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| APTlogogreen3 | ASIA-PACIFIC TELECOMMUNITY | **Document No:**  |
| **The 3rd Meeting of the APT Conference Preparatory Group for WRC-19 (APG19-3)** | **APG19-3/OUT-17** |
| 12 - 16 March 2018, Perth, Australia | **15 March 2018** |

Working Party 3

**PRELIMINARY VIEWs on WRC-19 agenda item 9.1 Issue 9.1.9**

**Agenda item 9.1 - Issue 9.1.9:**

*Studies relating to spectrum needs and possible allocation of the frequency band 51.4-52.4 GHz to the fixed-satellite service (Earth-to-space), in accordance with Resolution* ***162 (WRC-15)****.*

**1. Background**

WRC-19 agenda item 9.1, issue 9.1.9, in accordance with Resolution **162 (WRC-15)**, invites ITU-R to conduct studies relating to spectrum needs and possible allocation of the frequency band 51.4-52.4 GHz to the fixed-satellite service (Earth-to-space) limited to feeder links for geostationary satellite orbit use.

Working Party 4A (WP 4A) has been identified as the responsible ITU-R group for the studies on WRC-15 Agenda item 9.1, issue 9.1.9. Until its latest WP4A meeting in February/March 2018, following documents were developed:

* Draft new Report ITU-R S. [Specrum\_needs] (Attachment in document 4A/675), which conclude that the additional allocation to FSS being considered is beneficial to make broadband connections more accessible to communities regardless of their geographical location and with more affordable costs as achieved by HTS (High throughput Satellite) systems;
* Preliminary draft new Report ITU-R S.[Spectrum\_Sharing] (Annex 3 to document 4A/675), which address the compatibility between FSS and existing services currently allocated as FS, MS, RAS in the same bands and as EESS (passive), SRS (passive)，RAS in the adjacent bands. Preliminary conclusion has been drawn that with appropriate separation distance, FSS and FS, MS (IMT-2020 application) and RAS could share the same frequency band. However, compatibility studies between FSS and EESS (passive) in adjacent band is still on-going;
* Working document towards draft CPM text for WRC-19 agenda item 9.1, issue 9.1.9 (Annex 52 to document 4A/675), which include consideration to make an allocation of the frequency band 51.4-52.4 GHz to the fixed-satellite service (Earth‑to‑space) under the condition of compatibility with existing services currently allocated based on the results of ITU-R studies, and relevant regulatory considerations are also included*.*

**2. Documents**

* Input Documents: APG19-3/ INP-23 Rev.1 (KOR), APG19-3/INP-43 (AUS), APG19-3/INP-88 (CHN)
* Information Documents: APG19-3/INF-06 (CEPT), APG19-3/INF-08 Rev.1 (CITEL)

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Korea (Rep. of)** - **Document APG19-3/INP-23**

The Republic of Korea proposes modifications to the APT Preliminary View adopted at the APG19-2 as stated below:

APT Members support further studies relating to spectrum needs, sharing and compatibility between fixed-satellite service in the frequency band 51.4-52.4 GHz and other co-frequency, and adjacent band services in accordance with Resolution **162 (WRC-15)**.

APT Members are of the view that consideration of an allocation to the fixed-satellite service (Earth-to-space) in the frequency band 51.4-52.4 GHz limited to feeder links for geostationary satellite orbit use is subject to satisfactory outcomes of ITU-R studies related to spectrum needs and compatibility with existing services allocated to the same and adjacent bands.

**3.1.2 Australia**- **Document APG19-3/INP-43**

Australia supports an allocation to the fixed-satellite service (Earth-to-space) in the frequency band 51.4-52.4 GHz, subject to satisfactory outcomes of ITU-R studies related to spectrum needs and compatibility with co-frequency and adjacent band services, in accordance with Resolution **162 (WRC-15)**.

**3.1.3 China (People’s Republic of)** - **Document APG19-3/INP-88**

China supports ITU-R to conduct and complete studies considering FSS compatibility with existing services currently allocated as FS, MS，RAS in the same bands and as EESS (passive), SRS (passive)，RAS in the adjacent bands.

China supports additional spectrum allocation to the fixed-satellite service (Earth-to-space) in the 51.4-52.4GHz band study only if the results of ITU-R studies verify the compatibility between FSS and the existing services currently allocated.

**3.2 Summary of issues raised during the meeting**

Two issues were raised in the drafting group sessions and relevant discussion are summarized as follows:

1. Issue on determination of unwanted emission power limits for the protection of EESS (passive) in the adjacent band 52.6-54.25 GHz.

After discussion, it was agreed that further study is needed on appropriate unwanted emission power limits for the protection of EESS (passive) in the adjacent band 52.6-54.25 GHz.

1. Issue on limitation of minimum antenna size of earth stations as [7] meters.

After discussion, it was agreed that it is appropriate to limit minimum antenna size of earth stations based on current studies, but further consideration may be needed based on updated ITU-R studies.

**4. APT Preliminary View(s)**

APT Members support further studies of ITU-R relating to sharing and compatibility between fixed-satellite service in the frequency band 51.4-52.4 GHz and other co-frequency, and adjacent band services in accordance with Resolution **162 (WRC-15)**.

APT Members are of the view that consideration of an allocation to the fixed-satellite service (Earth-to-space) in the frequency band 51.4-52.4 GHz limited to feeder links for geostationary satellite orbit use is subject to satisfactory outcomes of ITU-R studies related to spectrum needs and compatibility with existing services allocated to the same and adjacent bands.

**5. Other View(s)**

None.

**6. Issues for Consideration at Next APG Meeting**

It was agreed that the issues which are included in Section 3.2 would be further discussed at the next APG meeting

APT Members are invited to follow the progress of ITU-R studies, particularly the planned WP4A meeting on 3-14 July 2018, and are encouraged to submit their contributions for further considerations in the next APG meeting.

**7. Views from Other Organisations**

**7.1 Regional Groups**

**7.1.1 ASMG** - **Document APG19-2/INF-01**

ASMG position:

* Follow up current studies on this item.
* Ensure the protection of existing services, especially the fixed and mobile services that may be used extensively in Arab states.
* Consult with satellite operators with respect to their needs of spectrum in the frequency range 51.4-52.4 GHz.
* Consultation with concerned groups in ASMG on the proposed allocation of this band for IMT.

**7.1.2 ATU** - **Document APG19-2/INF-07**

No preliminary position on this agenda item yet.

**7.1.3 CEPT** - **Document APG19-3/INF-06**

Preliminary CEPT position:

* Based on the results of studies on additional spectrum needs for development of the fixed-satellite service, in accordance with resolves to invite ITU-R 1 of Resolution 162 (WRC-15), CEPT supports the additional allocation of 1 GHz spectrum in 51.4 – 52.4 GHz band for the uplink GSO FSS feeder links, which allows to increase the throughput of these networks.
* CEPT supports the sharing and compatibility studies with existing services for consideration of new primary allocation to the FSS in the frequency band 51.4-52.4 GHz (Earth-to-space) limited to FSS feeder links for geostationary orbit use.
* To ensure the protection of the EESS (passive) operating in the band 52.6-54.25 GHz CEPT is actively working to establish the unwanted emission power limits for FSS Earth stations that would operate in the 51.4 - 52.4 GHz. In addition, CEPT supports the approach to assume a 3 dB apportionment of the EESS (passive) protection criterion to take into account the aggregate interference from all the active services allocated in the 51.4-52.4 GHz band. CEPT supports
studies regarding the impact on radio astronomy observations in the band 51.4-54.25 GHz.
	+ 1. **CITEL** - **Document APG19-3/INF-08 Rev.1**

Preliminary Views from a few countries support studies. Studies should determine the suitability, including protection of fixed and mobile services, of a new primary allocation limited to GSO FSS feeder links, and the possible associated regulatory actions based on the results of these studies.

**7.1.5 RCC** - **Document APG19-2/INF-05**

The RCC Administrations are in favor of justification of additional spectrum needs for the development of the fixed-satellite service in the frequency bands above 50 GHz, taking into account technical aspects of using the frequency bands already allocated to this service in the ranges above 30 GHz as well as the possibility to optimize their use based on the technology of FSS satellites with multiple-beam antennas and frequency reuse.

The RCC Administrations consider that the technical conditions and regulatory provisions, which are subject to the ITU-R studies, for use of new primary allocations to the FSS (Earth-to-space) in the 51.4-52.4 GHz band, limited to GSO FSS feeder links, shall ensure protection of existing services and systems in the considered and adjacent frequency bands and development of possible related regulatory measures, including revision of Resolution **750 (Rev. WRC-15)**.

**7.2 International Organisations**

**7.2.1 IARU**

None.

**7.2.2 ICAO**

None.

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