

Chapter 4B: Satellite Regulations Issues

<i>Agenda Item (AI)</i>	WRC-23 Outcomes	Qualitative assessment of the outcome in respect of the AfCP
<p>AI 7 Topic A Tolerances for certain orbital characteristics of non-GSO space stations in the FSS, BSS, and MSS</p>	<p>WRC-23 decided that for an NGSO constellation lower than 2 000 km, an administration could deploy its satellites within a range of +/- 70 km from the notified altitude, and variation of inclination less than 2 degree or between 70 km & 100 km and inclination between 2 & 3 degrees subject to demonstration that these satellites will not create more interference (1st step). As soon as a satellite is used for BIU, BBIU or Milestone under Resolution 35, these satellites could not move from their current deployed altitude for more than +/- 30 km and inclination variation less than 2 degrees (2nd step). At the end of the Milestone process, the administration shall update its notification to fully align the MIFR data with its deployed orbital parameters. For NGSO constellations with altitude greater than 2000 km, the same mechanism applies but with the respective values of 5% - 10% and 3 – 4 degrees for the 1st step. For the 2nd step, it is still required to respect the altitude tolerance of 30 km but with an inclination variation less than 3 degree.</p>	<p>The WRC-23 decision is a compromise position between administrations which proposed tolerances of between 70-100 km and those who proposed tolerances between 30-50 km with a 2 steps approach. ATU had agreed on the issue of having tolerances not imposing restrictions on operational systems yet not encouraging spectrum and orbital resources warehousing.</p> <p>Therefore, the decision taken at WRC-23 is very much aligned to the spirit of the AfCP (African common proposal/position).</p>

<p>AI 7 Topic B Post-milestone reporting procedure for non-GSO systems</p>	<p>A post-milestone solution was agreed by WRC-23 and added in the Resolution 35. These post-milestone procedures propose to:</p> <ul style="list-style-type: none"> • Submit a report every year, for information purpose only, indicating all events regarding modification of the altitude of specific satellites (date of the beginning and of the end of the event, reason) • Submit a report every 4 years with a snapshot of the constellation at the time of the report submission. If the number of satellites in this report is below the threshold as defined in the Resolution, the number of satellites deployed shall be above the threshold at the subsequent report in 4 years. If the number of satellites deployed is still below the threshold at the subsequent report, the total number of satellites as contained in the MIFR shall be reduced to the total number of satellites as indicated in the last report. <p>The annual report will permit to collect deployment data to permit the review of the post-milestone procedure at a subsequent WRC but certainly not before WRC-31.</p>	<p>There was no AfCP on this issue.</p>
<p>AI 7 Topic C Protection of geostationary satellite networks in the MSS operating in 7/8 & 20/30 GHz from emissions of the Non-Geostationary Satellite systems</p>	<p>The conference decided on to amend Article 5 to reflect the protection of GSO MSS from NGSO satellite systems in the military X- and Ka-bands, where the alternative was Article 22 through a new provision “22.2bis”. New footnotes in Article</p>	<p>This decision has incorporated AfCP in so far as the concept of Article 22 was made an alternation through a new provision 22.2bis.</p>

<p>operating in the same frequency bands and identical directions</p>	<p>5 are to be added for 7375-7750 MHz and 20.2-21.2 GHz / 30-31 GHz, and to amend existing footnote for 7250-7375 MHz and 7900-8025 MHz (5.461).</p> <p>In addition, NGSO satellite systems in the subject bands will need to specify how to protect GSO FSS/MSS, in terms of maximum eirp, pfd in the direction of the GSO and GSO exclusion zone angle. Worth noting is that these new data elements are to be provided as information to allow GSO administrations to get a better understanding how GSO will be protected, no hard limits.</p>	
<p>AI 7 Topic D Modifications to Appendix 1 to Annex 4 of Appendix 30B</p>	<p>All 3 sub-topics under this topic were approved as they all had one proposed method.</p>	<p>The WRC-23 outcome is aligned to AfCP.</p>
<p>AI 7 Topic E Improved procedures under RR Appendix 30B for new ITU Member States.</p>	<p>WRC-23 adopted new measures to facilitate the addition of new MS will the Plan. The new measures include processing the requests from new administrations ahead of other submissions and applying modified Resolution 170.</p>	<p>The outcome is aligned to the AfCP. SSD has been admitted to the Plan Bands.</p>
<p>AI 7 Topic F Impact of excluding feeder-link/Up-link service and coverage areas in the bands subject to RR Appendix 30A and RR Appendix 30B</p>	<p>WRC-23 has modified Article 4 relating to Appendix 30A by defining the service area and the coverage area. WRC-23 also adopted the new procedure relating to the parameters that must be used by the BR for calculation of the minimum</p>	<p>WRC-23 outcome is aligned to AfCP in so far as the definition of the service and coverage area, the minimum ellipse derivation parameters, and the relocation of uplink test points.</p>

	<p>ellipse in case of continuous disagreement by MS.</p> <p>Article 6 of the RR has also been modified to allow for relocation of uplink test points without causing harmful interference.</p>	
<p>AI 7 Topic G: Revisions to Resolution 770 (WRC-19) (GSO PROTECTION FROM SINGLE ENTRY NON-GSO IN Q/V BANDS) to allow its implementation.</p>	<p>Resolution 770 was amended to fulfil the two requirements being:</p> <ul style="list-style-type: none"> • To allow for administrations to resubmit input data for the NGSO satellite system once the software is available to administrations. • Annex 2 containing the methodology was suppressed and the methodology has been implemented through a recommendation instead, to allow flexible version control of the propagation models (P.618) used in the methodology to compute rain fade, and not request a WRC to amend Res770 whenever there's an update to P.618. 	<p>This is aligned to AfCP which proposed exactly what has been adopted by WRC-23.</p>
<p>AI 7 Topic H: Enhanced protection of RR Appendices 30/30A in Regions 1 and 3 and RR Appendix 30B</p>	<p>Regarding issues A, WRC-23 adopted the removal of the concept of implicit agreement by replacing it with the concept of special agreement. Articles 4, Article 6 and Article 8 of AP30B were modified to reflect this concept.</p>	<p>The outcome of Issue A dealing with removal of implicit agreement is aligned to the ATU proposal.</p> <p>The outcome of Issue B dealing with EPM trigger point is not aligned to the AfCP.</p> <p>The outcome is a NOC on this issue.</p>

	Regarding issue B of enhanced protection of the Plans, a no change was adopted.	
AI 7 Topic I: Special Agreements under RR Appendix30B.	WRC-23 adopted new procedures under special agreements by adding a new provision under Article 6 of AP30B and modifying some provisions under the same article to allow for MS to enter into agreements with the notifying administration committing to respect the power flux-density limits of the administration of the allotment and thus preserving the EPM of the allotment. Article 10 of AP30B has also been modified to reflect the said changes.	The outcome of WRC-23 is fully aligned to the AfCP on this topic.
AI 7 Topic J: Modification to Resolution 76 (Rev. WRC-15).	WRC-23 modified Resolution 76 by establishing consultation meetings where administrations of nGSO FSS systems will collaborate GSO system administration to ensure protection of GSO FSS and BSS systems. These consultation meetings will be focused on ensuring that nGSO systems comply to epdf levels as per the RR.	The WRC-23 outcome is aligned to the AfCP on this topic.
AI 7 Topic K: Modification to Resolution 553 (Rev.WRC-15) to ensure equitable access to the frequency band 21.4-22 GHz	WRC-23 approved modification of Res 553 to ensure equitable access in accordance with the ITU constitution and convention.	The WRC-23 outcome is aligned to the AfCP.