could be met if the frequency band 694-790 MHz is further used for broadcasting.

The MS spectrum requirements for IMT implementation are determined in the position of the RCC Administrations towards WRC-15 Agenda item 1.1. The RCC Administrations are of the view that the use of the MS shall be decided by the administrations depending on their spectrum requirements for the BS.

Agenda Item 1.2 (2/5) The use of the frequency band 694-790 MHz by the mobile service in Region 1

Refinement of lower edge of allocation to the mobile service (Issue A)

The RCC Administrations consider that the lower edge of allocation to the mobile service (including guard band) shall not be lower than 694 MHz. The IMT frequency arrangement shall be chosen taking into account the compatibility with the ARNS and with the terrestrial TV broadcasting systems.

The RCC Administrations consider the frequency arrangement based on the existing A5 arrangement in accordance with Recommendation ITU-R M.1036-4 (703-733 MHz for uplink, 758-788 MHz for downlink) as a preferable one.

The potential frequency arrangements for IMT systems shall be taken into account while defining the protection conditions of the terrestrial TV broadcasting and ARNS systems.

While choosing the frequency arrangement the usage of the frequency band 694-790 MHz by the ancillary broadcasting applications shall also be taken into account. Complies with Option 1 of Method A in CPM Report.

Agenda Item 1.2 (3/5) The use of the frequency band 694-790 MHz by the mobile service in Region 1

Protection of the broadcasting service (Issue B)

The RCC Administrations are of the view that the allocation conditions to the MS in the frequency band 694-790 MHz shall include the required technical and regulatory limitations of MS for providing protection for the BS. Imposing restrictions or application of additional requirements for the BS shall not be allowed.

The RCC Administrations support the method under which the regulatory and technical conditions for the MS are defined directly in the Radio Regulations, including WRC Resolutions, to provide protection of the BS. To protect the BS from the MS interference, the provisions of GE-06 Agreement shall be applied as well as additional regulatory and technical conditions taking into account the aggregate interference effect from the MS stations in the main and adjacent frequency bands. Complies with Method B3 of CPM Report.

Agenda Item 1.2 (4/5) The use of the frequency band 694-790 MHz by the mobile service in Region 1

Protection of ARNS (Issue C)

The RCC Administrations consider that the allocation conditions for the MS in the frequency band 694-790 MHz shall include the required technical and regulatory limitations of the MS to provide protection for the ARNS. Imposing restrictions or application of additional requirements to the ARNS shall not be allowed.

The protection of the ARNS applied in RCC countries under RR No **5.312** shall be ensured by application of coordination procedures under RR No **9.21** for the MS in relation to the ARNS using the coordination thresholds based on the ITU-R study results taking into account the aggregate interference and based on technically reasonable methods for evaluation of compatibility.

Agenda Item 1.2 (5/5) The use of the frequency band 694-790 MHz by the mobile service in Region 1

SAB/SAP applications (Issue D)

The RCC Administrations consider that issues of spectrum harmonization for applications that are ancillary to broadcasting and program making (SAB/SAP) in the frequency band 694-790 MHz should be addressed within the development of appropriate ITU-R Recommendations/Reports, as it is specified in the Resolution ITU-R 59. Taking some actions at the WRC-15 in relation to SAB/SAP in the specified frequency band is not required. Complies with Method D2 of CPM Report.



Agenda Item 1.3

**1.3 To review and revise Resolution 646 (Rev.WRC-12)
Broadband public protection and disaster relief (PPDR),
in accordance with Resolution 648 (WRC-12)**

Agenda Item 1.3 (1/1)

Broadband public protection and disaster relief (PPDR)

The RCC Administrations recognize that requirements for PPDR systems such as the volume of available and used spectrum, applicable scenarios of PPDR use, could substantially vary depending on the country's national interests.

The RCC Administrations consider it possible to use the IMT family standards for the purposes of building networks for public protection and disaster relief, at the same time allocation of new bands to the MS and/or their identification in the Radio Regulations to provide operation of these networks is not supported.

The RCC Administrations support the modification of Resolution **646 (Rev. WRC-12)** to identify requirements to broadband PPDR systems. However the RCC Administrations consider that the Resolution should not contain directly the list of frequency bands and ranges which are identified within the land mobile service for both narrowband and broadband PPDR systems.



Agenda Item 1.4

1.4 To consider possible new allocation to the amateur service on a secondary basis within the band 5 250-5 450 kHz in accordance with Resolution 649 (WRC-12)

Agenda Item 1.4 (1/1) New allocation to the amateur service within the band 5 250-5 450 kHz

The RCC Administrations oppose to allocation of the frequency band 5250 – 5450 kHz or part of this band to the amateur service on the secondary basis, due to its intense use by fixed / land mobile services and oceanographic radars, as well as unacceptable interference from amateur stations to the existing systems that is confirmed by the results of the ITU-R studies.

The RCC Administrations support Method B of CPM Report.



Agenda Item 1.5

1.5 To consider the use of frequency bands allocated to the fixed-satellite service not subject to Appendices 30, 30A and 30B for the control and non-payload communications of unmanned aircraft systems (UAS) in non-segregated airspaces, in accordance with Resolution 153 (WRC-12)

Agenda Item 1.5 (1/1)

Unmanned aircraft systems (UAS)

The RCC Administrations consider that the use of frequency bands allocated to FSS, which are not subject to Appendices 30, 30A and 30B, by UAS CNPC links (space-to-Earth) is possible under the conditions that such use shall not impose additional constraints on incumbent radio services; compatibility between UAS CNPC links and radio services which already have allocations in these frequency bands shall be provided; necessary conditions ensuring appropriate availability and protection margins for UAS CNPC links shall be determined.

The RCC Administrations consider that the use of frequency bands allocated to FSS, which are not subject to Appendices 30, 30A and 30B, by UAS CNPC links (Earth-to-space) could not be supported, since such use would significantly change conditions of FSS system operation, would not be in compliance with existing conditions of their coordination with terrestrial and satellite services and could lead to unacceptable interference to these radiocommunication services.

The RCC Administrations do not support the use of frequency bands allocated to FSS, which are not subject to Appendices 30, 30A and 30B, for UAS CNPC links, because ITU-R studies on this agenda item are not completed (Complies with Method B of CPM Report).



Agenda Item 1.6

1.6 To consider possible additional primary allocations:

1.6.1 To the FSS (Earth-to-space and space-to-Earth) of 250 MHz in the range between 10 - 17 GHz in Region 1;

1.6.2 To the FSS (Earth-to-space) of 250 MHz in Region 2 and 300 MHz in Region 3 within the range 13-17 GHz;

and review the regulatory provisions on the current allocations to the FSS within each range, taking into account the results of ITU-R studies, in accordance with Resolutions 151 (WRC-12) and 152 (WRC-12), respectively

Agenda Item 1.6 (1/3)

Additional primary allocations to the FSS

Agenda item 1.6.1 - FSS in Region 1

The RCC Administrations are in favour of the new primary allocation of 250 MHz to GSO FSS in both directions (Earth-to-space and space-to-Earth) in the bands 10-17 GHz in Region 1 subject to protection of incumbent services in the considered and adjacent frequency bands.

The RCC Administrations support the following frequency bands for the new allocation to GSO FSS in Region 1:

- 13.4-13.65 GHz or 14.85-15.1 GHz (space-to-Earth), Methods EE2 or GG2 of CPM Report;
- 14.5-14.75 GHz (Earth-to-space), Method F2 of the CPM Report.

The new GSO FSS allocation shall not impose undue constraints to existing frequency assignments or prevent development of the FS.

The RCC Administrations oppose allocation of the frequency bands 13.4-13.75 GHz and 14.8-15.35 GHz to the GSO FSS (Earth-to-space) in Region 1.

Agenda Item 1.6 (2/3)

Additional primary allocations to the FSS

Agenda item 1.6.2 - FSS in Regions 2 and 3

The RCC Administrations consider that with the new primary allocation of 250 MHz to GSO FSS (Earth-to-space) in Region 2 and 300 MHz in Region 3 in frequency bands between 13 and 17 GHz, incumbent services which have allocations in these frequency bands in Region 1 should be protected.

The RCC Administrations have no objections to the new allocation of the frequency band 14.5-14.75 GHz for GSO FSS (Earth -to- space) on a primary basis in Region 2 and 14.5-14.8 GHz in Region 3, Method F2 of CPM Report.

The RCC Administrations oppose allocation of the frequency bands 13.4-13.75 GHz and 14.8-15.35 GHz for GSO FSS (Earth-to-space) in Regions 2 and 3.

Agenda Item 1.6 (3/3)

Additional primary allocations to the FSS

Agenda items 1.6.1 and 1.6.2

New FSS allocations are preferable in frequency bands which are contiguous with the existing FSS allocations, and also in frequency bands, where the allocation is possible on the worldwide basis.

The RCC Administrations consider that allocation of additional spectrum for the GSO FSS on the worldwide basis (in all three Regions) has advantage over regional allocation (in one Region) when planning satellite communication networks and providing efficient territory coverage.

The RCC Administrations consider that protection of RAS and existing SRS systems having allocations on a secondary basis, from the impact of GSO FSS systems in the considered frequency bands and in the adjacent frequency bands, shall be ensured under existing SRS and RAS protection criteria. Necessary regulatory provisions and restrictions of technical characteristics of GSO FSS systems should be included in the RR.

The RCC Administrations oppose allocation of 10.6-10.68 GHz and 15.35-15.4 GHz frequency bands to the GSO FSS due to complicated compatibility with stations of passive services operating in these frequency bands.



Agenda Item 1.7

1.7 To review the use of the band 5 091-5 150 MHz by the fixed-satellite service (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the mobile-satellite service) in accordance with Resolution 114 (Rev.WRC-12)

Agenda Item 1.7 (1/1)

The use of the band 5 091-5 150 MHz by the FSS

The RCC Administrations have no objections to maintain primary allocation of the frequency band 5091-5150 MHz to FSS limited to feeder links of the NGSO MSS systems (Earth-to-space) and remove temporary limitations specified in No 5.444A. Resolution **114 (Rev.WRC-12)** should continue to be applied to this allocation taking into account relevant amendments.

The RCC Administrations consider that under certain circumstances protection of ground stations in the ARNS needs coordination with Earth stations in the FSS. The RCC Administrations support the revision of Resolution **748 (Rev. WRC-12)** and Recommendation ITU-R M.1827.

The RCC Administrations support the only method presented in CPM Report to satisfy this agenda item.



Agenda Item 1.8

1.8 To review the provisions relating to earth stations located on board vessels (ESVs), based on studies conducted in accordance with Resolution 909 (WRC-12)

Agenda Item 1.8 (1/1)

Earth stations located on board vessels (ESVs)

The RCC Administrations consider that possible modifications to Resolution 902 (WRC-03) with the purpose to reflect existing technologies and technical characteristics of earth stations located on board vessels (ESV) should be made only ensuring protection to the existing radio services and not limiting their further development.

The RCC Administrations consider it reasonable to keep using the protective distance criterion in order to ensure sharing between ESV stations and stations of other services in the frequency bands specified in Resolution 902 (WRC-03).

The RCC Administrations do not object to modify protective distances from ESV to a coast line, subject to ensuring protection of stations in other services having allocations in the frequency bands 5 925-6 425 MHz and 14-14.5 GHz.

The RCC Administrations consider that exact protective distances from a vessel to a coast line shall be determined for different ESVs in the frequency bands 5 925-6 425 MHz and 14-14.5 GHz taking into account the maximum e.i.r.p. spectral density towards the horizon. These distances should be determined according to levels of protection from interference specified in Resolution 902 (WRC-03).

The RCC Administration support Method D of CPM Report.



Agenda Item 1.9

1.9 To consider, in accordance with Resolution 758 (WRC-12):

1.9.1 possible new allocations to the fixed-satellite service in the frequency bands 7 150-7 250 MHz (space-to-Earth) and 8 400-8 500 MHz (Earth-to-space), subject to appropriate sharing conditions;

1.9.2 the possibility of allocating the bands 7 375-7 750 MHz and 8 025-8 400 MHz to the maritime mobile-satellite service and additional regulatory measures, depending on the results of appropriate studies.

Agenda Item 1.9 (1/1)

Allocation to FSS and MSS in the 7/8 GHz range

1.9.1 Allocation to FSS in the frequency bands 7 150-7 250 MHz (space-to-Earth) and 8 400-8 500 MHz (Earth-to-space)

The RCC Administrations oppose the allocation of the frequency bands 7 150-7 250 MHz (space-to-Earth) and 8 400-8 500 MHz (Earth-to-space) to FSS since the ITU-R studies have shown that it does not seem possible to provide the compatibility with the existing and being planned space services without imposing additional restrictions upon these services. Complies with Method C (no changes to the RR) of CPM Report.

1.9.2 Allocation to MMSS in the bands 7 375-7 750 MHz and 8 025-8 400 MHz

The RCC Administrations oppose the allocation of the frequency bands 7375-7750 MHz and 8025-8400 MHz to the maritime mobile-satellite service since the ITU-R studies have shown that compatibility of the MMSS with other space services is not possible without imposing additional constraints on them.



Agenda Item 1.10

1.10 To consider spectrum requirements and possible additional spectrum allocations for the mobile-satellite service in the Earth-to-space and space-to-Earth directions, including the satellite component for broadband applications, including International Mobile Telecommunications (IMT), within the frequency range from 22 GHz to 26 GHz, in accordance with Resolution 234 (WRC-12)

Agenda Item 1.10 (1/1)

Allocation to MSS in the frequency range 22 -26 GHz

1. The RCC Administrations consider that an additional spectrum allocation to the mobile-satellite service within the frequency range from 22 GHz to 26 GHz is possible only if sharing with the existing terrestrial and space services is ensured in the same and adjacent frequency bands (taking into account RR Nos 5.149 and 5.340), and if such allocations to MSS do not impose additional constraints on the existing services. Also, unwanted emissions from earth and space stations in the MSS networks shall not cause harmful interference to EESS systems (passive), SRS (passive) and RAS in the frequency bands 23.6-24.00 GHz; 22.01-22.21 GHz; 22.21-22.5 GHz; 22.81-22.86 GHz and 23.07-23.12 GHz.

2. The RCC Administrations support additional allocation of 250 MHz for the MSS in both directions:

- in the band 23.15-23.55 GHz or 24.25-24.55 GHz (space-to-Earth),
- in the band 25.25-25.5 GHz or 24.25-24.55 GHz (Earth-to-space).



Agenda Item 1.11

1.11 To consider a primary allocation for the Earth exploration-satellite service (Earth-to-space) in the 7-8 GHz range, in accordance with Resolution 650 (WRC-12)

Agenda Item 1.11 (1/1)

Primary allocation for the EESS (Earth-to-space) in the 7-8 GHz range

The RCC Administrations do not object to allocation of frequency band 7190-7250 MHz on a primary basis to the Earth exploration-satellite service (Earth-to-space) provided the compatibility with systems of SOS, SRS, FS and MS is ensured.

Compatibility conditions between EESS (Earth-to-space) and other existing services in the 7-8 GHz range shall be incorporated in the Radio Regulations.



Agenda Item 1.12

1.12 To consider an extension of the current worldwide allocation to the Earth exploration-satellite (active) service in the frequency band 9 300-9 900 MHz by up to 600 MHz within the frequency bands 8 700-9 300 MHz and/or 9 900-10 500 MHz, in accordance with Resolution 651 (WRC-12)

Agenda Item 1.12 (1/1)

Extension of the allocation to the EESS (active)

The RCC Administrations consider that worldwide extension of the available allocation to the EESS (active) in the frequency band 9300-9900 MHz up to 600 MHz would be more preferable within the frequency band 9900-10500 MHz, and the extension would be possible only subject to defining the conditions of providing protection for systems in other services operating in this and adjacent frequency bands.

The RCC Administrations consider that in case of additional allocation of up to 600 MHz to the EESS (active), this frequency band shall be used only by the EESS systems with the pfd limits derived from the ITU-R studies and subject to not claiming protection from the services having allocations in this frequency band.

The RCC Administrations consider that protection shall be ensured for systems in other services, specifically RLS in the frequency band 9900-10500 MHz as well as for radiodetermination systems in the frequency band 9200-9300 MHz deployed on river boats and sea ships.

Complies with Method A2 of CPM Report with specified pfd limits.



Agenda Item 1.13

1.13 To review No. 5.268 with a view to examining the possibility for increasing the 5 km distance limitation and allowing space research service (space-to-space) use for proximity operations by space vehicles communicating with an orbiting manned space vehicle, in accordance with Resolution 652 (WRC-12)

Agenda Item 1.13 (1/1)

SRS (space-to-space) in the frequency band
410-420 MHz (RR No **5.268**)

The RCC Administrations support the removal of 5 km distance limitation from RR No **5.268** and the extension of use for the SRS (space-to-space) for proximity operations by space vehicles while maintaining the power flux density limit at the Earth's surface in the frequency band 410-420 MHz, specified in RR No **5.268**.

Complies with Method of CPM Report.



Agenda Item 1.14

1.14 To consider the feasibility of achieving a continuous reference time-scale, whether by the modification of coordinated universal time (UTC) or some other method, and take appropriate action, in accordance with Resolution 653 (WRC-12)

Agenda Item 1.14 (1/1)

Future of the Coordinated Universal Time time-scale

The RCC Administrations support keeping unchanged the definition of the Coordinated Universal Time (UTC) specified in RR No 1.14 and in Recommendation ITU-R TF.460-6.



Agenda Item 1.15

1.15 To consider spectrum demands for on-board communication stations in the maritime mobile service in accordance with Resolution 358 (WRC-12)

Agenda Item 1.15 (1/1) *On-board communication stations in MMS in the UHF bands*

The RCC Administrations recognize the importance of on-board communications to the safe ship operations (alarm and fire warnings, mooring operations and passenger traffic control) and suppose the possible congestion of frequencies for on-board communications in some geographic areas of the world.

It is not supported the additional frequency allocation to meet on-board communications due to intensive usage of UHF band by the other services and applications and also since the demand in additional frequencies for on-board communication has not been proved by the study.

It is supported the incorporation to the RR of the provisions which allow more effective usage of the existing allocation to on-board communications stations in the maritime mobile service without identification of new frequency bands.

We believe that the application of methods for more efficient spectrum usage such as channel spacing 12.5 kHz and (or) 6.25 kHz, use of digital modulation methods is sufficient to avoid possible channel congestion for on-board communications. In addition, operational conditions, technical characteristics of on-board communication equipment with different channel spacing and channel numbering shall comply with Rec. ITU-R M.1174. **46**
Complies with Method A of CPM Report.



Agenda Item 1.16

1.16 To consider regulatory provisions and spectrum allocations to enable possible new Automatic Identification System (AIS) technology applications and possible new applications to improve maritime radiocommunication in accordance with Resolution 360 (WRC-12)

Agenda Item 1.16 (1/2) *Automatic Identification System (AIS) and maritime Radiocommunication*

The RCC Administrations consider that:

- it is possible to identify frequency bands (channels) for implementation of enhanced applications of AIS technology and new applications to improve maritime radiocommunication in accordance with Resolution **360 (WRC-12)**. Such identification should be conducted within existing allocations to the MMS and MSS taking into account compatibility with existing radio services;
- it is possible to identify new channels within the MMS for AIS-ASM (AIS functions not related to distress), with optional use of channels 87 (157.375 MHz) and 88 (157.425 MHz), and channels 2027 (161.950 MHz) and 2028 (162.000 MHz).

The RCC Administrations also consider that protection of AIS1 and AIS2 channels from interference which may be caused by operation of channels 2078, 2079, 2019 and 2020, by limiting transmission power of ship stations in these channels is more preferable method than full transmission disabling.

Agenda Item 1.16 (2/2) *Automatic Identification System (AIS) and maritime Radiocommunication*

The RCC Administrations consider that it is possible to use combinations of VHF channels 24, 25, 26, 84, 85, 86 allocated at the WRC-12 for digital technologies in the MMS, for the terrestrial component of the VHF data system (VDE).

The RCC Administrations are in favor of using frequency bands which are already allocated to MSS for automatic identification system technology using satellite and new applications to improve maritime radiocommunication in accordance with Resolution 360 (WRC-12).

The RCC Administrations consider that using frequency bands which are not allocated to the MSS for additional or new applications of maritime radiocommunication is not supported since it is beyond the scope of the *decides 2* of Resolution **360 (WRC-12)**.



Agenda Item 1.17

1.17 To consider possible spectrum requirements and regulatory actions, including appropriate aeronautical allocations, to support Wireless Avionics Intra-Communications (WAIC), in accordance with Resolution 423 (WRC-12)

Agenda Item 1.17 (1/1)

Wireless Avionics Intra-Communications (WAIC)

The RCC Administrations consider that:

- WAIC systems shall operate in the frequency bands allocated to aeronautical services;
- frequency bands used by WAIC shall be harmonized in all three Regions;
- implementation of WAIC shall not impose constraints on other systems operating in the common frequency bands.

The RCC Administrations have no objections for the allocation of 4200-4400 MHz frequency band to the aeronautical mobile (R) service to be used only by WAIC systems, keeping the status of Earth exploration satellite service (EESS) and space research service (SRS) as passive services and ensuring protection of aeronautical radionavigation service (ARNS) systems.

The RCC Administrations support the existing Method to satisfy the agenda item.



Agenda Item 1.18

1.18 To consider a primary allocation to the radiolocation service for automotive applications in the 77.5-78.0 GHz frequency band in accordance with Resolution 654 (WRC-12)

Agenda Item 1.18 (1/1)

Automotive short-range high-resolution radar

The RCC Administrations support the worldwide allocation between 77.5 and 78.0 GHz to the radiolocation service on a primary basis for short range radar applications with technical characteristics described in Recommendation ITU-R M.2057 (based on the Option 1 of Method A in CPM Report).



Agenda Item 2

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 the principles contained in Annex 1 to Resolution 27 (Rev.WRC-12)

Agenda Item 2 (1/1)

ITU-R Recommendations incorporated by reference in the Radio Regulations

The RCC Administrations support the principles of incorporation in the Radio Regulations by reference and propose to modify the Radio Regulations with regard to Recommendations ITU-R M.625, P.526, M.690, M.1084, M.1173, BO.1443.

The RCC Administrations continue studies on this WRC-15 agenda item.



Agenda Item 4

4 In accordance with Resolution 95 (Rev.WRC-07), to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation

Agenda Item 4 (1/1)

Revision of the resolutions and recommendations

The RCC Administrations consider that Resolutions which are under consideration within other WRC-15 Agenda items shall not be considered within this Agenda item.

The RCC Administrations support proposed actions concerning Resolutions and Recommendations of previous conferences in accordance with the Annex 6/4-1 of CPM Report. Support of modifications (MOD) to Resolutions and Recommendations also means the readiness of the RCC Administrations to consider and discuss at WRC-15 proposals of other Administrations and regional organizations on modification of the Resolutions and Recommendations, if other will not proposed in the Common proposals of the RCC Administrations. Besides, positions of the RCC Administrations concerning Resolutions 33, 34, 81, 422, 755, 904 and Recommendation 76 will be defined at a later stage.



Agenda Item 7

7 To consider possible changes, and other options, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, an advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, in accordance with Resolution 86 (Rev.WRC-07) to facilitate rational, efficient, and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit

Agenda Item 7 (1/8)

Regulatory provisions for Satellite Networks

The RCC Administrations consider as necessary further improvements in the notification, coordination and recording procedures for networks in space services.

The RCC Administrations do not support substantial changes to the RR Resolution **49 (Rev. WRC-12)** and extension of Resolution **552 (WRC-12)** applicability to other frequency bands.

The RCC Administrations consider that reviewing proposals from Administrations aimed to change certain provisions of the Radio Regulations, related to notification procedures for satellite networks should be implemented in accordance with established procedure while preparing to the next WRC.

Agenda Item 7 (2/8)

Regulatory provisions for Satellite Networks

Issue A – Informing the BR of a suspension under RR No 11.49 beyond six months

The RCC Administrations consider that after informing the Radiocommunication Bureau on suspending frequency assignment after six-month period specified in the RR No **11.49**, the total suspension time shall be reduced by a delay period of such a message (Method A2, Option A). Other options to satisfy this issue are also being reviewed.

Issue B. Publication of information on bringing into use of satellite networks at the ITU website

The RCC Administrations consider it necessary to modify Article 11 RR in order to clarify procedure for publication by Bureau of information related to bringing into use satellite networks and suspension of frequency assignments (RR No 11.44B and No 11.49).

Agenda Item 7 (3/8)

Regulatory provisions for Satellite Networks

Issue C Review or possible cancellation of advance publication mechanism for satellite networks subject to coordination under Section II of RR Article 9

The RCC Administrations support modification of the advance publication mechanism subject to maintaining time-limit of seven years for submission of the notice for recording of the assignment to satellite networks and bringing them into use (Method C3 Option B). But the RCC Administrations consider also other methods for satisfying the issue, excluding method NO CHANGE to the advance publication mechanism (Method C1).

Issue D – General use of modern electronic means of communication in coordination and notification procedures

The RCC Administrations support using modern electronic means of communication in coordination and notification procedures.

Agenda Item 7 (4/8)

Regulatory provisions for Satellite Networks

Issue E – Failure of a satellite during the bringing into use period

The RCC Administrations support inclusion of provisions in the RR which would protect satellite network within 3 years for further usage of these assignments in case a satellite failed within the bringing into use period. Protection of frequency assignments to a satellite network could be provided according to the individual decision of RRB, based on BR report, which includes the analysis of all failure evidences.

Issue F – Modifications to RR Appendix 30B in relation to the suspension of use of a frequency assignment recorded in MIFR

The RCC Administrations support modification of the RR Appendix 30B with a purpose to align it with RR No 11.49 and extend the period of suspension of the frequency assignments up to three years.

Agenda Item 7 (5/8)

Regulatory provisions for Satellite Networks

Issue G - Clarifications for information on the bringing into use, submitted in accordance with RR Nos. 11.44/11.44B

The RCC Administrations have no objections to introducing text of Rule of Procedure on RR No. 11.44, which was approved at 64th meeting of RRB, into the text of Radio Regulations as it was proposed in CPM Report.

Issue H - Using one space station to bring frequency assignments at different orbital locations into use within a short period of time

The RCC Administrations consider that provisions of Radio Regulations shall not restrict the rights of an Administration or an operator to move spacecraft from one orbital position to the new orbital position during control of spacecraft constellation. Provisions which restrict spacecraft movements for bringing it into use or bringing back into use frequency allocations to the satellite networks at different orbital positions within short periods of time will enhance efficiency of, and equitable access to, orbital and spectrum resources.

Agenda Item 7 (6/8)

Regulatory provisions for Satellite Networks

Issue I – Possible method for mitigating the problem concerning excessive satellite network filing submissions

The RCC Administrations support retaining the text of Radio Regulations on the issue of reducing excessive requests for coordination (CR/C) (Method I1.4). The RCC Administrations support measures for reducing excessive notices for Advance Publication Information (API), namely, modification of advance publication mechanism provided that seven-year time-limit is retained for submission of satellite network filings and bringing them into use. (Method I2.3). But the RCC Administrations consider also other methods for satisfying the issue, excluding method NO CHANGE to the advance publication mechanism (Method I2.1).

Issue J. Elimination of relations between the date of receipt of the notification information and the date of bringing into use in RR No 11.44B

The RCC Administrations support elimination of relations between the date of receipt of the notification information and the date of bringing into use in RR No **11.44B**, as it proposed in CPM Report, Method J1.

Agenda Item 7 (7/8)

Regulatory provisions for Satellite Networks

Issue K - Addition to RR Article 11 of regulatory provision for the case of a launch failure

The RCC Administrations support the extension of regulatory time-limit of bringing into use or bringing back into use of frequency assignments to satellite networks in case of a launch failure of a satellite and addition of appropriate provision to RR Article 11.

Mandatory condition for such an extension is a launch failure which happened at least four year later the date of receipt of the relevant complete information referred to in No 9.1 or which happened during the suspension period in accordance with RR No 11.49, as appropriate.

The period of extension of regulatory time-limit shall not exceed the difference in time between the three-year period and the period remaining from the date of the launch failure to the end of the regulatory time-limit. Such the extension period may be given by the RRB decision taken on a case-by-case basis, based on BR report which include analysis of all evidences of launch failure.

Agenda Item 7 (8/8)

Regulatory provisions for Satellite Networks

Issue L - Modification of certain provisions of RR Article 4 of Appendices 30 and 30A for Regions 1 and 3, namely, substitution of tacit agreement by explicit agreement or harmonization of these provisions of RR Appendices 30 and 30A for Regions 1 and 3 with provisions of RR Appendix 30B

The RCC Administrations consider that modifications of provisions of Article 4 of RR Appendices 30 and 30A for Regions 1 and 3 (Method L3) are not required.

Revision of orbital position limits in Annex 7 to RR Appendix 30.

The RCC Administrations support studies aimed to remove limitations on the use of orbital positions by frequency assignments of RR Appendix 30 Plans and Lists given in Annex 7 to RR Appendix 30. Prior to removing these limitations and modifying regulatory provisions of RR Appendix 30, it is necessary to develop the technical basis enabling the use of the orbital positions mentioned in Annex 7, without prejudice to assignments of RR Appendix 30 Plans and List and assignments to other services in all of three Regions on equitable basis.



Agenda Item 8

8.2 To consider and take appropriate action on requests from administrations to delete their country footnotes or to have their country name deleted from footnotes, if no longer required, taking into account Resolution 26 (Rev.WRC-07)

Agenda Item 8 (1/1)

Footnotes to the Table of Frequency Allocations in RR Article 5

The RCC Administrations support the ITU-R activity towards global harmonization of radio spectrum use through reasonable reduction of countries' footnotes to Article 5 of the Radio Regulations.

The RCC Administrations consider that this agenda item is not intended for addition of country names into the footnotes.



Agenda Item 9

9 To consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention:

9.1 On the activities of the Radiocommunication Sector since WRC-12;

9.2 On any difficulties or inconsistencies encountered in the application of the Radio Regulations

Agenda Item 9.1 (1/10)

Activities of the ITU-R since WRC-12

Issue 9.1.1 Resolution **205 (Rev.WRC-12)** Protection of the systems operating in the mobile-satellite service in the band 406-406.1 MHz

Issue 9.1.2 Resolution **756 (WRC-12)** Studies on possible reduction of the coordination arc and technical criteria used in application of No. 9.41 in respect of coordination under No. 9.7.

Issue 9.1.3 Resolution **11 (WRC-12)** Use of satellite orbital positions and associated frequency spectrum to deliver international public telecommunication services in developing countries.

Issue 9.1.4 Resolution **67 (WRC-12)** Updating and rearrangement of the RR.

Issue 9.1.5 Resolution **154 (WRC-12)** Consideration of technical and regulatory actions in order to support existing and future operation of fixed-satellite service earth stations within the band 3 400-4 200 MHz, as an aid to the safe operation of aircraft and reliable distribution of meteorological information in some countries in Region 1.

Issue 9.1.6 Resolution **957 (WRC-12)** Studies towards review of the definitions of fixed service, fixed station and mobile station.

Issue 9.1.7 Resolution **647 (Rev. WRC-12)** Spectrum management guidelines for emergency and disaster relief radiocommunication.

Issue 9.1.8 Resolution **757 (WRC-12)** Regulatory aspects for nano- and picosatellites.

Agenda Item 9.1 (2/10)

Activities of the ITU-R since WRC-12

Issue 9.1.1 Resolution 205 (Rev.WRC-12) Protection of the systems operating in the mobile-satellite service in the band 406-406.1 MHz

The RCC Administrations recognize the importance of COSPAS-SARSAT system used for search and rescue operations.

The RCC Administrations support activities ensuring appropriate protection of the COSPAS-SARSAT system in the frequency band 406-406.1 MHz from emissions which could cause harmful interference to the authorized uses in this frequency band (RR No **5.267** and No**5.266**), taking into account existing and future deployment of services in adjacent (390-406 MHz and 406.1-420 MHz) frequency bands.

To satisfy the specified tasks, the RCC Administrations support modification to Resolution **205 (WRC-12)** and inclusion in the Article 5 a footnote with reference to **Resolution 205 (WRC-12)**.

Agenda Item 9.1 (3/10)

Activities of the ITU-R since WRC-12

Issue 9.1.2 Resolution 756 (WRC-12) Studies on possible reduction of the coordination arc and technical criteria used in application of **No. 9.41** in respect of coordination under **No. 9.7**.

1. Application of C/I criterion for permissible single entry interference to geostationary networks:

The RCC Administrations support using C/I criterion instead of the $\Delta T/T$ criterion when justifying the inclusion/exclusion of networks outside the coordination arc in/from the list of affected administrations when applying RR No **9.41** and in application of RR No **9.7** in cases when the criterion of coordination arc is not used. The C/I criterion continues to be in use when applying provisions of RR No **11.32A**. Complies with Option 1A of CPM Report.

Agenda Item 9.1 (4/10)

Activities of the ITU-R since WRC-12

Issue 9.1.2 (Cont.) Resolution 756 (WRC-12) Studies on possible reduction of the coordination arc and technical criteria used in application of **No. 9.41** in respect of coordination under **No. 9.7**.

2.Modification of the $\Delta T/T$ criterion and corresponding modification of the C/I criterion:

The RCC Administrations propose to determine the value of C/I criterion taking into account the value $\Delta T/T$ increased by not more than 20%. The new criterion value

$C/I = C/N - 10\lg(\Delta T/T)$ (dB) is proposed to be applied to new network assignments filed after the end of WRC-15:

- when applying RR No **9.41**;
- when BR identifies affected administrations according to RR No **9.7** in cases when the coordination arc criterion is not used only in the 20/30 GHz frequency bands allocated to FSS and MSS;
- when applying RR No **11.32A**.

Complies with Option 1A of CPM Report.

Possibility to apply the new value of the C/I criterion to existing satellite network assignments is being studied. In case WRC-15 decides to apply new criterion to the frequency assignments filed before WRC-15, transition measures should be developed to ensure protection of existing frequency assignments.

Note 1. Application of the new criterion value for permissible single entry inference only to new network assignments, notified after the WRC-15, will have a positive effect from the increased criterion only years (decades) afterwards, when the number of new networks will be a significant share of the total number of GSO networks.

Agenda Item 9.1 (5/10)

Activities of the ITU-R since WRC-12

Issue 9.1.2 (Cont.) Resolution 756 (WRC-12) Studies on possible reduction of the coordination arc and technical criteria used in application of **No. 9.41** in respect of coordination under **No. 9.7**.

3. Application of permissible power flux density (pfd) mask under No 11.32A examination:

The RCC Administrations oppose the application of the pfd mask-based method within coordination arc.

Some of the RCC Administrations oppose the application of the pfd mask-based method outside the coordination arc.

Some RCC Administrations support the application of pfd mask-based method outside the coordination arc.

Some of the RCC Administrations are considering the possibility of application of the pfd mask when examining assignments under RR No 11.32A to new networks filed after the end of WRC-15. Should such pfd masks for any purposes be adopted, they shall be applied only to frequency assignments for satellite networks filed after the end of WRC-15.

Agenda Item 9.1 (6/10)

Activities of the ITU-R since WRC-12

Issue 9.1.2 (Cont.) Resolution 756 (WRC-12) Studies on possible reduction of the coordination arc and technical criteria used in application of **No. 9.41** in respect of coordination under **No. 9.7**.

4. Reduction of the coordination arc (CA):

The RCC Administrations support the reduction of the coordination arc (for frequency bands 4/6 GHz from ± 8 to ± 6 degrees, 11/12/13/14 GHz from ± 7 to ± 5 degrees and 20/30GHz from ± 8 to ± 7 degrees, and do not oppose CA reduction for frequency bands 20/30 GHz from ± 8 to ± 7 degrees. The RCC Administrations are in favour of retaining RR No 9.41.

Some of the RCC Administrations are in favour of consideration of the coordination arc reduction only together with modification of technical criteria applied under RR No **9.41**.

The RCC Administrations consider that the modification of coordination criterion values does not reduce protection of existing satellite networks and does increase the efficient use of GSO spectrum/orbit resource while ensuring the required quality of satellite networks operation.

Agenda Item 9.1 (7/10)

Activities of the ITU-R since WRC-12

Issue 9.1.3 Resolution 11 (WRC-12) Use of satellite orbital positions and associated frequency spectrum to deliver international public telecommunication services in developing countries.

Draft position is being developed.

Issue 9.1.4 Resolution 67 (WRC-12) Updating and rearrangement of the RR.

The RCC Administrations support modifications to the RR which are related to the removal of unused abbreviations in No 2.1. of Article 2 and modification of titles for Articles 37, 39, 40, 42, 43, 44, 47, 49, 50, 52 and 53 for the best reflection of the sense of these Articles.

The RCC Administrations consider that the proposed modifications do not change the content of the Radio Regulations provisions under review.

Agenda Item 9.1 (8/10)

Activities of the ITU-R since WRC-12

Issue 9.1.5 Resolution 154 (WRC-12) Consideration of technical and regulatory actions in order to support existing and future operation of FSS earth stations within the band 3 400-4 200 MHz, as an aid to the safe operation of aircraft and reliable distribution of meteorological information in some countries in Region 1.

The RCC Administrations support the development of possible technical and regulatory measures in some countries in Region 1 (on a national basis) in order to ensure the operation of existing and future FSS earth stations within the band 3400-4200 MHz used for satellite communications related to safe operation of aircraft and reliable distribution of meteorological information.

In order to protect FSS earth stations from IMT networks in the band 3400-3600 MHz on a national basis it is possible to use technical conditions of RR No5.340A.

The conditions for protection of FSS earth stations in the band 3400-3600 MHz from new networks of fixed and mobile services including wireless access systems must be determined on the basis of ITU-R studies on compatibility between these systems and FSS earth stations, carried out in the framework of this issue.

The RCC Administrations consider that technical and regulatory measures under Resolution 154 (WRC-12) shall not limit the use of the band 3400-4200 MHz by other existing and planned systems and services in other countries, including SOS for the purpose of spacecraft control.

Agenda Item 9.1 (9/10)

Activities of the ITU-R since WRC-12

Issue 9.1.6 Resolution 957 (WRC-12) Studies towards review of the definitions of fixed service, fixed station and mobile station.

The RCC Administrations consider that current definitions in the Radio Regulations do not prevent from using the existing applications in the fixed and mobile services.

The RCC Administrations oppose changing the definition of the terms *fixed service*, *fixed station* and *mobile station*.

Issue 9.1.7 Resolution 647 (Rev. WRC-12) Spectrum management guidelines for emergency and disaster relief radiocommunication.

The RCC Administrations support the development of spectrum management guidelines applicable in emergency and disaster relief operations.

The RCC Administrations have no objections to the inclusion of contact data in the ITU database of persons responsible for spectrum use and interworking in emergency situations and disaster relief operations, as well as support optional (at the discretion of administrations) providing information on available radio frequencies for use in emergency and disaster relief.

Agenda Item 9.1 (10/10)

Activities of the ITU-R since WRC-12

Issue 9.1.8 Resolution 757 (WRC-12) Regulatory aspects for nano- and picosatellites.

The RCC Administrations consider that any changes in the notification procedures of satellite networks operating nano-and picosatellites should not lead to complications in the notification, coordination and use of other satellite networks. Necessary changes could be included in the RR at WRC-18 within the separate agenda item.

Appropriate changes should be confirmed by ITU studies.

Agenda Item 9.2 (1/1)

Difficulties or inconsistencies encountered in the application of the Radio Regulations

The RCC Administrations support measures to eliminate any difficulties or inconsistencies encountered in the application of the Radio Regulations.

9.2.1 Definitions for stations of meteorological aids service

The RCC Administrations support inclusion of definitions for stations of meteorological aids service in the Article 1 of Radio Regulations (the only Method).

9.2.2 Amending certain RR provisions on the usage of frequency assignments for deep space

The RCC Administrations support the clarification for using frequency assignments to SRS (deep space) near to the Earth (Method A).

Other issues:

The RCC Administrations consider that the proposed changes for RR No 5.526 on modification of radio frequency bands allocation to MSS do not refer to WRC-15 Agenda item 9.2 because the issues of allocation shall be considered within the framework of appropriate WRC agenda items and based on the ITU-R studies.

The RCC Administrations do not oppose considering inclusion of the definition for “Different category of service” to RR.



Agenda Item 10

10 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, in accordance with Article 7 of the Convention

Agenda Item 10 (1/1)

Agenda of the next WRC

The RCC Administrations have no objections to include in the WRC-18 agenda the issue on the improvement of the regulation for use of nano- and pico-satellites taking into account studies on the issue 9.1.8 of WRC-15 Agenda item 9.1.

The RCC Administrations have no objections to include in the WRC-18 agenda the issue on the study of regulatory actions, including spectrum allocations, to support GMDSS modernization and implementation of e-navigation in accordance with Resolution **359** (WRC-12).



New Agenda Item

**Global flight tracking for civil aviation (Resolution 185
(Busan, 2014)**

New Agenda Item (1/1)

Global flight tracking (GFT)

The RCC Administrations support the necessity to conduct studies in the ITU-R based on the ICAO requirements and aimed to ensure compatibility between global flight tracking systems for civil aviation and current and planned stations in different radio services.

The RCC Administrations support compatibility studies between ADS-B systems and systems in services which have allocations in the band 1088.7-1091.3 MHz, including ARNS systems non-standardized by ICAO, aiming to define conditions of their possible sharing.

The RCC Administrations consider that the decision under this agenda item in relation to the frequency band around 1090 MHz may be adopted based on the studies on sharing with ARNS systems non-standardized by ICAO, operating in the countries specified in No **5.312**.

The RCC Administrations also support ITU-R studies on possible use of different systems satisfying needs of the Global flight tracking for civil aviation.



Regional Commonwealth in
the field of Communications

Thank you for your attention!