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|  | ASIA-PACIFIC TELECOMMUNITY | Document No: |
| **The 5th Meeting of the APT Conference Preparatory****Group for WRC-19 (APG19-5)** | **APG19-5/OUT-45** |
| 31 July – 6 August 2019, Tokyo, Japan | 6 August 2019 |

Working Party 6

**APT Views and Preliminary APT Common Proposal**

**on WRC-19 Agenda Item 9.1, Issue 9.1.6**

**Agenda Item 9.1, Issue 9.1.6:**

*9 to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention:*

*9.1 on the activities of the Radiocommunication Sector since WRC-15;*

*9.1.6 Issue 1) in the annex to Resolution* ***958 (WRC-15)***

*Urgent studies required in preparation for the 2019 World Radiocommunication Conference:*

*1) Studies concerning Wireless Power Transmission (WPT) for electric vehicles:*

*a) to assess the impact of WPT for electric vehicles on radiocommunication services;*

*b) to study suitable harmonized frequency ranges which would minimize the impact on radiocommunication services from WPT for electrical vehicles.*

*These studies should take into account that the International Electrotechnical Commission (IEC), the International Organization for Standardization (ISO) and the Society of Automotive Engineers (SAE) are in the process of approving standards intended for global and regional harmonization of WPT technologies for electric vehicles.*

**1. Background**

Wireless power transmission (WPT) technologies are being developed worldwide to support many applications and WPT for electric vehicles (WPT-EV) is one of the promising applications. However, since the WPT-EV requires relatively high power, it should be developed not to cause harmful interference to radiocommunication services.

Resolution **958 (WRC-15)** requested the ITU-R to study the impact of WPT-EV on radiocommunications and suitable harmonized frequency ranges. The CPM19-1 identified the studies on WPT-EV as Issue 9.1.6 under Agenda Item 9.1.

The CPM Report compiled in February 2019 indicated that ITU-R studies were in progress but Reports and a Recommendation would require further work. Consequently, the CPM Report concluded that there was no need for activity related to WRC-19 to amend the RR.

Thereafter, SG 1 block meetings were held in May/June 2019 and made some progress in their studies for WPT-EV. Current situation of the studies are as follows:

Report ITU-R SM.2303-2 ‘Wireless power transmission using technologies other than radio frequency beam’ contains various results of technical studies on the impact of WPT, including WPT-EV, on radiocommunication services. In addition, new Report ITU-R SM.2451-0 ‘Assessment of impact of wireless power transmission for electric vehicle charging (WPT-EV) on radiocommunication services’ was approved in June 2019.

A draft revision of Recommendation ITU-R SM.2110-0 was agreed by ITU-R SG 1 in June 2019 to change the title to “Guidance on frequency ranges for operation of non-beam wireless power transmission for electric vehicles” and to indicate harmonized frequency ranges for WPT-EV. It is under a procedure for adoption by correspondence.

Studies on unwanted emission from WPT-EV are ongoing.

**2. Documents**

* Input Documents APG19-5/INP-33 (IRN), 47 (AUS), 70 (CHN), 88 (Rev.1) (J),
101 (THA), 115 (MLA), and 132 (KOR).
* Information Documents APG19-5/INF-02 (ICAO), 03(Rev.1) (IARU), 18 (CEPT),
19 (ATU), 20 (CITEL) and 22 (RCC).

**3. Summary of discussions**

**3.1 Summary of APT Members’ views**

**3.1.1 Iran (Islamic Republic of)** - **Document APG19-5/INP-33**

Iran proposed that the following PACP be considered and adopted as PACP by APG19-5 meeting. The proposed PACP is based on the output of APG19-4 meeting.

The proposed draft PAPC contained the following;

**NOC** Article 5 Frequency allocations

**Reasons:** ITU-R Reports and/or Recommendations, as appropriate, are considered sufficient to specify suitable frequency bands and limits on unwanted emissions which would minimize the impact on radiocommunication services from WPT for electrical vehicles; and

**SUP** Section 1) of Annex to Resolution **958 (WRC-15)**

**Reasons:** Resolution **958 (WRC-15)** is no longer required after WRC-19, as studies required in Section 1) of its Annex have been completed under agenda item 9.1 issues 9.1.6.

**3.1.2 Australia**- **Document APG19-5/INP-47**

Australia is of the view that all radiocommunication services must be adequately protected from harmful interference generated by any WPT-EV system at the fundamental frequency and from spurious and out‑of‑band emissions.

Australia supports the ongoing studies being carried out by the ITU-R in accordance with paragraph 1) of the Annex to Resolution **958 (WRC‑15)**.

As studies have not been completed, Australia supports no change to the Radio Regulations.

Australia proposes a Preliminary APT Common Proposal to WRC-19 of no change as follows:

The proposed draft PAPC contained the following;

**SUP** Item 1) of Annex to Resolution **958 (WRC-15)**

**Reasons:** No longer required post WRC-19

Note: The proposed draft PACP embedded in the document had two proposals and the first proposal was confirmed during DG discussion to be not applicable.

**3.1.3 China (People’s Republic of)** - **Document APG19-5/INP-70**

China is of the following views regarding to AI 9.1 Issue 9.1.6:

1. There is no need to change the Radio Regulations at WRC-19.
2. The globally and regionally harmonized frequency bands for WPT-EV applications refer to the most recent version of Recommendation ITU-R SM.2110.
3. All incumbent radiocommunication services must be adequately protected from harmful interference that may be generated by WPT-EV, both at the fundamental frequency and from spurious and out-of-band emissions.

**3.1.4 Japan** - **Document APG19-5/INP-88(Rev.1)**

Japan’s view is the following;

* Item 1) of Annex to Resolution **958 (WRC-15)** should be suppressed, and ITU-R studies on WPT should be continued.

**3.1.5 Thailand** - **Document APG19-5/INP-101**

Thailand agrees with the view expressed by APT which was reached at APG19-4.

**3.1.6 Malaysia** - **Document APG19-5/INP-115**

Malaysia supports no change to the Radio Regulations as concluded in the CPM Report.

**3.1.7 Korea (Rep. of) - Document APG19-5/INP-132**

The Republic of Korea has a view that there is no need to change the Radio Regulations (RR) at WRC-19.

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

There were different views expressed whether the ITU-R studies on this issue have been completed or not. Understanding that revision of Recommendation ITU-R SM. 2110-0 on frequency ranges is under the procedure of adoption by correspondence and that studies on unwanted emission is ongoing, it was agreed to consider that the studies has not yet been completed. Therefore, it was generally agreed that ITU-R studies on WPT-EV need to be continued after WRC-19 and that there is no need to change the Radio Regulations at WRC-19.

Although it was agreed to suppress Item 1 of Annex to Resolution **958 (WRC‑15)**, there was a question if the results of ITU-R studies to be conducted after WRC-19 could be reported to the future WRC. It was answered that once the relevant part of the Resolution is suppressed, instruction to the Director of BR to report to WRC become no longer valid and that the studies would be conducted according to the most recent version of Question ITU-R 210/1 under Radiocommunication Assembly.

**4. APT Views**

* APT Members are of the view that all radiocommunication services must be protected from harmful interference that may be generated by WPT-EV, both at the fundamental frequency and from unwanted emissions.
* APT Members are of the view that the Item 1) of Annex to Resolution **958 (WRC‑15)** should be suppressed and that the ITU-R studies on WPT-EV, including studies on unwanted emissions, should be continued under the most recent version of Question ITU-R 210/1.
* APT Members are of the view that there is no need to change the Radio Regulations at WRC-19.
* APT Members are of the view that ITU-R will need to continue to closely collaborate with standards developing organizations to ensure that appropriate frequency ranges and technical limits are incorporated into standards to protect radiocommunication services.

**5. Preliminary APT Common Proposal(s)**





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