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2nd ITU INTER-REGIONAL WORKSHOP ON WRC-19 PREPARATION (Geneva, 20-22 November 2018)

RCC Preparation to the ITU WRC-19 and RA-19







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Working Group for WRC-19 and RA-19 preparation

WG WRC/RA was established by RCC Commission and is responsible for WRC-19 and RA-19 preparation:

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

V-Chairman: Nikolay Varlamov, (n.varlamov@niir.ru)

Coordinator: for every AI one Coordinator

➤ WG WRC/RA: develop RCC Position to WRC&RA, RCC Common Propo for the work of the Conference and Coordinator's Paper on AI of WRC-19.

Since 2015 WG WRC/RA had 6 meetings:

1st meeting: February 2016, Astana, Kazakhstan

2^d meeting: September 2016, Misk, Belarus

3th meeting: April 2017, Bishkek, Kyrgyzstan

4th meeting: September 2017, Samarkand, Uzbekistan

5th meeting: March 2018, video conference

6th meeting: October 2018 Moscow, Russian Federation

7th meeting: January 2019, Yerevan, Armenia



POSITION OF THE RCC COMMUNICATIONS ADMINISTRATIONS ON AGENDA ITEMS OF THE WORLD RADIOCOMMUNICATION CONFERENCE 2019

(draft, version of 15 March 2018 as amended 04 October 2018)

available on the RCC Web site: http://www.en.rcc.org.ru/about_en/RCC_positionWRC-19

Direct link: http://www.en.rcc.org.ru/uploads/20161013/RCC_WRC-19_MASTER-POSITION-ENG.docx



RCC position on WRC-19 agenda items 1.11, 1.12, 1.14 and 1.15 (Chapter 1 of CPM Report)



1.11. to take necessary actions for harmonization of frequency bands for communication between train and trackside within existing MS allocations



- ✓ The RCC Administrations consider that no changes to the Radio Regulations are necessary under WRC-19 agenda item 1.11 (Method A).
- ✓ The RCC Administrations consider it reasonable to harmonize frequency bands within existing mobile service allocations at global or regional level through the development of ITU-R Recommendations and Reports.
- ✓ The RCC Administrations are of the view that harmonized use of frequency bands by railway transportation systems shall not impose additional constraints on services to which these frequency bands are already allocated, and provided interference to systems for government communication is avoided



RCC Coordinator: Shurakhov A.A., shurakhov@niir.ru



1.12. to consider possible global or regional harmonized frequency bands for the implementation of ITS under existing MS allocations



- ✓ The RCC Administrations consider that there is no need to modify RR within this Agenda Item (Method A).
- ✓ The RCC Administrations support harmonization of frequency bands for evolving Intelligent Transport Systems (ITS) at global and regional levels within existing mobile service allocations through the development of ITU-R Recommendations and Reports
- ✓ The RCC Administrations are of the view that harmonizing the use of frequency bands for evolving ITS shall not impose additional constraints on services to which these frequency bands are allocated.



RCC Coordinator: Shurakhov A.A., shurakhov@niir.ru



1.14. to consider appropriate regulatory actions for HAPS, within existing FS allocations



- ✓ The RCC Administrations support the need to justify spectrum requirements for gateway stations' and user links for HAPS to provide broadband connectivity in the fixed service taking into account frequency bands which have been already identified for HAPS.
- ✓ The RCC Administrations support necessary modifications to existing RR Article 5 footnotes and related WRC Resolutions to facilitate HAPS development at global or regional level.



RCC Coordinator: Eroshov M.U., eroshov@niir.ru



1.14. to consider appropriate regulatory actions for HAPS, within existing FS allocations



- ✓ The RCC Administrations consider that in the case of modification to conditions for use of frequency bands authorized for HAPS or identification of new frequency bands for gateway and user links for HAPS, the protection and the possibility of further development shall be ensured for existing services, including other applications of fixed service, having allocations in these and adjacent frequency bands.
- ✓ The RCC Administrations consider that a HAPS should not claim more protection from other stations of existing services than that provided in the Radio Regulations for the terrestrial stations in the fixed service, while ensuring the same level of protection for stations of the existing services as the terrestrial stations in the fixed service provide.



RCC Coordinator: Eroshov M.U., eroshov@niir.ru



1.15. to consider identification of frequency bands for LMS and FS applications operating in the frequency band 275–450 GHz



- ✓ The RCC Administrations consider it reasonable that identification of frequency bands for land-mobile and fixed service applications in 275-450 GHz band in the RR No. 5.565 will facilitate global harmonization of radio frequencies for development and introduction of land mobile and fixed service applications above 275 GHz.
- The RCC Administrations consider that when identifying frequency bands for active services in 275-450 GHz range, a balance of interests has to be observed in the use of this frequency range by both active and passive services, ensuring possibility for future development of new active service applications while excluding interferences to the passive services in the frequency bands already identified in No. 5.565 of the Radio Regulations.
- ✓ The RCC Administrations support inclusion in RR No. 5.565 of the frequency bands 275–296 GHz, 306–313 GHz, 318–333 GHz and 356–450 GHz to be used by applications in the land mobile and fixed services (Method E).

RCC Coordinator: Yastrebtsova O.I., yastrebtsova@niir.ru



RCC position on WRC-19 agenda items 1.13, 1.16, 9.1.1, 9.1.5 and 9.1.8 (Chapter 2 of CPM Report)



1.13. to consider identification of bands for future development of IMT, including possible additional allocations to the MS on a primary basis



- ✓ The RCC Administrations consider that when developing technical conditions and regulatory provisions for the allocation of frequency bands to the MS and their identification for IMT it is necessary to ensure protection of other services having allocation in the considered and adjacent frequency bands taking into account the need in their development, first of all for existing systems or those planned to be used by RCC Administrations.
- ✓ The RCC Administrations do not oppose the allocation of the frequency band 24.25-25.25 GHz to mobile, excluding aeronautical mobile, service on a primary global basis, as well as the identification of the frequency band 24.25-27.5 GHz for IMT, subject to incorporating the conditions in the Radio Regulations for IMT stations to protect:



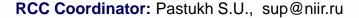
RCC Coordinator: Pastukh S.U., sup@niir.ru



1.13. to consider identification of bands for future development of IMT, including possible additional allocations to the MS on a primary basis



- space stations in the Earth exploration-satellite service (EESS) (passive) in the frequency bands 23.6-24 GHz, 50.2-50.4 GHz and 52.6-54.25 GHz from unwanted emissions of IMT stations;
- space stations in the fixed-satellite service and inter-satellite service.
- ✓ The RCC Administrations consider that to ensure this protection it
 is necessary to limit the emission from IMT base stations in upper
 hemisphere, as well as to limit unwanted emissions of IMT base
 and subscriber stations in frequency bands 23.6–24.0 GHz,
 50.2–50.4 GHz and 52.6–54.25 GHz allocated to EESS (passive).
- ✓ The RCC Administrations do not support allocation of the frequency band 31.8-33.4 GHz to mobile service on a primary basis and identification of the frequency bands 31.8-33.4 GHz and 42.5-43.5 GHz, 71-76 GHz and 81-86 GHz, as the results of ITU-R studies in these bands have concluded that IMT systems are incompatible with the stations of the incumbent services.





1.13. to consider identification of bands for future development of IMT, including possible additional allocations to the MS on a primary basis



- ✓ The RCC Administrations do not support the identification of the frequency bands 45.5–47.0 GHz and 66–71 GHz for IMT systems until the compatibility studies with existing primary radio services in ITU-R are completed.
- ✓ Position of the RCC Administrations on frequency bands 37.0–40.5 GHz, 40.5–42.5 GHz, 47.0–50.2 GHz and 50.4–52.6 GHz included in Resolution 238 (WRC-15), is specified taking into account the need to protect both passive and active services.
- ✓ The RCC Administrations oppose the consideration of frequency bands not specified in Resolution 238 (WRC-19) for IMT systems in this WRC-19 agenda item.



RCC Coordinator: Pastukh S.U., sup@niir.ru



1.16. to consider WAS/RLAN in the bands between 5150 MHz and 5925 MHz, and take regulatory actions, including spectrum allocations to MS



- ✓ The RCC Administrations are in favour of necessary protection from potential WAS/RLAN interference for all the services having allocations in the considered frequency bands, first of all for systems in radiolocation and aeronautical radionavigation services used for the safety of flights.
- ✓ The RCC Administrations oppose reduction of restrictions for the use of WAS/RLAN in the frequency bands 5150-5250 MHz and 5250-5350 MHz, since the conducted ITU-R studies did not reveal mitigation methods ensuring sharing between outdoor WAS/RLAN and the systems in existing services in the considered frequency bands.
- ✓ The RCC Administrations oppose the use of WAS/RLAN in the frequency bands 5350–5470 MHz, 5725–5850 MHz and 5850–5925 MHz, since the studies conducted by ITU-R, showed that sharing between WAS/RLAN and the systems in existing services in the considered frequency bands is not ensured.

RCC Coordinator: Sorokin S.N., sorokin@g-tl.ru



9.1.1. Implementation of IMT in the bands 1885-2025 MHz and 2110-2200 MHz



- ✓ To facilitate compatibility between IMT terrestrial component (in mobile service) and IMT satellite component (in mobile-satellite service) in the frequency bands 1980-2010 MHz and 2170-2200 MHz, the RCC Administrations support adoption of relevant ITU-R Recommendations and Reports and also relevant regulatory provisions facilitating such compatibility.
- ✓ The RCC Administrations are of view that compatibility between IMT terrestrial component (in mobile service) and IMT satellite component (in mobile-satellite service) may be achieved through application of existing provisions of RR Article 9 and introduction of appropriate modifications to RR Appendices 5 and 70 to identify coordination thresholds between stations in mobile and mobile-satellite services in the frequency bands under consideration.
- ✓ The RCC Administrations support adoption of relevant modifications
 of RR Appendices 5 and 7, based on the materials of Report ITU-R
 M.2292.

RCC Coordinator: Aronov D.A., aronov@g-tl.ru



9.1.5. referencing Recommendations ITU R M.1638-1 and ITU-R M.1849-1 in Nos. 5.447F and 5.450A



- ✓ The RCC Administrations are in favour of maintaining the conditions for the allocation of the frequency bands 5250–5350 MHz and 5470– 5725 MHz by radiodetermination services.
- ✓ The RCC Administrations oppose reference to Recommendation ITU-R M.1849-1 in No. 5.447F as this would result in changing conditions for systems of the mobile (excluding the aeronautical mobile) service in the frequency band 5250-5350 MHz.
- ✓ The RCC Administrations are in favour of maintaining reference to Recommendation ITU-R M.1638-0 in Nos. 5.450 and 5.447F.



RCC Coordinator: Sorokin S.N., sorokin@g-tl.ru



9.1.8. possible harmonized use of spectrum to support narrowband and broadband machine-type communication infrastructures



- ✓ The RCC Administrations consider that any modifications to the Radio Regulations provisions related to regulation of using narrowband and broadband machine-type communication applications are not necessary.
- ✓ The RCC Administrations support the development of ITU-R
 Recommendations, Reports and/or Handbooks on technical and
 operational aspects of using different radio systems and
 technologies, as well as on spectrum needed and experience in
 spectrum use, to support the implementation of narrowband and
 broadband machine-type communication infrastructures.



RCC Coordinator: Tonkikh et@niir.ru



RCC position on WRC-19 agenda items 1.4, 1.5, 1.6, 7, and 9.1.2, 9.1.3, 9.1.9 (Chapter 3 of CPM Report)



1.4. to consider limitations mentioned in Annex 7 to Appendix 30



- ✓ The RCC Administrations do not oppose the deletion of the following limitations (Atlantic Region):
 - Limitation A1a (No assignments in the Region 1 List in the frequency band 11.7-12.2 GHz further west than 37.2°W);
 - Limitation A2a (No modification in the Region 2 Plan in the frequency band 12.5-12.7 GHz further east than 54°W);
 - Limitation A2b (No modification in the Region 2 Plan in the frequency band 12.2-12.5 GHz further east than 44°W).
- ✓ The RCC Administrations do not oppose maintaining the following limitation (Pacific Region):
 - Limitation A1b (No assignments in the Region 1 List in the frequency band 11.7-12.2 GHz further east than 146°E).



RCC Coordinator: Smirnova T.V., t.smirnova@niir.ru



1.4. to consider limitations mentioned in Annex 7 to Appendix 30



- The RCC Administrations do not oppose the deletion of the following limitations:
 - Limitation A3a (No assignments in the Region 1 & 3 List outside specific allowable portions of the orbital arc between 37.2°W and 10°E) provided the existing protection criteria from Annex 1 to RR Appendix 30 are maintained for implemented frequency assignments with an antenna diameter of 40 and 45 cm;
 - Limitation A3b (Max. e.i.r.p. of 56 dBW for assignments in the Regions 1 & 3 List at specific allowable portions of the orbital arc between 37.2°W and 10°E),
 - Limitation A3c (Max. power flux density of -138 dB(W/(m2·27 MHz)) at any point in Region 2 by assignments in List located at 4°W and 9°E),
- ✓ The RCC Administrations support maintaining the following limitation (Pacific Region):
 - Limitation A2c (No modification in the Region 2 Plan in the frequency band 12.2-12.7 GHz further west than 175.2°W).



1.4. to consider limitations mentioned in Annex 7 to Appendix 30



- ✓ The RCC Administrations do not oppose maintaining the limitation B associated with the concept of the space stations grouping which the Region 2 Plan is based on.
- In case of deletion of appropriate limitations, the RCC Administrations support the application of the specific procedure (see Al 1.4, CPM Report Chapter 3) during a limited period of time within which the priority right to submit applications for new orbital positions is provided to the administrations of Regions 1 & 3, national assignments of which have a negative equivalent protection margin on the downlink.
- ✓ The RCC Administrations consider that the proposals on revisions of criteria and provisions of Appendix 30 (Rev. WRC-15), other than of Annex 7, are beyond the scope of the studies in accordance with Resolution 557 (WRC-15).

RCC Coordinator: Smirnova T.V., t.smirnova@niir.ru





✓ The RCC Administrations support a draft new Resolution [A15] (WRC-19) which, as a method of addressing WRC-19 agenda item 1.5, shall contain technical conditions and regulatory provisions with regard to operation of earth stations in motion (ESIM) communicating with geostationary space stations in the fixed-satellite service radio frequency bands 17.7-19.7 GHz (space-to-Earth) and 27.5-29.5 GHz (Earth-to-space), to provide protection, based on existing criteria, of services having allocations in these (and adjacent) radio frequency bands, including EESS (passive) in the radio frequency band 18.6-18.8 GHz and future use of EESS (Earth-to-space) in the radio frequency band 28.5-29.5 GHz and also use of terrestrial services in the radio frequency bands 25.25-27.5 GHz and 27.5-29.5 GHz (Method B).



RCC Coordinator: Simonov M.M., mms@niir.ru





- ✓ The RCC Administrations consider that with regard to satellite networks or systems in space services of other administrations in radio frequency bands 17.7-19.7 GHz and 27.5-29.5 GHz ESIM shall comply with the following conditions:
 - a) using ESIM within earlier-registered frequency assignment to typical earth station of GSO FSS satellite network, the appropriate information on such a use shall be recorded in MIFR. If frequency assignment to a typical earth station was made under RR No. 11.38, ESIM can use this frequency assignment provided that ESIM shall not cause more interference, nor claim more protection than registered frequency assignment to the typical earth station. If frequency assignment to a typical earth station was made under RR No. 11.41, ESIM shall not cause unacceptable interference, nor claim protection from interference, with regard to recorded frequency assignments that served the basis for the registration of frequency assignment to a typical earth station under RR No 11.41;





- b) using ESIM within a new frequency assignment to GSO FSS satellite network requires notifying administration to provide information to the Bureau, according to RR Appendix 4, on the characteristics of ESIM, intended to communicate with the space station of this GSO FSS network, in order to be verified by the Bureau and to publish the results in specific section of BR IFIC. In this case such a frequency assignment to ESIM needs to be coordinated and registered, according to procedures of RR Articles 9 and 11 in the relevant GSO FSS satellite network before starting the use of ESIM;
- c) administration authorizing the use of ESIM in the territory under its jurisdiction is entitled to request ESIM to use only those frequency assignments to GSO FSS network which have been successfully coordinated, notified, implemented and recorded in the MIFR with a favourable finding under RR Article 11





- ✓ The RCC Administrations consider that, with respect to terrestrial services operating in the radio frequency bands 17.7–19.7 GHz and 27.5–29.5 GHz, ESIM shall comply with the following conditions:
 - a) transmitting ESIMs in the frequency band 27.5–29.5 GHz shall not cause unacceptable interference to stations of terrestrial services in this band, operating in accordance with the Radio Regulations, or impose constraints on future development of these services;
 - b) receiving ESIMs in the radio frequency band 17.7–19.7 GHz shall not claim protection from stations of terrestrial services in this band, operating in accordance with the Radio Regulations, or impose constraints on future development of these services;
 - c) the notifying administration responsible for the GSO FSS satellite network with which ESIMs communicate shall submit to the Bureau a commitment that, in case of unacceptable interference, upon receipt of a report of such an interference, will take appropriate action to immediately cease or reduce the interference to the acceptable level.





- ✓ The RCC Administrations consider that in the draft new Resolution [A15] (WRC-19) special measures shall be envisaged to exclude unauthorized use of ESIM in the territory of States that have not granted relevant authorizations (licenses).
- ✓ Regulations applicable to ESIM, which would be defined under the issue 9.1.7 of WRC-19 agenda item 9.1, shall be taken into account when developing regulations within the frameworks of WRC-19 agenda item 1.5.



RCC Coordinator: Simonov M.M., mms@niir.ru



1.6. to consider the development of a regulatory framework for NGSO FSS in the 37.5-42.5 GHz (s-E), 47.2-50.2 GHz (E-s) and 50.4-51.4 GHz (E-s)



- ✓ The RCC Administrations consider that regulatory provisions to ensure operation of non-GSO FSS satellite systems in the frequency bands 37.5-42.5 GHz (space-to-Earth), 47.2-48.9 GHz (limited to feeder links), 48.9-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) shall ensure protection for GSO satellite networks in FSS, MSS and BSS, and also for stations of other existing services in the same and adjacent frequency bands.
- ✓ The RCC Administrations consider that technical conditions and regulatory provisions shall be adopted to ensure sharing of the considered frequency bands between different non-GSO FSS systems.



RCC Coordinator: Kostin A.N., kostin@g-tl.ru



1.6. to consider the development of a regulatory framework for NGSO FSS in the 37.5-42.5 GHz (s-E), 47.2-50.2 GHz (E-s) and 50.4-51.4 GHz (E-s)



✓ The RCC Administrations support the revision of Resolution 750 (WRC-15) and establishment of appropriate unwanted emission limits for non-GSO FSS earth stations operated in the frequency bands 49.7-50.2 GHz and 50.4-50.9 GHz to protect EESS (passive) in the frequency band 50.2-50.4 GHz taking into account aggregate interference effect caused by existing radio services' systems in adjacent frequency bands. The RCC Administrations consider that Article 22 of the Radio Regulations shall establish the limitations for non-GSO FSS systems in order to ensure proper protection of GSO FSS and BSS systems in the frequency bands concerned. To identify the limits mentioned the RCC Administrations support the development of new Recommendation ITU-R S.[Methodology to assess FSS compatibility in the 50/40 GHz bands] for establishment of the appropriate protection criteria and maximum permissible levels of interferences from non-GSO FSS systems to GSO FSS networks in 40/50 GHz bands as well as new Recommendation ITU-R on characteristics of GSO FSS and BSS reference links in 50/40 GHz bands





The RCC Administrations consider it necessary further improvements in the notification, coordination and recording procedures for frequency assignments to satellite networks in different services in order to ensure equitable access of ITU Member States to orbital and frequency resource.

Issue A – Bringing into use of frequency assignments to all non-GSO satellite systems, and consideration of a milestone-based deployment approach for non-GSO satellite systems in specific bands and services

- Bringing into use
- The procedure of the milestone-based deployment approach







Bringing into use

With regard to bringing into use of non-GSO systems, the RCC Administrations support that frequency assignment to space station of non-GSO satellite systems shall be considered as having been brought into use, when notifying administration informed the Bureau that at least one space station with the confirmed capability of transmitting or receiving, has been deployed on one of the notified orbital planes of the non-GSO satellite system, irrespective of the notified number of orbital planes and satellites per orbital plane in the system. The RCC Administrations do not support identification in the Radio Regulations a continuous period of 90 or less days of deployment of a satellite, when bringing into use frequency assignments to non-GSO system.

Orbital tolerance elements shall take into account different types of orbits for non-GSO-systems and application of these systems.







The procedure of the milestone-based deployment approach

With regard to milestone-based approach to the deployment of multi-satellite non-GSO system, the RCC Administrations support adoption of new WRC-19 Resolution for fixed-satellite service (FSS) and mobile-satellite service (MSS) only in specific frequency bands (Ku-, Ka-, Q/V-bands). This Resolution shall identify the requirements for the implementation of each milestone of deployment (time period and percentage of the satellites deployed for each milestone) and restrictive measures applied to systems failed to meet the milestone (appropriate reduction in number of system satellites notified in the MIFR).







The procedure of the milestone-based deployment approach

The RCC Administrations consider that time period and per cent of satellites deployed for each milestone of the system deployment and duration of the transition period shall ensure the balance between the capability to implement the non-GSO satellite system and effective use of the orbital and frequency resources, in order to prevent spectrum reservation by multi-satellite systems, which do not have real capability to implement the satellite constellation with notified characteristics.

RCC Administrations consider that the procedure for the milestonebased approach of deployment shall not be applied to frequency assignments to non-GSO satellite systems/networks used for safety of human life.







Issue B - Application of coordination arc in the Ka-band, to determine coordination requirements between the FSS and other satellite services

✓ The RCC Administrations support introducing the coordination are
mechanism in Ka-band to identify the need in the coordination
between MSS and FSS geostationary satellite networks, as well as
between MSS geostationary satellite networks, while maintaining the
possibility of applying RR No. 9.41 (Method B2)







Issue C – Issues for which consensus was achieved in ITU-R

Issue C1 - Discrepancy and/or inconsistency between the regulatory provisions dealing with any changes to the characteristics of an assignment

✓ The RCC Administrations consider that the existing discrepancy between provisions of Articles in RR Appendices 30, 30A and 30B and the terminology of RR Article 11 provisions do not lead to complications when applying the relevant provisions of the Radio Regulations.

Issue C2 - Using a part of the Appendix 30B frequency band

✓ The RCC Administrations support the proposal on possible notification
of frequency assignments blocks with bandwidth of 250 MHz each for
dditional systems in Ku-band within Appendix 30B.





Issue C3 - Modification of Article 6 §§ 6.13 and 6.15 of Appendix 30B

✓ The RCC Administrations do not oppose the modification of RR Article
6 §§ 6.13 and 6.15 of Appendix 30B taking into account the Rules of
Procedure under RR § 6.6 of Appendix 30B.

Issue C4 - Submission of a single notice for inclusion into the List and Notification under Appendices 30/30A

✓ The RCC Administrations support the proposal on submitting and processing a single notice for a new assignment to be included into the List under § 4.1.12 and recorded under §§ 5.1.1 and 5.1.2 for the networks in the RR Appendices 30/30A in Regions 1 and 3.







Issue C5 - Timely notification of an administration that the 6-month period under RR No. 11.46 has expired

✓ The RCC Administrations support the proposal that the Bureau should timely notify the administration on expiration of the 6-month deadline after the unfavorable finding was sent under RR No. 11.37 or No. 11.38.

Issue C6 - Submission of a single notice for an assignment to be included into the List and recorded under Appendix 30B

✓ The RCC Administrations support the proposal that for satellite networks in the RR Appendix 30B administrations would submit a single notice for a new assignment to be included into the List and recorded.







Issue C7 - The agreements concluded within the Appendix 30B for a specific period of time

✓ The RCC Administrations consider proposals on the modification of RR Appendix 30B, allowing administrations to conclude agreements among themselves for a specific period of time.

Issue D - Identification of those specific satellite networks and systems with which coordination needs to be effected under RR Nos., 9.12, 9.12A and 9.13

✓ The RCC Administrations support the identification of specific GSO or non-GSO satellite networks which need coordination only according to RR Nos. 9.12, 9.12A or 9.13 as well as modification of relevant RR provisions (Method D2).







Issue E - Resolution related to RR Appendix 30B

✓ The RCC Administrations support the draft Resolution [AP30B] (WRC-19) with the most favourable procedure for converting the national allotments into assignment with modified characteristics within national borders of the notifying administration or for entering additional system to the List of frequency assignments, with a service area limited to a national territory, for administrations without any assignments in the List.

Issue F - Measures to facilitate inclusion of new frequency assignments into the RR Appendix 30B List

✓ The RCC Administrations do not support modifications of existing criteria
of Annex 4 to RR Appendix 30B for determining affected allotments or
assignments which can reduce the protection of assignments of RR
Appendix 30B List and allotments of RR Appendix 30B Plan (Method
F2).





Issue G - Updating the reference situation for Regions 1 and 3 networks under RR Appendices 30 and 30A when provisionally recorded assignments are converted into definitive recorded assignments

✓ The RCC Administrations consider it unreasonable to modify§ 4.1.18 of RR Appendices 30 and 30A, where the reference situation of the victim satellite network would be updated only after the agreement is reached between the administration notifying the network and the Administration notifying interfering new network. (Method G3).

Issue H - Modifications to RR Appendix 4 items to be provided for non-geostationary satellite systems not subject to the procedures of Section II of RR Article 9

✓ The RCC Administrations support modification of data of the RR
Appendix 4 submitted for new non-GSO systems.





Issue I – Additional RR Appendix 4 data items to be provided for nongeostationary satellite systems with multiple orbital planes

✓ The RCC Administrations support insertion into RR Appendix 4
additional data elements submitted for new non-GSO systems with
several orbital planes determining whether a satellite system is a
multiple configurations that will operate simultaneously or it contains
multiple configurations that are mutually exclusive.

Issue J – Modifying the Section 1, Annex 1 of RR Appendix 30 with respect to pfd limit

The RCC Administrations do not support modification of a hard pfd limit (−103.6 dB(W/(m2· 27 MHz), identified in Annex 1 to RR Appendix 30, and consider that to ensure protection of assignments to systems in the broadcasting-satellite service from interference caused by networks in the broadcasting-satellite service located outside of the coordination arc, hard pfd limit identified in Section 1, Annex 1 to RR Appendix 30 shall be observed, even if a test point is located in the territory of a notifying administration (Method J2).





Issue K – Difficulties for Part B examinations under § 4.1.12 or 4.2.16 of RR Appendices 30 and 30A and § 6.21 c) of RR Appendix 30B

✓ The RCC Administrations support re-examination of notices under §§
4.1.12 or 4.2.16 of Appendices 30 and 30A and § 6.21 c) of RR
Appendix 30B at the stage of publication relating to IFIC Part B in the
case when networks which were the basis for the unfavourable finding
were included in the List with decreased by results of coordination
characteristics.

Issue L – Upgrading data elements of RR Appendix 4 required in order to verify epfd levels, identified in RR Article 22, after revision of Recommendation ITU-R S.1503

✓ The RCC Administrations do not oppose updating data elements of RR Appendix 4 required in order to verify epfd levels identified in RR Article 22, in accordance with current version of Recommendation ITU – R S.1503-3.





Issue M - Simplification of regulatory regime for non-GSO systems with short-duration missions

- ✓ The RCC Administrations oppose modifications to RR Article 9 to simplify the regulatory regime for non-GSO systems with shortduration missions.
- ✓ The RCC Administrations study the procedure of submitting data to the Bureau concerning non-GSO systems with short-duration missions (less than 3 years), not subject to the coordination procedure under Section II of RR Article 9 and possible measures to prevent possible interference to existing and planned assignments.
- ✓ The RCC Administrations are in favour of maintaining 4-month period for comments by administrations after publishing API for simplified regulatory regime for non-GSO systems.





9.1.2. Compatibility of IMT and BSS (sound) in the band 1452-1492 MHz in Regions 1 and 3



- ✓ The RCC Administrations do not oppose the development of relevant regulatory and technical conditions in order to provide compatibility between IMT and broadcasting-satellite service (sound) in the frequency band 1452-1492 MHz in Regions 1 and 3These conditions shall only be applied in the territory of countries where this band is identified for IMT.
- ✓ The RCC Administrations consider that technical conditions and regulatory provisions developed within the framework of conducted studies shall also take into account the need to protect aeronautical telemetry systems in aeronautical mobile service.



RCC Coordinator: Uvarov S.S., uva2010@mail.ru



9.1.3. operational issues and regulatory provisions for new NGSO-satellite orbit systems in C-band



- ✓ The RCC Administrations oppose adopting new regulatory provisions for new non-geostationary-satellite orbit systems in the 3700–4200 MHz, 4500–4800 MHz, 5925–6425 MHz and 6725–7025 MHz frequency bands allocated to the fixed-satellite service, as the studies carried out by ITU-R have concluded that the compatibility of these systems with stations of the incumbent services is unachievable.
- ✓ At the same time the RCC Administrations are in favour of adopting the conditions ensuring the compatibility for new non-geostationarysatellite orbit systems in 3700–4200 MHz and 5925–6425 MHz frequency bands by applying the coordination procedure under No. 9.12 RR between non-GSO FSS systems in the specified frequency bands.



RCC Coordinator: Uvarov S.S., uva2010@mail.ru



9.1.9. studies relating to spectrum needs and possible allocation of the band 51.4-52.4 GHz to the FSS (E-s)



✓ The RCC Administrations pursuant to the results of studies of additional spectrum needs for the development of the fixed-satellite service and the sharing and compatibility studies carried out by ITU-R under Resolution 162 (WRC-15) do not oppose the new allocation of the frequency band 51.4-52.4 GHz on the primary basis to the GSO FSS (Earth-to-space), limited to gateway earth stations using a minimum antenna diameter of 4.5 m, provided the mandatory protection is granted to EESS (passive) – Example 1 in draft CPM Report.



RCC Coordinator: Simomov M.M., mms@niir.ru



9.1.9. studies relating to spectrum needs and possible allocation of the band 51.4-52.4 GHz to the FSS (E-s)



- ✓ The RCC Administrations consider that the technical conditions and regulatory provisions for use of the new allocation to the FSS (Earth-to-space) in the 51.4-52.4 GHz band, limited to communication links for gateway earth stations in GSO FSS satellite networks, shall ensure protection of existing services and systems in the considered and adjacent frequency bands and development of possible related regulatory measures, including revision of Resolution 750 (Rev. WRC-15), based on the relevant EESS (passive) protection criteria in the frequency band 52.6-54.25 GHz.
- ✓ The RCC Administrations consider that the permissible aggregate outof-band interference level from all active services, stated in Recommendation ITU-R RS. 2017, should be distributed between the active services which could be the potential interferers to EESS (passive) sensors in the frequency band 52.6-54.25 GHz, including taking into account the potential impact of IMT systems' second harmonic, considered under WRC-19 agenda item 1.13

RCC Coordinator: Simomov M.M., mms@niir.ru



RCC position on WRC-19 agenda items 1.2, 1.3 and 1.7 (Chapter 4 of CPM Report)



1.2. to consider in-band power limits for ES operating in the MSS, MetSat and EESS in the 401-403 MHz and 399.9-400.05 MHz



- ✓ The RCC Administrations support establishing equivalent isotropic radiated power limits for earth stations in the mobile satellite service in the frequency band 399.9–400.05 MHz, as well as for earth stations in the meteorological-satellite service and the Earth exploration-satellite service in the frequency band 401–403 MHz, to avoid interference to data collection systems based on the results of studies provided in the Report ITU-R SA [400 MHz-LIMITS].
- ✓ The RCC Administrations consider that specified limits shall not cover the frequency assignments to satellite systems registered in MIFR [before 22 November 2019] in frequency bands 399.9-400.05 MHz and 401-403 MHz until WRC-19.



RCC Coordinator: Sorokin B.S., sorokin.bs@spacecorp.ru



1.3. to consider possible upgrading of MetSat (s-E) to primary status and possible primary allocation to the EESS (s-E) in the band 460-470 MHz



- ✓ The RCC Administrations support upgrading the secondary allocation to the meteorological-satellite service (space-to-Earth) to a primary status as well as a primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz under the following conditions:
 - upgrading the status of allocations of the frequency bands to the meteorological-satellite service and the Earth exploration-satellite service shall be applied both for future systems as well as existing systems of these radio services;





1.3. to consider possible upgrading of MetSat (s-E) to primary status and possible primary allocation to the EESS (s-E) in the band 460-470 MHz



- for the protection of the terrestrial services to which the frequency band 460-470 MHz is allocated on a primary basis, which ensure acceptable interference level, pfd limits for the specified satellite services shall be established to ensure acceptable interference level. In case of non-compliance with these limits, satellite systems of specified services can continue to be used on the secondary basis;
- maintaining priority of the meteorological-satellite service over the Earth exploration-satellite service should be ensured.
- ✓ The RCC Administrations do not support segmentation of the frequency band 460-470 MHz for geostationary and nongeostationary satellite systems.



RCC Coordinator: Sorokin B.S., sorokin.bs@spacecorp.ru



1.7. to study the spectrum needs for TT&C in SOS for NGSO satellites with short duration missions, and, if necessary, to consider new allocations



- ✓ The RCC Administrations consider that when using existing or new frequency allocations to the space operation service below 1 GHz for the purpose to command non-GSO satellites with short duration missions, the protection shall be ensured to the incumbent services in the same and adjacent frequency bands.
- ✓ The RCC Administrations oppose using the frequency bands 148-174.0
 MHz and 405.9-410 MHz to command non-GSO satellites with short duration missions, since:
 - separate parts of the frequency band 148-174.0 MHz are actively used within the territory of RCC Administrations for fixed and mobile services;
 - frequency band 154-156 MHz is used for the radiolocation service on a primary basis according to No. 5.225A in some countries of Region 1;



RCC Coordinator: Zheltonogov I.V., zheltonogov@g-tl.ru



1.7. to study the spectrum needs for TT&C in SOS for NGSO satellites with short duration missions, and, if necessary, to consider new allocations



- separate parts of the frequency band 156-162.05 MHz, as well as frequency band 405.9-406.2 MHz, are used by GMDSS
- frequency bands 150.05-153.0 MHz and 406.1-410.0 MHz are allocated to the radio astronomy service on a primary basis, and the conducted ITU-R studies have shown the difficulties of sharing between the space operation service and the above mentioned radio services.
- ✓ The RCC Administrations oppose using the frequency bands 148-174.0
 MHz and 405.9-410 MHz to command non-GSO satellites with short duration missions, since:



RCC Coordinator: Zheltonogov I.V., zheltonogov@g-tl.ru



RCC position on WRC-19 agenda items 1.1, 1.8, 1.9.1, 1.9.2, 1.10 and 9.1.4 (Chapter 5 of CPM Report)



1.1. to consider an allocation of the frequency band 50-54 MHz to the amateur service in Region 1, in accordance with Resolution 658 (WRC-15)



- ✓ The RCC Administrations consider that in order to decide on possible allocation of the frequency band 50-54 MHz or a part of the band to the amateur service in Region 1, spectrum requirements for the amateur service shall be justified and agreed upon in ITU-R.
- ✓ The RCC Administrations consider that, when identifying technical and regulatory conditions for such allocation, protection shall be ensured to the broadcasting service to which this frequency band is allocated on a primary basis, including stations of the broadcasting service in the frequency band 50-54 MHz, regulated by Stockholm-61 and Geneva-89.
- ✓ The RCC Administrations allow for the possibility of allocation of a part of the frequency band 50 54 MHz to the amateur service on a secondary basis provided that additional measures will be introduced to protect broadcasting service on the border of an administration using broadcasting service.

RCC Coordinator: Filkova E.V., e.filkova@grfc.ru



1.8. to consider possible actions to support GMDSS modernization and the introduction of additional satellite systems into the GMDSS



The RCC Administrations consider that the IMO position should be taken into account in regard to the GMDSS modernization, including the introduction of the IMO-recognized additional satellite systems, when developing relevant regulatory actions to support such modernization considering protection of existing services and systems.

Issue A (GMDSS modernization)

- ✓ The RCC Administrations support designating the frequency band 495-505 kHz for digital broadcasting of maritime safety and security related information (NAVDAT LF system).
- ✓ The RCC Administrations support designating the frequency bands: 4221–4231 kHz, 6332.5–6342.5 kHz, 8438–8448 kHz, 12658.5– 12668.5 kHz, 16904.5–16914.5 kHz, 22445.5–22455.5 kHz to digital broadcasting of maritime safety and security related information (NAVDAT HF system) provided that the existing conditions for their allocation to radio services are maintained.



1.8. to consider possible actions to support GMDSS modernization and the introduction of additional satellite systems into the GMDSS



Issue B (Introduction of additional satellite systems in GMDSS)

✓ The RCC Administrations support introducing additional nongeostationary MSS satellite networks in GMDSS, subject to their approval by IMO.





1.9.1. regulatory actions within the frequency band 156-162.05 MHz for autonomous maritime radio devices to protect the GMDSS and AIS



- ✓ The RCC Administrations consider it reasonable to identify categories (types), technical and operational characteristics of autonomous maritime radio devices in order to develop regulatory actions in the frequency band 156–162.05 MHz for the autonomous maritime radio devices to protect GMDSS and AIS. At the same time, results of studies on the compatibility between autonomous maritime radio devices and existing radio systems having allocations in the concerned frequency bands shall be taken into account.
- ✓ The RCC Administrations do not oppose using frequency bands of RR Appendix 18 for Group A autonomous maritime radio devices intended for maritime safety (frequency bands: 156.5125-156.5375 (channel 70 for DSC), 161.9625-161.9875 (AIS1 channel), 162.0125-162.0375 (AIS2 channel)). Such use should comply with the latest version of Recommendation ITU-R M.[AMRD] (Method A).



1.9.1. regulatory actions within the frequency band 156-162.05 MHz for autonomous maritime radio devices to protect the GMDSS and AIS



- ✓ The RCC Administrations do not oppose using frequency bands of RR Appendix 18 for Group B autonomous maritime radio devices not intended for maritime safety (frequency band 160.8875-160.9125 MHz for AIS technology (channel 2006)). Such use should comply with the latest version of Recommendation ITU-R M.[AMRD] (Method B1).
- ✓ The RCC Administrations do not oppose using frequency bands of RR Appendix 18 for Group B autonomous maritime radio devices not intended for maritime safety (frequency bands 161.5125-161.5375 MHz (channel 2078), 161.5375-161.5625 MHz (channel 2019), 161.5625-161.5875 MHz (channel 2079) for technologies other than AIS). Such use should comply with the latest version of Recommendation ITU-R M.[AMRD] (Method B2).





1.9.2. MMSS within the frequency bands 156.0125-157.4375 MHz and 160.6125-162.0375 MHz, to enable VDES satellite component



- ✓ The RCC Administrations consider that introduction of the VDES satellite component shall not result in imposing constraints on existing and planned systems of services which have allocations in the common and adjacent frequency bands.
- ✓ The RCC Administrations oppose new allocations to the maritime mobile-satellite service (MMSS) on a primary basis for VDES satellite component in the frequency bands within 156-162 MHz, since the studies conducted on the basis of Recommendations ITU-R M.1801 and M.2092 have shown that VDES space stations are not compatible with stations of fixed and mobile services to which these frequency bands are allocated on a primary basis.



RCC Coordinator: Babykin D.A., babykin@g-tl.ru



1.10. to consider spectrum needs and regulatory provisions for the introduction and use of the GADSS, in accordance with Resolution 426



- ✓ The RCC Administrations support the need in the development of the Global Aeronautical Distress and Safety System (GADSS).
- ✓ The RCC Administrations support the identification of frequency bands and aircraft on-board systems to implement GADSS system, as well as developing the proposals for modifying RR Articles of Chapter VII Distress and safety communications and Chapter VIII Aeronautical services.
- ✓ The RCC Administrations support the incorporation in the Radio Regulations of provisions allowing to use the signals of radionavigation satellite service (space-to-Earth) for all these purposes in frequency band 1559 1610 MHz in case of including the return link in the GADSS Concept for transmitting through Global Navigation Satellite System (GNSS) satellites the messages acknowledging receipt of a distress alert, as well as other messages and commands addressed to emergency beacon.

RCC Coordinator: Sorokin S.N., sorokin@g-tl.ru



1.10. to consider spectrum needs and regulatory provisions for the introduction and use of the GADSS, in accordance with Resolution 426



✓ The RCC Administrations consider that if the existing frequency allocations to aeronautical services are intended to be used for GADSS system, in this case the list of aircraft systems in GADSS, technical characteristics and protection criteria as well as frequency bands they use, should be included in relevant ITU-R Recommendations. Such use of frequency bands for GADSS should be restricted to the systems which operate in accordance with recognized international aeronautical standards, and should not preclude the use of these frequency bands by any applications of the services to which they are allocated and should not establish priority for GADSS in the Radio Regulations.





9.1.4. Stations on board sub-orbital vehicles



- ✓ The RCC Administrations consider that stations ensuring sub-orbital flights shall be operated within the frameworks of existing radio services and these stations shall be subject to regulatory, technical and procedural provisions currently in force for these radio services.
- ✓ The RCC Administrations consider that any modifications to the Radio Regulations provisions related to regulation of using stations on board sub-orbital vehicles at this stage are not necessary.
- ✓ The RCC Administrations also consider it necessary to develop additional technical and operational measures which would help to avoid harmful interference to radiocommunication services from stations ensuring sub-orbital flights when existing measures will be insufficient. The developed technical and operational measures shall be specified in the new ITU-R Recommendation and shall not impose additional constraints on the operation of stations used during spacecraft launch and delivery in orbit.

RCC Coordinator: Starchenko S.I., starchenko@g-tl.ru



RCC position on WRC-19 agenda items 2, 4, 9.1.6, 9.1.7 and 10 (Chapter 6 of CPM Report)



2. to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations



- ✓ The RCC Administrations support the principles of incorporation of texts in the Radio Regulations and propose updating the versions of Recommendations ITU-R P.525-2, P.526-13 and RS.1260-1 incorporated by reference in the Radio Regulations.
- ✓ The RCC Administrations consider that the updating the reference to Recommendation ITU-R M.1638-0 "Characteristics of and protection criteria for sharing studies for radiolocation, aeronautical radionavigation and meteorological radars operating in the frequency bands between 5 250 and 5 850 MHz" in Nos. 5.447F, 5.450A RR shall be considered within WRC-19 issue 9.1.5.



RCC Coordinator: Ikramov E.S., i.ikramov@mitc.uz



4. to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement and abrogation



- ✓ The RCC Administrations are of the view that this agenda item shall not address Resolutions and Recommendations that are addressed within other WRC-19 agenda items.
- ✓ The RCC Administrations do not oppose the revision of Resolution 155 (WRC-15) with respect to Appendix 2 "Protection of the fixed service from UAS CNPC emissions".
- ✓ The RCC Administrations' propose NOC for the Resolutions 18, 20, 205, 207, 217, 344, 354, 356, 417, 424 and 612.



RCC Coordinator: Shurakhov A.A., shurakhov@niir.ru



9.1.6. studies concerning Wireless Power Transmission for electric vehicles



- ✓ The RCC Administrations consider that any modifications to the Radio Regulations provisions related to regulation of using wireless power transmission devices are not necessary.
- ✓ The RCC Administrations are in favour of harmonizing frequency bands to be used for Wireless Power Transmission (WPT) for electric vehicles, which could be implemented by the development of relevant Recommendation ITU-R.
- ✓ The RCC Administrations support the development of conditions for use of the frequency band 79-90 kHz by WPT devices, which would provide protection to stations of radiocommunication services from possible interference, and which have relevant allocations in the Radio Regulations on a primary or secondary basis.





9.1.7. managing the unauthorized operation of earth station terminals



The RCC Administrations support the development and inclusion into Radio Regulations additional provisions binding Administrations to ensure during licensing the implementation of appropriate technical measures in the satellite networks, such as measures that are specified in Resolution 156 (WRC-15) (Earth stations in motion (ESIMs) shall be subject to permanent monitoring and control by the Network Control and Monitoring Centre (NCMC), be capable of receiving and acting upon at least "enable transmission" and "disable transmission" commands from the NCMC depending on their geographical position) which would facilitate elimination of unauthorized operation of earth station terminals in global/regional satellite networks, when these terminals are outside the territory of States which administrations granted the appropriate authorization (the license).



RCC Coordinator: Pastukh S.U., sup@niir.ru



9.1.7. managing the unauthorized operation of earth station terminals



- ✓ The RCC Administrations consider that no one transmitting mobile earth station or ESIM shall be operated in the territory of any State without the appropriate license (authorization) from the State, issued by the government of that State or on behalf of that government in appropriate form and according with the provisions of the Radio Regulations.
- ✓ The RCC Administrations consider that the issue of preventing the unauthorized operation of earth stations terminals is considered both under the WRC-19 Agenda item 9.1, issue 9.1.7 which covers all frequency bands and all types of ubiquitous FSS earth stations, and WRC-19 Agenda item 1.5 relating to operations of ESIM in the frequency band 27.5–29.5 GHz (Earth-to-space).



RCC Coordinator: Pastukh S.U., sup@niir.ru



10. to recommend to the Council items for inclusion in the agenda for the next WRC



- ✓ The RCC Administrations consider it reasonable to include in the WRC-23 agenda the item on upgrading the allocation of the frequency band 14.8-15.35 GHz for the SRS.
- ✓ The RCC Administrations are in favour of the improvement WRC-23 standing agenda items 7, 9.1 and 9.2 activities according to principles of the document entitled "Proposals towards drawing up issues under some World Radiocommunication Conferences agenda items".



RCC Coordinator: Shurakhov A.A., shurakhov@niir.ru



RCC position on WRC-19 agenda items 8, 9.2 and 9.3



8. Country footnotes in Article 5 of Radio regulation



- ✓ The RCC Administrations support the ITU-R activity towards global harmonization of radio spectrum use through the deletion of country footnotes or country names from footnotes in the RR Article 5.
- ✓ The RCC Administrations consider that this agenda item is not intended for addition of country names into footnotes as well as for creating new footnotes.



RCC Coordinator: Dusmanov D. H., d.dusmatov@unicon.uz



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



✓ In order to improve preparation to WRC-19, the RCC Administrations propose early mandatory consideration by Radio Regulations Board, the Radiocommunication Advisory Group, as well as the relevant ITU-R Working parties of the information submitted to Radiocommunication Bureau on difficulties or inconsistencies encountered in the application of the Radio Regulations.



RCC Coordinator: Sorokin V.S., v.s@inbox.ru

9.3 on actions in response to Resolution 80 (Rev.WRC-07)

✓ The RCC Administrations support the studies on the development of actions towards the implementation of Resolution 80 for use of radio spectrum as well as geostationary-satellite orbits and other satellite orbits.



RCC Coordinator: Kim T.G., t_kim@sts.kz





Thank you for your attention!