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| APTlogogreen3 | ASIA-PACIFIC TELECOMMUNITY | **Document:** |
| **The 2nd Meeting of the APT Conference Preparatory Group for WRC-19 (APG19-2)** | **APG19-2/OUT-30 (Rev.1)** |
| 17 – 21 July 2017, Bali, Republic of Indonesia | **21 July 2017** |

Working Party 1

**PRELIMINARY VIEWS ON WRC-19 AGENDA ITEM1.11**

**Agenda Item 1.11:**

*To take necessary actions, as appropriate, to facilitate global or regional harmonized frequency bands to support railway radiocommunication systems between train and trackside within existing mobile service allocations, in accordance with Resolution* **236 *(WRC-15)****;*

**1. Background**

**Resolution 236 (WRC-15)**“Railway radiocommunication systems between train and trackside”

*resolves to invite the 2019 World Radiocommunication Conference*

based on the results of ITU-R studies, to take necessary actions, as appropriate, to facilitate global orregional harmonized frequency bands, to the extent possible, for the implementation of railwayradiocommunication systems between train and trackside, within existing mobile-service allocations,

*invites ITU-R*

to study the spectrum needs, technical and operational characteristics and implementation of railwayradiocommunication systems between train and trackside.

As the responsible group, WP5A by far is developing 2 ITU-R Reports and 1 ITU-R Recommendation.WP5Ais also developing the Draft CPM text of agenda item 1.11, within which currently two possible methods were raised: one is NOC to Radio Regulations**,** and another is to propose a new WRC Resolution (WRC-19).In APT, APG-19 has established a Drafting Groupto prepare preliminary views of APT on WRC-19 agenda item 1.11. It is worth mentioning that in reply toLiaisonStatement ([APG19-1/OUT-07](http://www.apt.int/sites/default/files/2016/07/APG19-1-OUT-07_Adhoc_Group_Liaison_to_AWG-20.docx)), AWG updated their relevant technical and operational study progress associated with agenda item 1.11. Moreover, AWG decided to organize a [workshop](http://www.apt.int/sites/default/files/2017/04/AWG-21-OUT-13_AWG_Workshop_Railway.docx) for exchanging information onRSTT during AWG-22.

Relevant ITU-R and APT Reports/Recommendationsand ongoing studies are as follows,

* Preliminary draft new (PDN) Report ITU-R M.[RSTT.Description]-Description of Railway Radiocommunication Systems between Train and Trackside (RSTT) ([5A/469 Annex 16](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0469!N16!MSW-E.docx))
* Working document toward a PDN Report ITU-R M. [RSTT.USAGE ] - Current and future usage of railway radiocommunication systems between train and trackside (RSTT) ([5A/469 Annex 17](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0469!N17!MSW-E.docx))
* Working document towards a PDN Recommendation ITU-R M.[RSTT] - Harmonization of frequencies and related frequency arrangements, for railway radiocommunication systems between train and trackside ([5A/469 Annex 18](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0469!N18!MSW-E.docx))
* Working Document towards Draft CPM Text for WRC-19 Agenda Item 1.11([5A/469 Annex 6](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0469!N06!MSW-E.docx))
* Working Document for APT Report-Systems descriptions technologies and implementation of Railway Radiocommunication System between Train and Trackside (RSTT) ([AWG-21/TMP-62)](http://www.apt.int/sites/default/files/2017/04/AWG-21-TMP-62_WD-APT-Report-RSTT_R4.docx)
* System deployment and relevant testing studies of Railway Radiocommunication System between Train and Trackside (RSTT) in APT countries) (Workplan is in[AWG-21/OUT-15](http://www.apt.int/sites/default/files/2017/04/AWG-21-OUT-15_WG-SA_Meeting_Report_Revised_0.docx))

**2. Documents**

* + - Input Documents:

APG19-2/INP-07(AWG), APG19-2/INP-08(KOR), APG19-2/INP-14(SNG), APG19-2/INP-28(AUS), APG19-2/INP-39(INS), APG19-2/INP-49(CHN), APG19-2/INP-55(J)

* + - Information Documents:

APG19-2/INF-01(Chairman, APG-19),APG19-2/INF-02(ICAO), APG19-2/INF-04(CITEL), APG19-2/INF-05(RCC), APG19-2/INF-06(IARU), APG19-2/INF-07(ATU), APG19-2/INF-14(CEPT)

**3. Summary of Discussions**

**3.1 Summary of Members’ view**

**3.1.1 Australia**

Australia supports studies under Resolution 236 (WRC-15) toward possible harmonisation of frequency bands in existing land mobile service allocations for railway radiocommunication systems between train and trackside (RSTT). Australia is of the view that no change to the Radio Regulations is required under this agenda item to accommodate regional and/or global harmonisation for RSTT.

Australia encourages further studies on technical and operational characteristics for RSTT to be accommodated through ITU-R Recommendations and Reports. Australia is also of the view that ITU-R studies on RSTT should not be restricted to, or preclude, any particular relevant technology.

**3.1.2 China**

China supports to develop a new WRC Resolution to facilitate global or regional harmonized frequency bands to support RSTT within existing mobile service allocations.

China is also of the view that,

* Global or regional harmonized frequency bands of RSTT will facilitate interoperability of railway operations and provide for economies of scale in railway transportation, by reducing the cost of cross-border operations and by using commercial off the shelf equipment, regionally and internationally;
* When implementing harmonized frequency arrangements of RSTT, it is very important to ensure the compatibility between RSTT in neighbouring countries, to provide effective railway operations.

**3.1.3 Indonesia**

Indonesia is of the view that harmonization of frequency bands at global and/or regional level for Railway Radiocommunication Systems between Train and Trackside (RSTT) within existing mobile service allocations would be desirable for its overall development, thus Indonesia will continue to follow the studies.

The harmonized use of frequency bands by railway transportation systems within existing mobile service allocations shall not impose additional constraints on other primary services to which these frequency bands are already allocated and to minimize the potential interference to the existing mobile service applications/systems already identified/deployed in these frequency bands.

**3.1.4 Japan**

Japan supports ITU-R studies to consider the global or regional harmonized frequency bands, in which these current and future systems operate, for the implementation of railway radiocommunication systems between train and trackside.

**3.1.5 Korea**

The Republic of Korea supports the ITU-R studies in accordance with Resolution 236 (WRC-15) on the spectrum needs, technical and operational characteristics and implementation of RSTT. The Republic of Korea has a preliminary view that global or regional harmonization for the implementation of RSTT, to the extent possible, needs to be considered based on ITU-R documents.

**3.1.6 Singapore**

Singapore believes that international standards and global or regional harmonized spectrum would facilitate deployment of RSTT and the railway transportation industry can benefit from the use of equipment supporting harmonized frequency bands. Singapore believes that a WRC resolution on RSTT could facilitate harmonization of frequencies for RSTT.

Singapore supports current studies in ITU-R (WP 5A) and APT (AWG) on RSTT for railway transport, including metro trains and high speed trains, under this agenda item.

**3.2 Keypoints raised during the meeting**

APT Members noted that working document towards a preliminary draft new report ITU-R M. [RSTT. USAGE] listed some frequency bands of current and future technologies for RSTT in some APT Member countries. It is important for APT Members to provide relevant information to ITU-R WP5A.

During the discussion, APT Members recognized that the consideration of possible Methods to satisfy this Agenda Item is important for the preparation of APG19-3 meeting.

**4. APT Preliminary View**

APT Members support studies towards global or regional harmonized frequency bands to support RSTT within existing mobile service allocations, in accordance with Resolution 236 (WRC-15), and are of the view that international standards and global/regional harmonized spectrum would facilitate the current and future deployment of RSTT.

APT Members are also of the view that:

* The implementation of harmonized frequency arrangements of RSTT shall not impose additional constraints on other primary services to which these frequency bands are already allocated, and shall minimize the potential interference to the existing mobile service applications/systems already identified/deployed in these frequency bands.
* ITU-R studies on RSTT should not be restricted to, or preclude, any particular relevant technology.
* In order to provide effective railway operations, when implementing harmonized frequency arrangements of RSTT, it is very important to ensure the compatibility between RSTT in neighboring countries.

**5. Other Views**

Some APT Members support a new WRC Resolution to facilitate global or regional harmonized frequency bands to support RSTT within existing mobile service allocations.

Some APT Members are of the view that there is no need to change the Radio Regulations under this agenda item to accommodate regional and/or global harmonization for RSTT.

Some APT Members are considering other possible methods other than the two Methods currently developed by ITU-R WP5A to satisfy this agenda item.

**6. Views from Other Organizations**

**6.1 ASMG**

Follow-up the studies about railway radio systems between the train and trackside within the current allocations of the mobile service.

Ensure protection of the existing services without imposing any new restrictions on them.

Encourage the administrations to study spectrum requirements for these applications in order to reach to harmonized frequency bands.

**6.2 ATU**

APM19-1 considered that there is need to segment the proposed candidate bands according to envisaged usages.

**6.3 CEPT**

CEPT is of the view that the harmonized use of frequencies for RSTT within existing mobile service allocations serves current and future demands of railway organisations on all operational levels.

CEPT is of the view that no changes to the RR are needed in response to WRC-19 AI 1.11.

CEPT is of the view that harmonisation for RSTT can be achieved by the development of an appropriate non-mandatory ITU-R Recommendation containing its regional harmonisation measure. In this regard, CEPT highlights its existing framework for train radio RSTT on the basis of GSM-R, which enables interoperable cross-border railway operations.

In addition, CEPT is of the view that harmonisation under AI 1.11 is limited to spectrum for critical railway operations, while possible passenger data requirements are covered by IMT systems.

**6.4 CITEL**

APG19-2/INF-04 provides 2 preliminary views by Canada and Mexico, but doesn’t provide view of CITEL.

**6.5 RCC**

The RCC Administrations consider it reasonable to harmonize frequency bands at global or regional level for their use by railway radiocommunication systems between train and trackside within existing mobile service allocations, including through the development of ITU-R Recommendations and Reports.

The RCC Administrations are of the view that harmonized use of frequency bands by railway transportation systems within existing mobile service allocations shall not impose additional constraints on other services to which these frequency bands are already allocated, and shall provide the protection of existing systems for government communication.

**6.6 ICAO**

To ensure, on the basis of agreed ITU-R studies, that any regulatory actions within existing mobile-service bands do not impact existing aeronautical systems operating in accordance with the Radio Regulations.

**6.7 IARU**

The IARU supports satisfying the spectrum needs for railway radiocommunication systems between train and trackside within existing mobile service allocations that are not also allocated to the amateur service.

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

APT Members are encouraged to consider frequency bands which could be harmonized to support railway radiocommunication systems between train and trackside within existing mobile service allocations.

APT Members are also encouraged to consider the methods to satisfy the agenda item, taking into account that WP5A will finalize the CPM text by May 2018.

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