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|  | ASIA-PACIFIC TELECOMMUNITY | **Document No:** |
| **The 2nd Meeting of the APT Conference Preparatory**  **Group for WRC-23 (APG23-2)** | **APG23-2/OUT-15** |
| 19 – 23 April 2021, Virtual/Online Meeting | 23 April 2021 |

Working Party 2

**PRELIMINARY VIEWs on WRC-23 agenda item 1.8**

**Agenda Item 1.8**

*to consider, on the basis of ITU R studies in accordance with Resolution* ***171 (WRC-19)****, appropriate regulatory actions, with a view to reviewing and, if necessary, revising Resolution* ***155 (Rev.WRC-19)*** *and No.* ***5.484B*** *to accommodate the use of fixed-satellite service (FSS) networks by control and non-payload communications of unmanned aircraft systems;*

**1. Background**

WRC-23 is to review and undertake a potential revision of Resolution **155 (Rev.WRC 19)** and No. **5.484B** in the frequency bands to which they apply.

The responsible group WP 5B has initiated the work by sending liaison statements to the contributing groups, WP 4A and WP 4B, as well as to WP 3M, WP 5A, WP 5C, and WP 7D to request information on technical/operational characteristics and protection criteria of services which they look over, and on propagation models.

WP 5B has also sent back a liaison (5B/225 Annex 41) to ICAO corresponding to the question sent from ICAO on some points to be clarified regarding Resolution **155 (Rev.WRC-19).** Since the majority of the time has been spent to develop answers to ICAO’s questions, other documents related to Agenda Item 1.8 such as the draft CPM text, Draft New Report ITU-R M.[UA\_PFD] and Working Document towards Preliminary Draft New Report/Recommendation ITU-R M.[UAS CNPC\_CHAR] have not yet been discussed in detail. For this reason, WP 5B agreed to establish a Correspondence Group in hope to make some progress by the next WP 5B meeting planned in May 2021.

The Correspondence Group has held two online meetings so far and has prepared a working document intended to support the work in preparations and studies for WRC-23 Agenda Item 1.8. The meetings were mainly devoted to the discussion on how to address the safety of flight/life condition of the UAS CNPC link, to the extent that is practicable and consistent with the operation of other space and terrestrial services, and unfortunately left many other topics to be discussed.

**2. Documents**

* Input Documents: APG23-2/INP-11 (J), APG23-2/INP-22 (NZL), APG23-2/INP-25 (AUS), APG23-2/INP-31 (KOR), APG23-2/INP-45 (CHN), APG23-2/INP-51 (VTN)
* Information Documents: APG23-2/INF-25 (ASMG), APG23-2/INF-26 (ATU), APG23-2/INF-34 (CITEL), APG23-2/INF-35 (CEPT), APG23-2/INF-36 (RCC).

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Japan - Document APG23-2/INP-11**

* Japan supports ongoing studies on technical, operational, and regulatory aspects as indicated in Resolution **171 (WRC-19)**. During the previous study cycle, Japan has contributed to the development of the Working Document towards Preliminary Draft New Report/Recommendation ITU-R M.[UAS CNPC\_CHAR], especially on determining the envelope characteristic of the potential UAS CNPC characteristics and providing examples of technical characteristics of on-board antenna. Based on such experience, Japan is of the view that future studies should also make good use of the studies made in the previous cycle while incorporating new discussions and decisions after WRC-19.

**3.1.2 New Zealand - Document APG23-2/INP-22**

* New Zealand supports the studies to be conducted by ITU-R Working Party 5B

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**3.1.3 Australia – Document APG23-2/INP-25**

* Australia has not formed a view on this agenda item. However, Australia supports progress of work on technical and regulatory issues under this agenda item.

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**3.1.4 Korea – Document APG23-2/INP-31**

* The Republic of Korea supports technical, operational and regulatory studies in relation to the implementation of Resolution **155 (Rev.WRC-19)**.
* The Republic of Korea is of the view that, when reviewing RR No. **5.484B** and Resolution **155 (Rev.WRC-19)** for possible changes, it should be ensured that any potential changes to such regulatory provisions will not impact any other systems or services operating in accordance with the Radio Regulations.

**3.1.5 China (People’s Republic of) – Document APG23-2/INP-45**

* China supports studies being conducted in ITU-R in accordance with Resolution 155 (Rev.WRC-19) and Resolution 171 (WRC 19) to make progress on technical, operational and regulatory aspects in relation to the implementation of Resolution 155 (Rev.WRC 19).
* The frequency bands specified in resolves 1 of Resolution 155 (Rev.WRC-19) are also allocated to terrestrial and space services which are used by a variety of different systems. These existing services and their future development need to be fully protected, without the imposition of any additional constraints, from the operation of UAV/CNPC.

**3.1.6 Viet Nam – Document APG23-2/INP-51**

* Viet Nam supports studying on technical, operational, and regulatory aspects as indicated in Resolution **171 (WRC-19),** with a viewto revising Resolution **155 (Rev.WRC-19)** and No. **5.484B** to accommodate the use of fixed-satellite service (FSS) networks by control and non-payload communications of unmanned aircraft systems.

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

* Since WRC-19, there has been no significant progress as of yet in ITU-R WP 5B in regard to technical, operational and regulatory studies. APT Members are encouraged to actively participate in the future ITU-R WP 5B meetings and its corresponding group to follow the discussion.

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

* APT Members support ongoing studies being carried out by ITU-R WP 5B in relation to Agenda Item 1.8 in accordance with Resolution **171 (WRC-19).**

**5. Other View(s) from APT Members**

* Some APT Members are of the view that future studies should also make good use of the studies undertaken in the previous cycle while incorporating new discussions and decisions after WRC-19.
* Some APT Members are of the view that potential changes to the regulatory provision and operation of UAS CNPC should not adversely affect other existing and future services to which the frequency bands are allocated.

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

* APT Members are encouraged to participate in relevant studies and submit their contributions to WP 5B and future APG meetings.

**7. Views from Other Organisations** (as provided in the information documents to

APG23-2)

**7.1 Regional Groups**

**7.1.1 ASMG - Document APG23-2/INF-25**

* ASMG Supports the application of safety of life standards with UAS CNPC links and ensuring that the requirements of ICAO to operate UAS CNPC links are followed and studied, as well as to study and review any additional restrictions proposed to the current terrestrial or satellite systems.

**7.1.2 ATU - Document APG23-2/INF-26**

* None

**7.1.3 CITEL - Document APG23-2/INF-34**

* Some Administrations support completion of the studies called for by Resolutions 171 (WRC-19) and 155 (Rev.WRC-19) to define the conditions for operating UAS CNPC links in the FSS (see resolves 19 of Resolution 155 (Rev.WRC-19)) in the frequency bands for which No. 5.484B already applies. Based on the results of studies, to consider revisions to Resolution 155 (Rev.WRC-19) in order to finalize the provisions needed to accommodate the use of FSS networks by UAS CNPC systems and to revise No. 5.484B to provide clarity that the provisions apply to the use of earth stations on board unmanned aircraft.

**7.1.4 CEPT** - **Document APG23-2/INF-35**

* CEPT is of the view that UAS CNPC links using FSS shall operate:
  + in accordance with ICAO SARPs;
  + under successfully coordinated assignments for FSS applications.
* CEPT is of the view that the safety aspects of UAS CNPC shall not have any impact on
  + the existing terrestrial services and their current and expected applications;
  + the existing agreement between notifying administrations reached during FSS satellite coordination process;
  + the future coordination of FSS networks during the application of provisions of Articles 9 and 11 of the RR;
  + all cases which fall under RR 11.41.
* CEPT is of the view that in order to ensure safety‐of‐flight operation of UAS, notifying administrations and the administrations authorising the operation of UAS CNPC links shall take the required measures to ensure freedom from harmful interference to earth stations on board UA.
* CEPT is of the view that the pfd mask labelled as example b in Annex 2 of Resolution 155 (REV. WRC‐19) is appropriate to protect the terrestrial services.
* CEPT is of the view that the RR No. 5.149 for the protection of Radioastronomy from harmful interference in the frequency band 14.47‐14.5 GHz has to be taken into account.
* CEPT recognises that ICAO is responsible for the safe operation of aircraft including UAS and is developing appropriate SARPs covering all aspects of safe operation of UAS including the required communication system.
* CEPT is of the view that if the conditions for the safety operation of CNPC established by ICAO cannot be met with the existing FSS link as it stands, then this link should not be used for UAS.

**7.1.5 RCC - Document APG23-2/INF-36**

* None

**7.2 International Organisations**

* None

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