****

***Communications for all in East Africa***

**1st EACO wrc-23 preparatory meeting (12/11/2020)**

CHAPTER 3 (Science issues)

|  |
| --- |
| **Input Document to EACO WG Meeting** |
|  |
| **“Contribution by Uganda-AI coordinator”** |

**Agenda Item 1.12**

|  |
| --- |
| ***Part A: Description*** |
| *to conduct, and complete in time for WRC 23, studies for a possible new secondary allocation to the Earth exploration-satellite (active) service for spaceborne radar sounders within the range of frequencies around 45 MHz, taking into account the protection of incumbent services, including in adjacent bands, in accordance with Resolution 656 (Rev.WRC-19);****Resolution 656 (Rev.WRC-19) – Possible secondary allocation to the Earth exploration-satellite service (active) for space borne radar sounders in the range of frequencies around 45 MHz*** |
| ***Part B: Key Elements – the notables status of band*** |
| Considering the band range 42-50MHz, accommodated services include Fixed and Mobile on primary basis, Broadcasting in the range 47-50MHz. However these are bands are not utilized in the region |
| ***Part C: Current Status of AI*** |
| 1. World Meteorological Organization (WMO) provided its preliminary position on WRC-23 agenda item 1.12. It supports completion of studies to ensure compatibility of incumbent radio services with a view of creating secondary allocation to the EESS (active) at WRC-23.
2. In response to liaison statement issued by WP7C, Working Parties 5A, 5B and 5C and 6A provided their relevant technical and operational characteristics and protection criteria with respect to systems currently operating or intended to operate in the frequency band 40-50 MHz and adjacent frequency bands. WP7C will use the information for sharing and compatibility studies.
3. Final edits were made to Report ITU-R RS.2455 that provides a static and dynamic analysis methodology for determining the degree of compatibility between a space borne 45 MHz radar sounder as described in Recommendation ITU‑R RS.2042-1 and incumbent fixed, mobile, broadcasting, space research, and radiolocation services over the 40-50 MHz frequency band.

The edit included inclusion of results from dynamic simulations of radio frequency interference (RFI) coming from a space borne very high frequency (VHF) sounder interferer over the 40-50 MHz band to the incumbent services over this band. |
| ***Part D: Status of studies*** |
| *Studies are ongoing* |
| ***Part F: Proposed East Africa Common View and/or Position*** |
| *Follow and support studies with intent of ensuring that incumbent services are protected.*  |
| ***Part G: Recommendations and Way Forward*** |
| *Support ongoing studies with a view of protecting incumbent services and those adjacent to the affected band(s)* |

|  |
| --- |
| **Input Document to EACO WG Meeting** |
|  |
| **“Contribution by Uganda-AI coordinator”** |

**Agenda Item 1.13**

|  |
| --- |
| ***Part A: Description*** |
| *to consider a possible upgrade of the allocation of the frequency band 14.8-15.35 GHz to the space research service, in accordance with Resolution 661 (WRC-19);****Resolution 661 (WRC-19) – Examination of a possible upgrade to primary status of the secondary allocation to the space research service in the frequency band 14.8-15.35 GHz*** |
| ***Part B: Key Elements – the notables and status of band*** |
| The band is currently utilized for deployment of Microwave links. |
| ***Part C: Current Status of AI*** |
| 1. WP 7B sent a liaison statement to WP7C [7C/23](https://www.itu.int/md/R19-WP7C-C-0023/en) requesting information on the relevant technical and operational characteristics, as well as protection criteria, of the systems under their purview operating in the 15.35-15.4 GHz frequency band.

In response to the liaison statement, WP7C informed WP 7B that there are currently no characteristics of Earth exploration-satellite service (EESS) (passive) systems available for this band. 2)WP 7B is yet to receive a reply liaison statement from Working Parties 5A, 5B and 5C on providing the relevant technical and operational characteristics of the systems under their purview operating in the 14.8-15.35 GHz frequency band.3) WP7B is yet to receive a rely liaison statement from Working Parties 7C and 7D on the relevant technical and operational characteristics of the systems operating in the adjacent band, 15.35-15.4 GHz.4) WP7Bis yet to receive a reply liaison statement from WP3M on the relevant propagation models that could be used for the studies.  |
| ***Part D: Conclusion of the results of studies, if any*** |
| *The Studies are ongoing* |
| ***Part F: Proposed East Africa Common View and/or Position*** |
| *Follow and support studies with intent of ensuring that incumbent services are protected.* |
| ***Part G: Recommendations and Way Forward*** |
| *Support ongoing studies with a view of protecting incumbent services and those adjacent to the affected band(s).* |

|  |
| --- |
| **Input Document to EACO WG Meeting** |
| **“Contribution by Uganda-AI coordinator”** |

**Agenda Item 1.14**

|  |
| --- |
| ***Part A: Description*** |
| to review and consider possible adjustments of the existing or possible new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz, to ensure alignment with more up-to-date remote-sensing observation requirements, in accordance with Resolution 662 (WRC-19);***Resolution 662 (WRC-19) – Review of frequency allocations for EESS (passive) in the frequency range 231.5-252 GHz and consider possible adjustment according to observation requirements of passive microwave sensors*** |
| ***Part B: Key Elements – the notables and status od band*** |
| The 2311.5-252GHz band accommodates several services, however there are no specific use cases in EACO member states, at least not for Uganda |
| ***Part C: Current Status of AI*** |
| 1. WP 7C developed a first draft for a reference document, called “ELEMENTS *RELATED TO WRC-23 AGENDA ITEM 1.14*”. The documents provide: -
* Radiocommunication services having allocations in the frequency range 231.5-252 GHz;
* EESS (passive) service and applications within 231.5-252 GHz frequency range and;
* Technical characteristics of the active services in relevant frequency bands
1. WMO provided its preliminary position on WRC-23 agenda item 1.14. It supports conducting studies to align or adding possible new allocations to the EESS (passive) in 231.5-252 GHz with current operational requirements.
2. WP 7C had sent liaison statements to WP 5A, 5B and 5C requesting for technical and operational characteristics, as well as protection criteria, with respect to their systems operating in the frequency band 231.5-252 GHz and adjacent frequency bands.

In response to the liaison statements, WP5A, 5B, 5C indicated that there are currently no ITU-R documents that describe the respected services technical and operational characteristics for the frequency band 231.5-252 GHz.1. WP 7C considered a liaison statement from WP 7D raising potential collateral effect of this agenda item on RAS (Radio Astronomy Service) usage and possible new RAS identification in the EESS (passive) allocation that would result from WRC-23 agenda item 1.14.

WP 7C in a reply liaison statement informed WP 7D on the status of discussions on this WRC-23 agenda item 1.14. |
| ***Part D: Conclusion of the results of studies, if any*** |
| *The Studies are ongoing* |
| ***Part F: Proposed East Africa Common View and/or Position*** |
|  *Follow and support studies to review and possibly adjust existing allocation in the EESS for possible alignment with modern remote sensing systems.* |
| ***Part G: Recommendations and Way Forward*** |
| *Support ongoing studies with a view of protecting incumbent services and those adjacent to the affected band(s).* |

CHAPTER 5 (General issues)

|  |
| --- |
| **Input Document to EACO WG Meeting** |
|  |
| **“Contribution by Uganda-AI coordinator”** |

**Agenda Item 9.1 issue A**

|  |
| --- |
| ***Part A: Description*** |
| *In accordance with Resolution 657 (Rev.WRC-19), review the results of studies relating to the technical and operational characteristics, spectrum requirements and appropriate radio service designations for space weather sensors with a view to describing appropriate recognition and protection in the Radio Regulations without placing additional constraints on incumbent services****Resolution 657 (Rev.WRC-19) – Protection of radio spectrum-reliant space weather sensors used for global prediction and warnings*** |
| ***Part B: Key Elements – the notables*** |
| ***Resolution 657 (Rev.WRC-19) invites ITU-R:***1. to identify, in time for WRC-23, and based upon existing and possible further ITU-R studies on the technical and operational characteristics, specific space weather sensors which need to be protected by appropriate regulation. This includes determining if receive-only space weather sensors shall be designated as applications of the Metaids services, to determine the appropriate Radiocommunication service, if any, for cases where it is determined that receive-only space weather sensors do not fall under the Metaids service
2. to conduct, in time for WRC-23, any necessary sharing studies with incumbent systems operating in frequency bands used by space weather sensors with the objective of determine potential regulatory provisions that can be provided to receive-only operational space weather sensors for their appropriate recognition in the Radio Regulations, while not placing additional constraints on incumbent services
3. to develop potential solutions to describe in the Radio Regulations in Articles 1 and 4 and/or as a WRC resolution, if deemed appropriate, for consideration by WRC-23, space weather sensor systems and their corresponding usage, as well as protection requirements for receive-only space weather sensors
4. to conduct studies, in time for WRC-23, on the technical and operational characteristics of active space weather sensors and conduct necessary sharing studies with incumbent systems operating in frequency bands used by active space weather sensors, with the objective of determining the appropriate radiocommunication service for those sensors.

***Note:*** *Notable the discussion on this issue should not lead to major changes in the RR. Should explore addressing pertinent requirements in appropriate ITU-R RECs or handbooks* |
| ***Part C: Current Status of AI*** |
| WP 7C has established progress on the agenda item see DOC 7C/105-E (WP 7C chairman’s report). |
| ***Part D: Conclusion of the results of studies, if any*** |
| *The studies are ongoing (WMO, IARU, CEPT-PTA have expressed interest, with WMO submitting contributions).* |
| ***Part F: Proposed East Africa Common View and/or Position*** |
| *Follow and support studies* |
| ***Part G: Recommendations and Way Forward*** |
|  *Follow and support studies with intent of ensuring that incumbent services are protected.* |

|  |
| --- |
| **Input Document to EACO WG Meeting** |
|  |
| **“Contribution by Uganda-AI coordinator”** |

**Agenda Item 9.1 issue D**

|  |
| --- |
| ***Part A: Description*** |
| WRC-23 AI 9.1d) (Protection of EESS (passive) in the frequency band 36-37 GHz from non-GSO FSS space stations). |
| ***Part B: Key Elements – the notables and status of band*** |
| Among the studies considered under WRC-19 agenda item 1.6, a preliminary study on the protection of EESS (passive) sensors operating in the 36-37 GHz was submitted to the ITU-R. This preliminary study indicated that it may be necessary to not exceed an out-of-band e.i.r.p. of −34 dBW/100 MHz, for all angles greater than 71.4 degrees from nadir, for FSS non-GSO space stations operating in the frequency band 37.5-38 GHz. In addition, interference into the cold calibration channel of the EESS (passive) sensor operating in the frequency band 36-37 GHz has not been studied. **WRC-19 invites ITU-R to conduct further study of this topic and develop Recommendations and/or Reports, as appropriate, and report back to WRC-23 to take action, if necessary.**Within EACO the band is majorly for Microwave links (38GHz band) |
| ***Part C: Current Status of AI*** |
| WP 7C developed a liaison statement to WP 4A ([4A/74](https://www.itu.int/md/R19-WP4A-C-0074/en)) on the issue of the protection of EESS (passive) in the band 36-37 GHz from unwanted emissions of NGSO FSS systems operating in the band 37.5-38 GHz. This liaison statement requests additional information on parameters, including unwanted emission masks, to be considered in the studies under this agenda item.  |
| ***Part D: Conclusion of the results of studies, if any*** |
| *The Studies are ongoing:* |
| ***Part F: Proposed East Africa Common View and/or Position*** |
| Support and follow studies |
| ***Part G: Recommendations and Way Forward*** |
| *Follow and support studies with intent of ensuring that incumbent services are protected especially in bands heavily deployed for Microwave links (major backhauling systems).* |