

Matthew Kelly

**Regional
Preparations for
World Radio
Conference - 2023**

— Asia Pacific Telecommunity Preparatory Group For Radiocommunication Conference (APG)

Organized by Asia Pacific Telecommunity (APT)

- An intergovernmental organization established in 1979
- Established by joint initiatives of United Nations Economic and Social Commission for Asia and the Pacific and ITU
- 38 Members, 4 Associate Members, 135 Affiliate Members

Develop Common Proposals for ITU World Radiocommunication Conferences (WRC), Radiocommunication Assemblies (RA) and Conference Preparatory Meetings (CPM).

Process

1st – 5th Preparatory Meetings
Develops Preliminary Views (PV)

6th Preparatory Meeting
Develops Preliminary APT Common Proposals (PACP)

APT Members

APT Common Proposals (APC)



APG23-1
September 2020
Virtual

APG23-2
April 2021
Virtual

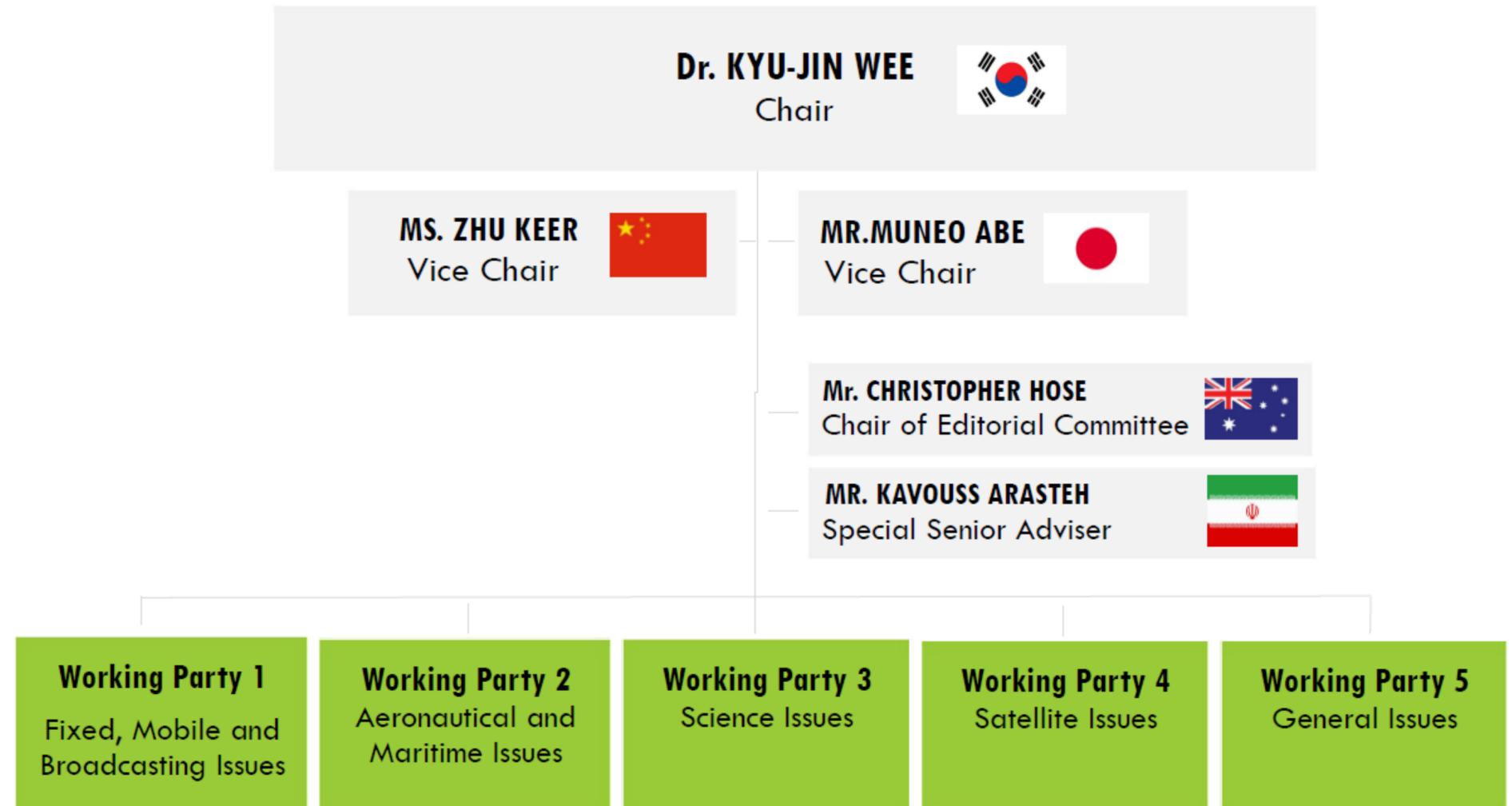
APG23-3
November 2021
Virtual

APG23-4
August 2022
Bangkok, Thailand

APG23-5
February 2023
Busan, Republic of Korea

APG23-6
August 2023
Brisbane, Australia

Organisation



Working Party 1

Fixed, Mobile and Broadcasting Issues

DR. JAE WOO LIM



DR. HIROYUKI ATARASHI



Co-Chairs

Responsible WRC-23 Agenda Items:
1.1, **1.2**, **1.3**, **1.4**, 1.5, 9.1 (Topic c.)
& No. 21.5

WRC-23 Agenda Items with impact to spectrum
use by aeronautical systems

Agenda Item 1.1

to consider, based on the results of the ITU R studies, possible measures to address, in the frequency band 4 800- 4990 MHz, protection of stations of the aeronautical and maritime mobile services located in international airspace and waters from other stations located within national territories, and to review the pfd criteria in No. 5.441B in accordance with Resolution **223 (Rev.WRC-19)**

Agenda Item 1.2

to consider identification of the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution **245 (WRC-19)**

Agenda Item 1.3

to consider primary allocation of the band 3 600-3 800 MHz to mobile service within Region 1 and take appropriate regulatory actions, in accordance with Resolution **246 (WRC-19)**

Agenda Item 1.4

to consider, in accordance with Resolution **247 (WRC-19)**, the use of high-altitude platform stations as IMT base stations (HIBS) in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT, on a global or regional level

Working Party 2

Aeronautical and Maritime Issues

MR. BUI HA LONG 

Chair

Responsible WRC-23 Agenda Items:

1.6, 1.7, 1.8, 1.9, 1.10, 1.11, Res.427 (WRC-19)

WRC-23 Agenda Items with impact to spectrum use by aeronautical systems

Agenda Item 1.6

to consider, in accordance with Resolution 772 (WRC-19), regulatory provisions to facilitate radiocommunications for sub-orbital vehicles;

Agenda Item 1.7

to consider a new aeronautical mobile-satellite (R) service (AMS(R)S) allocation in accordance with Resolution 428 (WRC-19) for both the Earth-to-space and space-to-Earth directions of aeronautical VHF communications in all or part of the frequency band 117.975-137 MHz, while preventing any undue constraints on existing VHF systems operating in the AM(R)S, the ARNS, and in adjacent frequency bands;

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;

Agenda Item 1.9

to review Appendix 27 of the Radio Regulations and consider appropriate regulatory actions and updates based on ITU-R studies, in order to accommodate digital technologies for commercial aviation safety-of-life applications in existing HF bands allocated to the aeronautical mobile (route) service and ensure coexistence of current HF systems alongside modernized HF systems, in accordance with Resolution 429 (WRC-19);

Working Party 2

Aeronautical and Maritime Issues

MR. BUI HA LONG 

Chair

Responsible WRC-23 Agenda Items:

1.6, 1.7, 1.8, 1.9, 1.10, 1.11,

Res.427 (WRC-19)

WRC-23 Agenda Items with impact to spectrum
use by aeronautical systems

Agenda Item 1.10

to conduct studies on spectrum needs, coexistence with radiocommunication services and regulatory measures for possible new allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications, in accordance with Resolution 430 (WRC-19);

Agenda Item 1.11

to consider possible regulatory actions to support the modernization of the Global Maritime Distress and Safety System and the implementation of e navigation, in accordance with Resolution 361 (Rev.WRC-19);

Resolution 427 (WRC-19)

Updating provisions related to aeronautical services in the Radio Regulations

Working Party 3

Science Issues

MR. WAHYUDI HASBI

Chair

Responsible WRC-23 Agenda Items:
1.12, **1.13**, 1.14, 9.1 (Topic a and
d), Res.655(WRC-15)

WRC-23 Agenda Items with impact to spectrum
use by aeronautical systems

Agenda Item 1.13

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)

Working Party 4

Satellite Issues

MR. WAHYUDI HASBI

Chair

Responsible WRC-23 Agenda Items:
1.15, 1.16, 1.17, 1.18, 1.19 and 7

WRC-23 Agenda Items with impact to spectrum
use by aeronautical systems

Agenda Item 1.15

to harmonize the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels communicating with geostationary space stations in the fixed satellite service globally, in accordance with Resolution 172 (WRC- 19);

Agenda Item 1.16

to study and develop technical, operational and regulatory measures, as appropriate, to facilitate the use of the frequency bands 17.7-18.6 GHz and 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) by non-GSO FSS earth stations in motion, while ensuring due protection of existing services in those frequency bands, in accordance with Resolution 173 (WRC- 19);

Agenda Item 1.17

to determine and carry out, on the basis of the ITU R studies in accordance with Resolution 773 (WRC-19), the appropriate regulatory actions for the provision of inter-satellite links in specific frequency bands, or portions thereof, by adding an inter-satellite service allocation where appropriate;

Working Party 5 General Issues

MR. TASGHI SHAFIEE



Chair

Responsible WRC-23 Agenda Items:
2, 4, 8, 9.1 (Topic b) & 10

WRC-23 Agenda Items with impact to spectrum
use by aeronautical systems

Agenda Item 4

in accordance with Resolution 95 (Rev. WRC-19), to review the Resolutions and Recommendations of previous conferences with a view to their possible revision, replacement or abrogation;

Agenda Item 8

to consider and take appropriate action on requests from administrations to delete their country footnotes or to have their country name deleted from footnotes, if no longer required, taking into account Resolution 26 (Rev.WRC-19);

Agenda Item 9.1 (Topic b)

Review of the amateur service and the amateur-satellite service allocations in the frequency band 1 240 1 300 MHz to determine if additional measures are required to ensure protection of the radionavigation-satellite (space-to-Earth) service operating in the same band in accordance with Resolution 774 (WRC-19);



APG23-6 Outcome

Agenda Items aviation seeking action by WRC-23

APT View

Agenda Item 1.6

to consider, in accordance with Resolution 772 (WRC-19), regulatory provisions to facilitate radiocommunications for sub-orbital vehicles

No view at AGP23-6 meeting.

APT View

Agenda Item 1.7

to consider a new aeronautical mobile-satellite (R) service (AMS(R)S) allocation in accordance with Resolution 428 (WRC-19) for both the Earth-to-space and space-to-Earth directions of aeronautical VHF communications in all or part of the frequency band 117.975-137 MHz, while preventing any undue constraints on existing VHF systems operating in the AM(R)S, the ARNS, and in adjacent frequency bands;

APT supports Method B to address this Agenda Item, with preference for Method B1 or B3

APT View

Agenda Item 1.8

o 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;

No view at AGP23-6 meeting.

APT View

Agenda Item 1.9

to review Appendix 27 of the Radio Regulations and consider appropriate regulatory actions and updates based on ITU R studies, in order to accommodate digital technologies for commercial aviation safety-of-life applications in existing HF bands allocated to the aeronautical mobile (route) service and ensure coexistence of current HF systems alongside modernized HF systems, in accordance with Resolution 429 (WRC 19)

APT Members support modifications to RR Appendix 27 to accommodate digital technologies for aeronautical wideband HF systems, while ensuring compliance with safety requirements and protection of other primary services in the same and adjacent bands, in particular, existing AM(R)S HF systems.

APT Members noted that there are differing Wideband HF technologies and are of the view that changes to the RR Appendix 27 should allow new digital wideband HF systems taking into account technology neutrality.

APT View

Resolution 427 (WRC-19)

to study the Articles, limited to Chapters IV, V, VI and VIII of Volume I of the Radio Regulations and their associated Appendices, as appropriate, in order to identify outdated aeronautical provisions with respect to ICAO standards and recommended practices and to develop examples of regulatory texts for updating these provisions, while ensuring that potential changes to such provisions will not impact any other systems or services operating in accordance with the Radio Regulations”;

APT Members are of the view that any proposed changes to the Radio Regulations shall not have any negative impact on current and planned aeronautical systems or applications.



APG23-6 Outcome

Agenda Items with possible impact to aviation spectrum

APT View

Agenda Item 1.1

to consider, based on the results of the ITU R studies, possible measures to address, in the frequency band 4 800- 4990 MHz, protection of stations of the aeronautical and maritime mobile services located in international airspace and waters from other stations located within national territories, and to review the pfd criteria in No. 5.441B in accordance with Resolution 223 (Rev.WRC-19)

APT Members do not have a detailed specific PACP for this agenda item at this stage. However, there could be some consensus at WRC-23 to provide the appropriate regulatory provision, taking into account appropriate Method(s) and associated limit(s) contained in the CPM Report, which, on the one hand, ensures the continued operation of AMS and MMS stations in the frequency band 4 800 – 4 990 MHz and, on the other hand, facilitates the use of the above mentioned band for IMT.

APT View

Agenda Item 1.2

To consider identification of the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution 245 (WRC-19).

APT Members are of the view that any possible IMT identification in the frequency band 3 300-3 400 MHz in Region 1 needs to protect the services to which the frequency band is allocated on a primary basis, and services in adjacent bands in Region 3 so that these services need to in no way be adversely affected.

APT Members are of the view that the amendments of footnotes in Region 1 should not cause any change to the existing regulatory conditions in Radio Regulations for Region 3.

APT Members are of the view that any possible IMT identification in the frequency band 6 425-7 025 MHz in Region 1 need to protect the services to which the frequency band is allocated on a primary basis and services in the adjacent bands in Region 3, in particular, the uplink of Appendix 30B bands so that these services need to in no way be adversely affected.

APT View

Agenda Item 1.3

to consider primary allocation of the band 3 600 3 800 MHz to mobile service within Region 1 and take appropriate regulatory actions, in accordance with Resolution 246 (WRC 19).

PT Members are of the view that a possible upgrade of mobile, except aeronautical mobile, service to primary allocation in the band 3 600-3 800 MHz in Region 1 shall protect existing and planned services to which the frequency band is allocated on a primary basis (and in adjacent bands, as appropriate) in Region 3, taking into account the results of sharing and compatibility studies.

APT Members are of the view that this agenda item is Region 1 issue.

APT Members are also of the view that such upgrading shall not have any adverse effect on the allocation of the existing services and their future development in Region 3.

APT Members are of the view that any discussions on this agenda item shall not be mixed up on the discussions being followed / carried out under agenda item 1.2, i.e., no identification of the frequency band 3 600-3 800 MHz for IMT.

APT View

Agenda Item 1.4

to consider, in accordance with Resolution 247 (WRC-19), the use of high-altitude platform stations as IMT base stations (HIBS) in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT, on a global or regional level;

APT Members support for the use of HIBS in the frequency band 2 500-2 690 MHz, or portions thereof, globally through Method D3 with a new WRC Resolution.

In addition, APT Members have the following views on Examples under the respective conditions in Resolution [B14-HIBS 2 500-2 690 MHz] (WRC 23) contained in the CPM Report.

Provisions		Supported Example
resolves 1.1 and 1.2	Protection measures for IMT in the frequency band 2 500-2690MHz	Example 1
resolves 1.3	Protection measures for the fixed service in the frequency band 2 500-2690MHz	Example 1
resolves 1.4	Protection measures for the broadcasting satellite service in the frequency band 2 520-2630 MHz	Example 2 with some modifications
resolves 1.6	Protection measures for the radiolocation service systems operating in accordance with No. 5.423, in the frequency band 2 700-2 900 MHz	Example 1
resolves 1.7 and 1.8	Protection measures for the radio astronomy service operating in the frequency band 2 690-2 700 MHz	Example 1
resolves 1.9	Protection measures for the radiodetermination satellite service (s-to-E) and the mobile satellite service (s-to-E) in the adjacent frequency band 2 483.5-2 500 MHz	Example 2

APT View

Agenda Item 1.10

To conduct studies on spectrum needs, coexistence with radiocommunication services and regulatory measures for possible new allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications, in accordance with Resolution 430 (WRC 19).

The APT has considered agenda item 1.10 but has not developed a Preliminary APT Common Proposal on the matter. The APT has however agreed the following view(s) on the agenda item 1.10.

APT Members are of the view that the protection of existing primary services in the 15.4-15.7 GHz and 22-22.21 GHz frequency bands and, in adjacent frequency bands shall be ensured. APT Members also are of the view that any potential new allocations of AM(OR)S shall not cause unacceptable interference to, nor claim protection from services to which the bands are allocated together with a firm objective, actionable evidence, measurable and enforceable commitment at the time of submission to that agenda item to undertake compliance with non-interference and non-protection conditions.

APT View

Agenda Item 1.11

to consider possible regulatory actions to support the modernization of the Global Maritime Distress and Safety System and the implementation of e navigation, in accordance with Resolution 361 (Rev.WRC 19)

Issue A (resolves 1): GMDSS Modernization

APT Members support Method A of the CPM Report to address this agenda item and drafted a Preliminary APT Common Proposal on the matter. APT Members could not reach consensus on Alternatives A1, A2 or A3 of the CPM Report with respect to the band 1 645.5-1 646.5 MHz (Earth-to-space).

Issue B (resolves 2): E-navigation

APT Members support Method B to address this agenda item, and drafted a Preliminary APT Common Proposal on the matter.

Issue C (resolves 3): Introduction of additional satellite systems into the GMDSS
The APT has considered AI 1.11 Issue C but has not developed a Preliminary APT Common Proposal on the matter. The APT has however formed the following view(s) on the AI 1.11 Issue C.

At this stage, APT Members support the introduction of the existing geostationary satellite system/networks described in the CPM Report into the GMDSS, provided that coordination and notification in accordance with the relevant and applicable provisions of Articles 9 and 11 of the Radio Regulations and associated Rules of Procedure to be completed in order to protect services to which the bands are currently allocated.

APT View

Agenda Item 1.13

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)

No view at AGP23-6 meeting.

APT View

Agenda Item 1.15

to harmonize the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service globally, in accordance with Resolution 172 (WRC-19);

APT members are considering to support Method A.

APT members could consider to support Method B provided that the remaining elements and part of that method as referred to in attachment of Resolution relating to agenda item 1.15 need to be successfully resolved and agreed including but not limited to

APT View

Agenda Item 1.16

to study and develop technical, operational and regulatory measures, as appropriate, to facilitate the use of the frequency bands 17.7-18.6 GHz and 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) by non-GSO FSS earth stations in motion, while ensuring due protection of existing services in those frequency bands, in accordance with Resolution **173** (WRC 19)

APT Members are considering Method A.
APT Members are also considering Method B under the conditions that all the issues raised in the attached resolution are successfully resolved and agreed upon at the Conference.

In addition, APT Members raised the question whether the aggregate interference effect from multi-AESIMs is necessary to be taken into account or not at the Conference.

APT View

Agenda Item 1.17

to determine and carry out, on the basis of the ITU-R studies in accordance with Resolution 773 (WRC 19), the appropriate regulatory actions for the provision of inter-satellite links in specific frequency bands, or portions thereof, by adding an inter-satellite service allocation where appropriate.

APT Members are considering Method A under agenda item 1.17.

APT Members also agreed on a Preliminary APT Common Proposal on Method B under the condition that issues raised in the draft Resolutions attached to this PACP are successfully resolved and agreed by the Conference.

APT View

Agenda Item 4

in accordance with Resolution 95 (Rev. WRC 19), to review the Resolutions and Recommendations of previous conferences with a view to their possible revision, replacement or abrogation;

APT Members support the principle and intent of Resolution 95 (Rev.WRC-19), to ensure that the Resolutions and Recommendations of past WRCs are relevant and kept up to date.

Based on the input documents listed above, the table included in Document APG23-5/OUT-35 and the CPM Report, APT Members reviewed the WRC Resolutions/Recommendations and finalized the proposed action for each Resolution/Recommendation. The discussion has resulted in the preliminary APT common proposals contained in Section 5. It should be noted that:

- The grey shaded rows in the table contained in the preliminary APT common proposals indicate the Resolutions which are explicitly on the current and future agenda items, as specified in Resolution 811 (WRC-19) and Resolution 812 (WRC-19) or in other formal ITU-R/APG documents. The results of the consideration and proposed actions for these Resolutions in relation to specific agenda items are not included in the table;
- For several Resolutions and Recommendations for which a consensus was reached, regulatory texts for MOD or SUP are also provided in the preliminary APT common proposals.

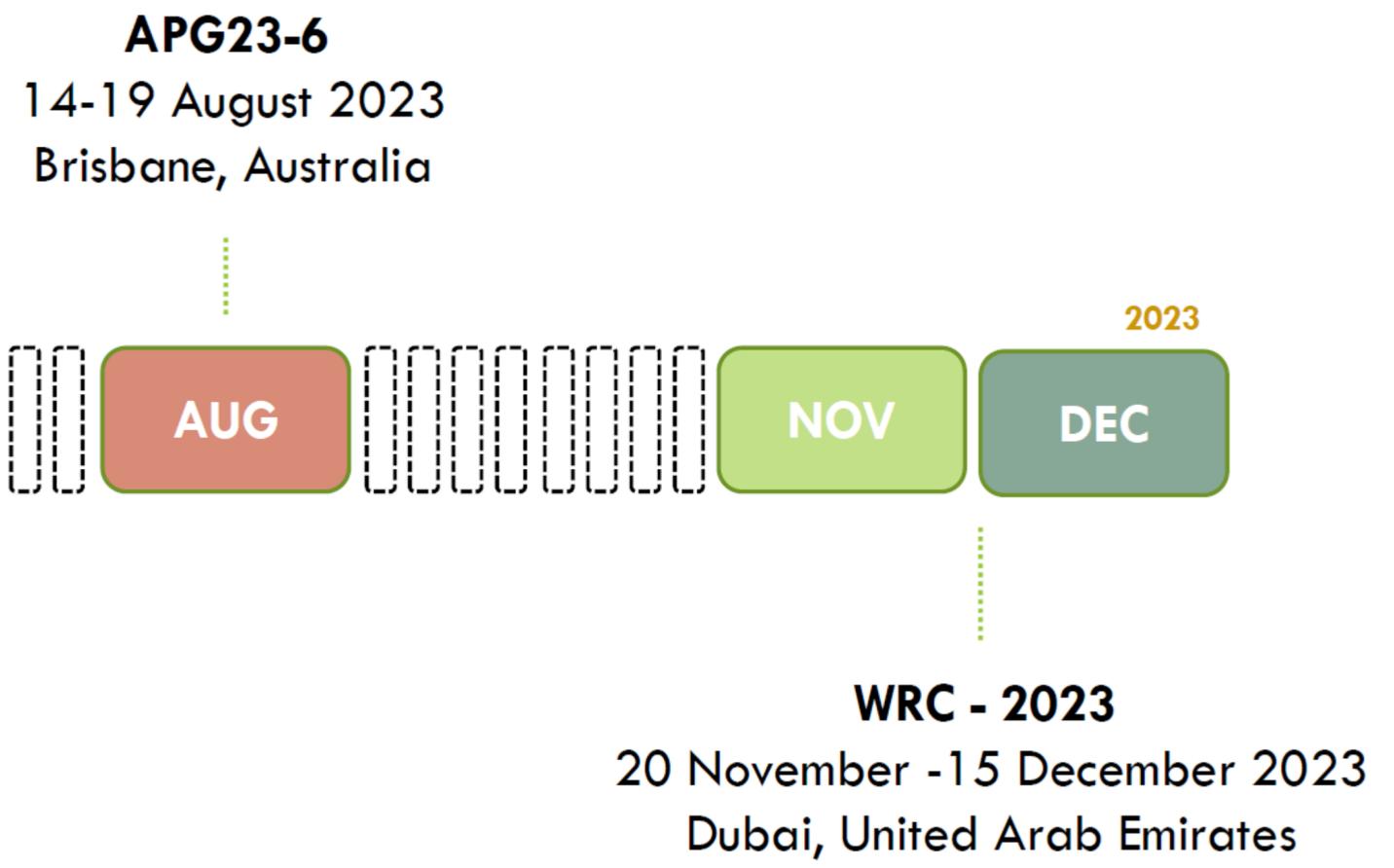
APT View

Agenda Item 9.1(Topic b)

review of the amateur service and the amateur-satellite service allocations in the frequency band 1 240 1 300 MHz to determine if additional measures are required to ensure protection of the radionavigation-satellite (space-to-Earth) service operating in the same band in accordance with Resolution 774 (WRC-19)

APT Members support ITU-R studies undertaken to date in accordance with Resolution 774 (WRC-19), and development of new ITU-R recommendations providing guidelines to protect RNSS (space-to-Earth) receivers from the amateur and amateur-satellite services in the frequency band 1 240-1 300 MHz based on Report ITU-R M.2513 without considering the removal of the amateur and amateur-satellite service allocations. APT Members support no changes to the Radio Regulations under Agenda Item 9.1 Topic B. APT Members recognize that the provisions of RR Nos. 5.28 to 5.30 shall continue to apply despite the new Recommendation under development. APT Members also support the suppression of Resolution 774 (WRC-19) if Recommendation ITU-R M.[AS GUIDANCE] can be finalized and approved before WRC-23.

Future Plans



Matthew Kelly

THANK YOU.