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| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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|  | **Document 7/1005-E** |
| **1 September 2015** |
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| Radiocommunication Study Group 7 | |
| Proposed modifications of Appendix 7 of the radio regulations | |
| Protection of SRS earth stations from aircraft stations  in the 2 200-2 290 MHz band | |
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# 1 Issue

At WRC-07, a new row was added to Table 10 (Annex 7) in Appendix **7** of RR that specifies a 500 km predetermined coordination distance between mobile (aircraft) stations and ground-based stations in the bands in which the frequency sharing situation is not covered in the other rows. Since the current Table 10 does not include a row that specifies the required coordination distance between space research earth stations and mobile (aircraft) stations in the 2  200-2 290 MHz band, the administrations are likely to use 500 km as the coordination distance between these stations.

Previously, in the 2 200-2 290 MHz band, administrations had agreed to use 1 050 km as the predetermined coordination distance between space research earth stations and mobile (aircraft) stations based on the distances specified in Table III, Appendix **S7** of RR (1998), which gave the maximum coordination distance for propagation mode (1), determined by requiring that interference from all sources (line-of-sight and non-line-of-sight) would not exceed the protection criterion of the space research earth stations. Thus, this 1 050-km coordination distance was used for protecting the space research service earth stations from transmissions of aircrafts flying over the ocean surface, where signals would propagate through ducting mechanism and would potentially create interference at the space research stations.

In the current study period, Study Group 7 has adopted Report ITU-R SA.2276, which shows the required separation distances between aircraft stations and several SRS earth stations as a function of aircraft altitudes. The results show that 500 km is not sufficient to protect the SRS earth stations and that actually 880 km would be needed to protect them. Based on these results, Study Group 7 adopted Recommendation ITU-R SA.2078-0 recommending to use 880 km as the coordination distance between SRS earth stations and aircraft stations. Therefore, a new row to the Table 10 (Annex 7) in Appendix **7** of RR needs to be added to state that the required coordination distance between aircraft stations and SRS earth stations should be 880 km in the 2 200-2 290 MHz band.

Under Resolution **74** **(Rev.WRC-03)**, which outlines the process to keep the technical bases of Appendix **7** current, Study Group 7 seeks the view of the Radiocommunication Assembly to confirm the need to modify Appendix 7 coordination parameters. If so under *resolves* 2 of Resolution **74 (Rev.WRC-03)**, the Director of the Radiocommunication Bureau shall identify the matter in the Director’s report to WRC-15.

# 2 Regulatory and procedural considerations

Modify the Table 10/Annex 7/Appendix **7** of RR as shown below.

**MOD**

TABLE 10     (WRC-07)

Predetermined coordination distances

|  |  |  |
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| Frequency sharing situation | | Coordination distance (in sharing situations involving services allocated with equal rights) (km) |
| Type of earth station | Type of terrestrial station |
| Ground-based in the bands below 1 GHz to which No. **9.11A** applies. Ground-based mobile in the bands within the range 1‑3 GHz to which No. **9.11A** applies | Mobile (aircraft) | 500 |
| Aircraft (mobile) (all bands) | Ground-based | 500 |
| Aircraft (mobile) (all bands) | Mobile (aircraft) | 1 000 |
| Ground-based in the bands:  400.15-401 MHz 1 668.4-1 675 MHz | Station in the meteorological aids service (radiosonde) | 580 |
| Aircraft (mobile) in the bands:  400.15-401 MHz 1 668.4-1 675 MHz | Station in the meteorological aids service (radiosonde) | 1 080 |
| Ground-based in the radiodetermination-satellite service (RDSS) in the bands:  1 610-1 626.5 MHz 2 483.5-2 500 MHz  2 500-2 516.5 MHz | Ground-based | 100 |
| Airborne earth station in the radiodetermination-satellite service (RDSS) in the bands:  1 610-1 626.5 MHz 2 483.5-2 500 MHz 2 500-2 516.5 MHz | Ground-based | 400 |
| Receiving earth stations in the meteorological-satellite service | Station in the meteorological aids service | The coordination distance is considered to be the visibility distance as a function of the earth station horizon elevation angle for a radiosonde at an altitude of 20 km above mean sea level, assuming 4/3 Earth radius (see Note 1) |
| Non-GSO MSS feeder‑link earth stations (all bands) | Mobile (aircraft) | 500 |
| Receiving earth stations in the space research service in the band: 2 200-2 290 MHz | Mobile (aircraft) | 880 |
| Ground-based in the bands in which the frequency sharing situation is not covered in the rows above | Mobile (aircraft) | 500 |

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