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| **World Radiocommunication Conference (WRC-19) Sharm el-Sheikh, Egypt, 28 October – 22 November 2019** |  |
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| PLENARY MEETING | **Addendum 2 to Document 16(Add.19)-E** |
|  | **7 October 2019** |
|  | **Original: English** |
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| European Common Proposals | |
| Proposals for the work of the conference | |
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| Agenda item 7(B) | |

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)**, in order to facilitate rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit;

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

Introduction

CEPT and ITU-R WP 4A performed studies comparing all MSS and FSS earth stations contained in the ITU SRS database, in the portion of the Ka-band 29.5-30 GHz / 19.7-20.2 GHz, in terms of antenna patterns and antenna sizes (maximum gain) used in each service. The studies show that MSS earth stations parameters are quite similar to those used by the FSS earth stations. The studies also show that all satellite networks with frequency assignments in the MSS also have frequency assignments in the FSS.

Currently in the Radio Regulations, to determine whether coordination under RR No. **9.7** is required, in the frequency bands 29.5-30 GHz (Earth-to-space)/19.7-20.2 GHz (space-to-Earth) in all 3 Regions the following criteria is applied:

– FSS vs FSS: Coordination arc of 8º

– FSS vs MSS: Δ*T/T* > 6%

– MSS vs MSS: Δ*T/T* > 6%

In addition, in the FSS vs FSS coordination, administrations can always request application of RR No. **9.41** to include additional satellite networks that would be affected taking into account the Δ*T/T* > 6% criteria.

In view of the results mentioned above and taking into account that coordination arc criteria is used to determine coordination between FSS systems and it works in an effective and efficient way, CEPT supports the method that proposes to apply the same method in the identification of coordination cases of FSS vs MSS and MSS vs MSS in the frequency bands 29.5-30 GHz / 19.7-20.2 GHz. The coordination arc of 8º criteria would replace the ΔT/T > 6% criteria that currently applies. In the European view, it will improve and make more efficient the coordination procedures, while keeping the possibility for administrations to request ΔT/T criteria under RR No **9.41**. This method corresponds to the single method in the CPM Report.

Proposals

APPENDIX 5 (REV.WRC‑15)

Identification of administrations with which coordination is to be effected or  
agreement sought under the provisions of Article 9

MOD EUR/16A19A2/1#50065

TABLE 5-1     (Rev.WRC‑19)

Technical conditions for coordination

(see Article 9)

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| Reference of Article 9 | Case | Frequency bands (and Region) of the service for which coordination is sought | Threshold/condition | Calculation  method | Remarks |
| No. **9.7** GSO/GSO | A station in a satellite network using the geostationary-satellite orbit (GSO), in any space radiocommunication service, in a frequency band and in a Region where this service is not subject to a Plan, in respect of any other satellite network using that orbit, in any space radiocommunication service in a frequency band and in a Region where this service is not subject to a Plan, with the exception of the coordination between earth stations operating in the opposite direction of transmission | 1) 3 400-4 200 MHz 5 725-5 850 MHz (Region 1) and 5 850-6 725 MHz 7 025-7 075 MHz | i) Bandwidth overlap, and  ii) any network in the fixed-satellite service (FSS) and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±7° of the nominal orbital position of a proposed network in the FSS |  | With respect to the space services listed in the threshold/condition column in the frequency bands in 1), 2), 2*bis*), 3), 3*bis*), 4), 5), 6), 7) and 8), an administration may request, pursuant to No. **9.41**, to be included in requests for coordination, indicating the networks for which the value of Δ*T*/*T* calculated by the method in § 2.2.1.2 and 3.2 of Appendix **8** exceeds 6%. When the Bureau, on request by an affected administration, studies this information pursuant to No. **9.42**, the calculation method given in § 2.2.1.2 and 3.2 of Appendix **8** shall be used |
| 2) 10.95-11.2 GHz 11.45‑11.7 GHz  11.7-12.2 GHz  (Region 2) 12.2-12.5 GHz  (Region 3) 12.5‑12.75 GHz (Regions 1 and 3) 12.7‑12.75 GHz (Region 2) and  13.75‑14.8 GHz | i) Bandwidth overlap, and  ii) any network in the FSS or broadcasting-satellite service (BSS), not subject to a Plan, and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±6° of the nominal orbital position of a proposed network in the FSS or BSS, not subject to a Plan  iii) in the band 14.5-14.8 GHz any network in the space research service (SRS) or FSS not subject to a Plan and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±6° of the nominal orbital position of a proposed network in the SRS or FSS not subject to a Plan |

TABLE 5-1 (*continued*)     (Rev.WRC‑19)

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| Reference of Article 9 | Case | Frequency bands (and Region) of the service for which coordination is sought | Threshold/condition | Calculation  method | Remarks |
| No. **9.7** GSO/GSO (*cont.*) |  | 2*bis*) 13.4-13.65 GHz (Region 1) | i) Bandwidth overlap, and  ii) any network in the space research service (SRS) or any network in the FSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±6° of the nominal orbital position of a proposed network in the FSS or SRS |  |  |
|  | 3) 17.7‑19.7 GHz, (Regions 2 and 3),  17.3-19.7 GHz  (Region 1) and 27.5‑29.5 GHz | i) Bandwidth overlap, and  ii) any network in the FSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the FSS |  |  |
|  | 3*bis*)19.7-20.2 GHz and 29.5-30 GHz | i) Bandwidth overlap, and  ii) any network in the FSS or in the MSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the FSS or in the MSS. |  |  |
|  | 4) 17.3‑17.7 GHz  (Regions 1 and 2) | i) Bandwidth overlap, and  ii) a) any network in the FSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the BSS,  or  b) any network in the BSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the FSS |  |  |

TABLE 5-1 (*continued*)     (Rev.WRC‑19)

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| Reference of Article 9 | Case | Frequency bands (and Region) of the service for which coordination is sought | Threshold/condition | Calculation  method | Remarks |
| No. **9.7** GSO/GSO (*cont.*) |  | 5) 17.7‑17.8 GHz | i) Bandwidth overlap, and  ii) a) any network in the FSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the BSS,  or  b) any network in the BSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the FSS  NOTE – No. **5.517** applies in Region 2. |  |  |
|  |  | 6) 18.0-18.3 GHz (Region 2) 18.1-18.4 GHz (Regions 1 and 3) | i) Bandwidth overlap, and  ii) any network in the FSS or meteorological-satellite service and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the FSS or the meteorological-satellite service |  |  |

TABLE 5-1 (*continued*)     (Rev.WRC‑19)

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| Reference of Article 9 | Case | Frequency bands (and Region) of the service for which coordination is sought | Threshold/condition | Calculation  method | Remarks |
| No. **9.7** GSO/GSO (*cont.*) |  | 6*bis*) 21.4-22 GHz  (Regions 1 and 3) | i) Bandwidth overlap; and  ii) any network in the BSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±12° of the nominal orbital position of a proposed network in the BSS (see also Resolutions **554 (WRC‑12)** and **553 (WRC‑12)**). |  | No. **9.41** does not apply. |
|  |  | 7) Bands above 17.3 GHz, except those defined in § 3), 3*bis*) and 6) | i) Bandwidth overlap, and  ii) any network in the FSS and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±8° of the nominal orbital position of a proposed network in the FSS (see also Resolution **901 (Rev.WRC‑07)**) |  |  |
|  |  | 8) Bands above 17.3 GHz except those defined in § 4), 5) and 6*bis*) | i) Bandwidth overlap, and  ii) any network in the FSS or BSS, not subject to a Plan, and any associated space operation functions (see No. **1.23**) with a space station within an orbital arc of ±16° of the nominal orbital position of a proposed network in the FSS or BSS, not subject to a Plan, except in the case of a network in the FSS with respect to a network in the FSS (see also Resolution **901 (Rev.WRC‑07)**) |  |  |

TABLE 5-1 (*continued*)     (Rev.WRC‑19)

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| --- | --- | --- | --- | --- | --- |
| Reference of Article 9 | Case | Frequency bands (and Region) of the service for which coordination is sought | Threshold/condition | Calculation  method | Remarks |
| No. **9.7** GSO/GSO (*cont.*) |  | 9) All frequency bands, other than those in 1), 2), 2*bis*), 3), 3*bis*), 4), 5), 6), 6*bis)*, 7) and 8), allocated to a space service, and the bands in 1), 2), 2*bis*), 3), 3*bis*), 4), 5), 6), 6*bis*), 7) and 8) where the radio service of the proposed network or affected networks is other than the space services listed in the threshold/ condition column, or in the case of coordination of space stations operating in the opposite direction of transmission | i) Bandwidth overlap, and  ii) Value of ∆*T*/*T* exceeds 6% | Appendix **8** | In application of Article 2A of Appendix **30** for the space operation functions using the guardbands defined in § 3.9 of Annex 5 of Appendix **30**, the threshold/condition specified for the FSS in the bands in 2) applies.  In application of Article 2A of Appendix**30A** for the space operation functions using the guardbands defined in § 3.1 and 4.1 of Annex 3 of Appendix**30A**, the threshold/condition specified for the FSS in the bands in 7) applies |

**Reasons:** Extend the coordination arc to consider MSS in the frequency bands 29.5-30 GHz and 19.7-20.2 GHz.

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