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INTERNATIONAL TELECOMMUNICATION UNION

PLENARY MEETING

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Working Group 5

PROPOSED MODIFICATIONS TO THE DRAFT CPM REPORT

CHAPTER 5, AGENDA ITEM 9.3

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

*9.3 on action in response to Resolution **80 (Rev.WRC-07)**;*

Resolution **80** (**Rev.WRC-07**): *Due diligence in applying the principles embodied in the Constitution*

5/9.3/1 Executive summary

WRC-15 agenda item 9.3 references Resolution **80 (Rev.WRC-07)**. *Resolves 1* of this Resolution instructs the Radiocommunication Sector to, *inter alia*, conduct studies on procedures for measurement and analysis of the basic principles contained in Article 44 of the Constitution.

The scope of ITU-R has been to conduct its work with a view to fulfilling the referenced principles in Article 44 of the Constitution. In this respect it has conducted many analyses to 1) provide for equitable access to the geostationary-satellite orbit (GSO), and 2) adopt Reports and Recommendations which promote efficient use of the GSO.

5/9.3/2 Background

Resolution **80**, *Due Diligence in Applying the Principles Embodied in the Constitution*, was first adopted by WRC-97 and subsequently revised by WRC-2000 and WRC-07. Each version of Resolution **80** has instructed the Radio Regulations Board (RRB) either to develop Rules of Procedure, conduct studies, or consider and review possible draft recommendations related to linking the principles contained in No. **0.3** of the Preamble to the Radio Regulations (RR) to the notification, coordination and registration procedures in the RR and to report to a subsequent WRC. In the case of Resolution **80 (Rev.WRC-07)**, these linkages were extended to include the principles contained in Article 44 of the Constitution. The 2007 revision of this Resolution pointed out that some of the issues identified in the RRB report to WRC-2000 had been resolved before WRC-07. Throughout its existence, Resolution **80** has related to the use of the radio-frequency spectrum and the satellite orbital resources.

5/9.3/3 Summary of technical and operational studies, including a list of relevant ITU-R Recommendations

5/9.3/3.1 Equitable access to the GSO

The RR, in general, have been developed so as to enable all administrations to apply the provisions pertaining to access to the GSO in a uniform manner. In addition, due to concerns that some administrations may be somehow disadvantaged in the application of these provisions, the RR Appendices **30**, **30A**, and **30B** are intended to provide for a guarantee of access to the GSO by all Member States of the ITU. RR Appendices **30** and **30A** were designed to provide for the guaranteed use of frequencies from GSO positions for the transmissions of BSS. Similarly, RR Appendix **30B** was designed to provide a guarantee of access to spectrum allocated to the FSS for use from orbital positions on the GSO. Within the RR Appendix **30B** Plan, there is 1 600 MHz of spectrum (800 MHz uplink/800 MHz downlink) for each Member State of the ITU.

5/9.3/3.2 Efficient use of the GSO

During the last 30 years WP 4A and its predecessor IWP 4/1 has carried out numerous analyses to improve the efficient use of the GSO spectrum resource. As a testimony to the success of these efforts, there are today over 200 communication satellites operating in orbit. This has been accomplished through a variety of techniques and through approval of numerous ITU-R Recommendations and Reports. These include, for example:

a. Station Keeping tolerance of +/-0.1 degrees, see Recommendation ITU-R S.484 "Station keeping in longitude of geostationary satellites in the fixed-satellite service".

b. Earth station off-axis antenna gain patterns, see Recommendations ITU-R S.465 "Reference radiation pattern of earth station antennas in the fixed-satellite service for use in coordination and interference assessment in the frequency range from 2 to 31 GHz" and ITU-R S.1855 "Alternative reference radiation pattern for earth station antennas used with satellites in the geostationary-satellite orbit for use in coordination and/or interference assessment in the frequency range from 2 to 31 GHz".

c. Implementation of a coordination arc in RR Appendix **5**. Study being conducted to analyze impact of reduction in coordination arc to further simplify coordination.

d. Specification of earth station off-axis power levels, see Recommendation ITU-R S.524 "Maximum permissible levels of off-axis e.i.r.p. density from earth stations in geostationary-satellite orbit networks operating in the fixed-satellite service transmitting in the 6 GHz, 13 GHz, 14 GHz and 30 GHz frequency bands".

e. Adaptive power control standards, see Recommendation ITU-R S.1255 "Use of adaptive uplink power control to mitigate codirectional interference between geostationary-satellite orbit/fixed-satellite service (GSO/FSS) networks and feeder links of non-geostationary satellite orbit/mobile satellite service (non-GSO/MSS) networks and between GSO/FSS networks and non-GSO/FSS networks".

f. Sharing methodologies, see Recommendation ITU-R S.1593 "Methodology for frequency sharing between certain types of homogeneous highly-elliptical orbit non-geostationary fixed-satellite service systems in the 4/6 GHz and 11/14 GHz frequency bands".

g. Polarization standards, see Recommendation ITU-R S.736 "Estimation of polarization discrimination in calculations of interference between geostationary-satellite networks in the fixed-satellite service".

h. Updates on service requirements for newer digital modulation techniques, see Recommendation ITU-R S.1782 “Possibilities for global broadband internet access by fixed-satellite service systems”.

5/9.3/3.3 Seminars/Workshops

In addition to the above, the ITU-R Sector has sponsored a number of Workshops and Seminars such as the one held in June 2013 which addressed the prevention of harmful interference to the FSS. These events organised by the Radiocommunication Bureau (BR) provide opportunities for disseminating knowledge of the coordination and notification procedures and for sharing best practices among administrations.

5/9.3/4 Regulatory and procedural considerations

Resolution **80 (Rev.WRC-07)** has been assigned to various groups such as the Radiocommunication Advisory Group, Working Party of the Special Committee, Working Party 4A, as well as RRB and previous WRCs without specific results to address the issue raised in this Resolution. As such, it may be time to decide on the retention or otherwise of this Resolution.