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| **EACO 2nd WRC-23 Online Preparatory Meeting**17th – 19th August 2021 |

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**Chapter 4A - South Sudan**

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| **Agenda Item 1.18 (New Primary Allocation to FSS in Region 2)** |
| ***Part A: Description*** |
| *to consider a new primary allocation to the fixed-satellite service in the space-to-Earth direction in the frequency band 17.3-17.7 GHz in Region 2, while protecting existing primary services in the band, in accordance with Resolution* ***174******(WRC‑19)****;* |
| ***Part B: Key Elements – the notables*** |
| 1. Resolution**174 (WRC‑19):** Primary allocation to the fixed-satellite service in the space-to-Earth direction in the frequency band 17.3-17.7 GHz in Region 2.
2. Resolution 174 (WRC-19) resolves to invite ITU-R: to conduct, and complete in time for WRC-23, sharing and compatibility studies between the FSS (space-to-Earth) and the BSS (space-to-Earth) and between the FSS (space-to-Earth) and the FSS (Earth-to-space), in order to consider a possible new primary allocation to the FSS (space-to-Earth) in the frequency band 17.3-17.7 GHz for Region 2, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands, as appropriate, and without imposing any additional constraints on existing allocations to the BSS (space-to-Earth) and the FSS (Earth-to space),
3. FSS systems based on the use of new technologies associated with geostationary satellite systems are capable of providing high-capacity and low-cost means of broadband communication even to the most isolated regions of the world;
4. The frequency band 17.3-17.7 GHz is allocated in Region 2 on a primary basis to the broadcasting-satellite service (BSS) (space-to-Earth) and to the FSS (Earth-to-space), subject to the application of No. 5.516,
5. In Region 1 where the band is already allocated to the FSS in both directions, a new similar allocation in Region 2 may progresses the principle of regional harmonization between R1 and R2, which allows for synchronization of frequency bands across both Regions. The consideration of Recommendation ITU-R BO.1834 and Recommendation ITU-R BO.1835, which addresses compatibility and sharing between the broadcasting-satellite service (BSS) networks using the Region 2 17.3-17.8 GHz BSS allocation and feeder links of BSS networks using the worldwide 17.3-17.8 GHz fixed-satellite service (FSS) (Earth-to-space) allocation, is well suited for addressing an approach to study the proposed FSS (space-to-Earth) allocation with existing feeder links of BSS networks using 17.3-17.8 GHz band.
6. The possibility of an FSS (space-to-Earth) allocation in Region 2 is intended to provide satellite operators, the flexibility to satisfy BSS or FSS service demand in the same frequency band indistinctly and in many cases without the necessity to use exclusive payloads depending on the service. It is important to note that nowadays, many satellite operators already provide both kinds of services as satellite manufacturers are developing many flexible payload designs which allows for operators to target markets in this very dynamic spectrum environment.
7. The responsible group for this agenda item as designated by CPM23-1 is WP4A
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| ***Part C: Status of the Bands under consideration*** |
| ***PART A – Article 5 of the Radio Regulations***

| Allocation to services |
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| Region 1 | Region 2 | Region 3 |
| 17.2-17.3 EARTH EXPLORATION-SATELLITE (active)  RADIOLOCATION  SPACE RESEARCH (active)  5.512 5.513 5.513A |
| 17.3-17.7FIXED-SATELLITE(Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516BRadiolocation5.514 | 17.3-17.7FIXED-SATELLITE(Earth-to-space) 5.516BROADCASTING-SATELLITERadiolocation5.514 5.515 | 17.3-17.7FIXED-SATELLITE(Earth-to-space) 5.516Radiolocation5.514 |
| 17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.517A (Earth-to-space) 5.516 MOBILE | 17.7-17.8 FIXED FIXED-SATELLITE (space-to-Earth) 5.517 5.517A (Earth-to-space) 5.516 BROADCASTING-SATELLITEMobile 5.515 | 17.7-18.1 FIXED FIXED-SATELLITE  (space-to-Earth) 5.484A 5.517A (Earth-to-space) 5.516 MOBILE |
| 17.8-18.1 FIXED FIXED-SATELLITE(space-to-Earth) 5.484A 5.517A(Earth-to-space) 5.516 MOBILE 5.519 |

***PART B – AfriSAP***

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| **ITU Region 1 allocations and footnotes** | **Africa Common Allocation(s) and footnotes** | **Typical Applications** | **Additional information** |
| 17.2-17.3 GHzEARTH EXPLORATION-SATELLITE (active)RADIOLOCATIONSPACE RESEARCH (active)5.512 5.513 5.513A | 17.2-17.3 GHzEARTH EXPLORATION- SATELLITE (active)RADIOLOCATION SPACE RESEARCH (active)5.512[AddA17] 5.513A | WAS/RLAN (17.1-17.3 GHz) |  |
| 17.3-17.7 GHzFIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516BRadiolocation5.514  | 17.3-17.7 GHzFIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516BRadiolocation5.514[AddA6] | Broadcasting satellite systems feeder links | The band 17.3-17.7 GHz is part of the APP30A Plan (Feeder Links for BSS) for many countries; refer to Annex C.Res.143 applies applies for HDFS. |
| 17.7-18.1 GHzFIXEDFIXED-SATELLITE (space-to-Earth) 5.484A 5.517A (Earth-to-space) 5.516MOBILE | 17.7-18.1 GHzFIXEDFIXED-SATELLITE (space-to-Earth) 5.484A 5.517A (Earth-to-space) 5.516 | Fixed links - 18 GHz (17.7-19.7 GHz)ESIM (under the FSS) Broadcasting satellite systems feeder links  | Channelling plan for 18 GHz band in accordance with ITU-R Rec. F.595 Annex 1 Res 169 (WRC-19) applies for ESIM. |

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| ***Part D: Conclusions of the Results of Studies if any*** |
| 1. WRC-23 agenda item 1.19 proposes some possible modifications to the ITU Radio Regulations:
2. New primary FSS (space-to-Earth) allocation in Region 2 in the frequency allocation table in the 17.3-17.7 GHz band.
3. Modification to RR footnote No. 5.515: Introduce the FSS (space-to-Earth) to protect the existing FSS AP30A (Earth-to-space) in the same way that BSS protects FSS (Earth-to-space) today.
4. Extend the use of RR footnote No. 5.516A to Region 2 to not limit the deployment of FSS AP30A, earth stations in Region 2.
5. Extend the Article 22 framework to include Limits to the epfd↓ and epfd is radiated by non-geostationary-satellite systems in the fixed-satellite service for the frequency range 17.3-17.8 GHz for protection of GSO FSS/BSS and FSS limited to BSS Feeder link satellite systems, respectively.
6. WP4A created 2 important output documents at the last meeting held in July 2021 as follows:
7. Elements towards a working document on WRC-23 agenda item 1.16 [NON-GSO\_ESIM] which include the technical characteristics for NGSO ESIM to be used in the sharing and computability studies as a compilation of all the input contributions related to this agenda item
8. Draft CPM text.
9. However, the contents of these documents were not fully discussed and agreed at this stage, the document were simply carried forward for consideration by the next WP 4A meeting.
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| ***Part E: Options and Associated Implications***  |
| **Method A**: Under this method, no change is proposed to the RR**Method B**: Allocation of the frequency band 17.3-17.7 GHz in Region 2 to the fixed-satellite service in the space-to-Earth direction. |
| ***Part F: Proposed EACO Preliminary View and or Position***  |
| 1. Support the development of the necessary regulatory procedures including the technical and operational procedures to ensure the protection for existing services in band and the adjacent band.
2. As a matter of principle, any new primary allocation to FSS in the frequency band 17.3-17.7 GHz in Region 2 shall ensure the protection of existing services in the frequency band and adjacent bands in Region 1 and not create undue constraints on future developments of services in this band. In particular, any new allocation in R2 in the band 17.3-17.7 GHz, shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix 30A, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link.
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| ***Part G: Recommendations and way forward*** |
| EACO member states should follow and actively participates in the discussions and ongoing studies at ITU-R to ensure the protection of existing services in the frequency band and adjacent bands in the ATU region. |
| ***Part G: Other Regional Groups and International Organisations Preliminary Views or Positions*** |
| **APT:** * APT Members are of the view that any studies at ITU-R related to Agenda Item 1.19 needs to ensure protection of the services to which the bands are allocated in the same and adjacent bands.

**ASMG:** * Follow up studies and make sure that any new allocation in Region 2 will ensure the protection of existing services in the frequency band and adjacent bands in Region 1.
* Provide the necessary regulatory procedures including the technical and operational procedures to ensure the protection for existing services in band and the adjacent band.

**CEPT:** * Given that frequency band 17.3‐17.7 GHz is allocated to FSS (space to Earth) in Region 1, CEPT would support a similar allocation in Region 2 which facilitates the use of spectrum available to networks and systems in the FSS in different Regions, if the studies show that the new allocation is feasible.

**CITEL:** * Some administrations support the proposal to study a new FSS allocation in the space-to-Earth direction in the frequency band 17.3-17.7 GHz for Region 2 while ensuring the protection of existing primary services in this band and the adjacent bands.
* An administration supports studies, in accordance with Resolution 174 (WRC-19), to develop appropriate regulatory provisions and coordination mechanisms to protect Appendix 30A BSS feeder links, BSS downlinks while also ensuring the protection of existing primary services in this band and the adjacent bands, as appropriate, to facilitate a new FSS downlink allocation in the frequency range 17.3-17.7 GHz in Region 2.

**RCC** * The RCC Administrations are of the view that when considering a new primary allocation to the fixed-satellite service in the space-to-Earth direction in the frequency band 17.3−17.7 GHz in Region 2 existing services in Region 1 in the main and adjacent bands shall be protected.
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