

**Report from
Fourth APT WRC-12 Conference Preparatory Group (APG) Meeting
12-18 December 2010**

The fourth meeting of the Asia Pacific Telecommunity (APT) Conference Preparatory Group for WRC-12 (APG) was held on 12-18 December 2010. The highlights/decisions of this meeting are summarized below.

Agenda Item 1.1: *Deletion of country footnotes (Resolution 26)*

Iran expressed a view that, consistent with the Resolution 26 (Rev. WRC-07), this agenda item was not intended to add country names to footnotes. The APG meeting did not adopt an output under this agenda item.

Agenda Item 1.2: *Enhancing the international regulatory framework (Resolution 951)*

Concerning the regulatory definitions and convergence between terrestrial services (fixed and mobile), most APT members expressed support for the CPM method A1 (i.e., NOC). New Zealand, however, proposed changes to the definitions of the fixed service, fixed, mobile and land stations while India proposed modifications to the fixed service.

Agenda Item 1.3: *Spectrum requirements for Unmanned Aircraft Systems (UAS) Resolution 421*

The APT members generally supported the 5030-5091 MHz band for satellite UAS while maintaining that compatibility with existing services, in particular ICAO standards based systems, such as MLS, needs to be ensured. China, particularly, expressed that there are many operational MLS stations in this band and their number is expected to increase. Concerning the terrestrial UAS, there was general support for the 960-1164 MHz band but Indonesia noted that the band is already extensively used and that additional frequency bands would be needed. Regarding the terrestrial UAS, after much discussion, the CPM Method B2 was supported.

Agenda Item 1.4 - *Regulatory measures for new Aeronautical Mobile Route Service AM(R)S in the bands 112-117.975 MHz, 960-1 164 MHz, and 5 000 - 5 030 MHz (Resolutions 413,, 417 and 420)*

Concerning Resolution 413 (WRC-2007):

The APT members support the suppression of the first *invites* to ITU-R in Resolution 413 (WRC-07) as a result of the studies shown in Report ITU-R M.2147 and the compatibility study-between digital sound-broadcasting below 108 MHz and AM(R)S, in accordance with Resolutions 413 (Rev.WRC-07) taking into account Recommendation ITU-R BS.1114.

Concerning Resolution 417 (WRC-2007):

The APT members agreed to support the amendment of Resolution 417 (WRC-07) based on ITU-R studies in order to introduce operational and technical means to facilitate sharing and coordination process between administrations planning to operate AM(R)S systems in the band 960-1164 MHz and some administrations identified in RR 5.312 operating non ICAO's ARNS systems. China indicated that it operates non-ICAO

aeronautical radio navigation systems in the band 960-1 164 MHz with the same or similar technical characteristics as those of the countries listed in RR No. **5.312**. The APT members agreed that it will be necessary to add China to the list of countries that require protection and coordination.

Concerning Resolution 420 (WRC-2007):

The APT Members are of the view that a new allocation in the band 5 000-5 010 MHz should only be considered if completed studies on spectrum requirements demonstrate that spectrum to serve applications supporting Article **44.1 1-6** cannot be met in the existing band 5 091-5 150 MHz.

Japan proposed to specify the maximum instantaneous AM(R)S e.i.r.p. in any given direction that allows the RNSS compatibility criteria to be met under agreed operational scenarios. This proposal was not adopted as there were differing views expressed on how to reflect the results of Report ITU-R M.2168-1.

Agenda Item 1.5: Electronic News Gathering (Resolution 954)

With regard to this agenda item, the APT Members expressed support for the ongoing ITU-R studies and suppression of Resolution 954.

Indonesia expressed that implementation of Method A (rationalization) could be a practical solution, without losing sight of future harmonization of spectrum use. Australia and Korea expressed support for a WRC Recommendation to establish candidate tuning ranges. Korea also proposed harmonization of tuning ranges for audio applications in the 143-144 MHz, 147-148 MHz, 1700-1710 MHz bands and for video applications in the 7000-7100 MHz and 39 -40 GHz bands. Japan expressed that that worldwide/regional harmonization of ENG spectrum should proceed in a non-mandatory bases (e.g., ITU-R Recommendation or Report). Others (Iran, Bangladesh) expressed support for studies towards worldwide or regional harmonization of ENG spectrum as per the Recommendations ITU-R F.1777 and M.1824.

Agenda Item 1.6 – Allocations in the 275-3000 GHz frequency range (Resolution 950) and regulations of terrestrial free-space optical links (Resolution 955)

With regard to this agenda item and Res. **950**, the APT Members generally support the revision of No. **5.565** as described in the CPM Method A. Iran further expressed that identification of bands for passive services should not preclude possible future allocation of these frequencies to active services.

With regard to this agenda item and Res. **955**, the APT Members support no change (NOC) in the Radio Regulations on the use of free-space optical links. Malaysia expressed a view that technical and regulatory procedures should be develop separately for satellite optical links and terrestrial optical links, therefore, further studies are required (CPM Method C).

Agenda Item 1.7: Meet requirements for AMS(R)S, while retaining the generic MSS allocation at 1525-1559 and 1626.5-1660.5 MHz (Resolution 222)

The APT Members agreed that:

- long term AMS(R)S spectrum requirements up to the year 2025 are estimated to be at less than the available 2 x 10 MHz and could be accommodated in the frequency bands defined by RR No& **5.357A**.
- method to satisfy this agenda item for ensuring the spectrum needed for AMS(R)S communications within priority categories 1 to 6 of Article 44 should take into account efficiency and harmonization in coordination process.
- bands 1 545-1 555 MHz and 1 646.5-1 656.5 MHz should remain the core band for AMS(R)S, while retaining the existing R.R. No.**5.357A**. No new allocations for the AMS(R)S are required.

Japan, New Zealand and Iran expressed that there is a need to reinforce the AMS(R)S status in the L-band and to establish tangible regulatory priority for the AMS(R)S systems in the coordination process by a new WRC Resolution (CPM Method B). Also, Japan is of the view that AMS(R)S use requires priority access in the coordination process.

Indonesia and Malaysia are of the view that current radio regulations provide adequate spectrum access for the AMS(R)S and there is no need to modify RR or Resolution 222 (Method A). Korea is of the view that Method D offers a compromise solution under this agenda item. Australia supports ITU-R efforts to determine whether the current regulatory provisions are sufficient to ensure long-term spectrum availability for the AMS(R)S in the frequencies under footnote No. **5.357A**. Australia supports retention of Methods A, B and D in the draft CPM Report for consideration at WRC-12.

Agenda Item 1.8: Fixed service in bands between 71-238 GHz (Resolutions 731 & 732)

The APT Members support protection of all primary services in bands between 71 and 238 GHz. The APT members are of the view that no additional regulatory provisions are required for the protection of RAS from FS while RR No. **29.9** applies. The APT members support CPM Method A2. Malaysia supports adoption of the unwanted emissions limits on the FS allocations in the bands 81-86 GHz and 92-95 GHz to protect the EESS in the adjacent band 86-92 GHz.

Agenda Item 1.9: Review of Appendix 17 in order to implement new digital technologies for the maritime mobile service (Resolution 351)

The APT Members support modification of RR Appendix **17** Parts A & B, modification of RR Article **59**, adoption of a WRC-12 Resolution on “Application and abrogation of certain provisions of the Radio Regulations” as revised by WRC-12, revision of Appendix **17** to the Radio Regulations in accordance with Resolution **351 (Rev.WRC-07)**, to accommodate the implementation of new digital technologies in the maritime mobile service HF bands taking into account the following:

- All safety and distress aspects currently enforced including distress and safety frequencies for GMDSS identified in RR Appendix **15** must be retained and protected;
- commercial communications should be taken into account;
- new channeling arrangement should preferably be applied to new systems such as LRIT and e-Navigation;

- wide band channels within RR Appendix **17** for new technologies should be created and, the frequency and the bandwidth should be also defined, in order to avoid confusion;
- new system should be capable of co existing with current system;
- GMDSS compliance of new digital technologies should be addressed before reducing the current frequencies of NBDP;
- any changes of RR Appendix **17** should be implemented with sufficient transitional period;
- implementation phase should preferably be preceded with a test phase to identify and remove harmful interferences;
- coordination procedures applicable to new digital technologies into RR Appendix **25** frequencies may need to be developed by a competent WRC before their introduction;
- suppression of Section IV and Section V of RR Appendix **17** Part B are supported, however, continuing use of Morse communications should be allowed without claiming protection; and
- with the adoption of the new channeling arrangements APG Members support the suppression of Resolution **351 (Rev.WRC-07)**.

Some APT members expressed that, due to complexity of the issues, more time is required to review this approach. The APT Members could not agree a common proposal, however, administration were encouraged to submit country proposals under this agenda item.

Agenda Item 1.10: *Frequency allocation requirements and regulatory provisions for operation of safety systems for ships and ports (Resolution 357)*

The APT members support studies to examine the frequency allocation requirements and associated regulatory provisions with regard to operation of safety systems for ships and ports, in accordance with Resolution **357 (WRC-07)** subject to suitable sharing and compatibility outcomes with existing services where applicable. Any modification under this agenda item should not affect the frequencies used by the GMDSS.

In order to satisfy this agenda item the APT considers that:

- With regards to regulatory status of AIS 1 and AIS 2 (Issue A), the majority of APT members support Method A1 of Draft CPM Report; which consists in introducing a primary allocation to the maritime mobile service and secondary allocations to the aeronautical mobile and mobile-satellite (Earth-to-space) services in the Table of Frequency Allocations) in the bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz and suppressing RR No. **5.227A**.
- Regarding satellite AIS (Issue B). APT members support the use of the frequencies 156.775 MHz and 156.825 MHz (corresponding to channels 75 and 76 of RR Appendix 18) for improvement of the satellite detection of AIS (Automatic Identification System) emissions, broadcasting long range AIS messages
- Regarding broadcasts of safety and security information for ships and ports (Issue C), APT members propose to make an exclusive primary allocation to the maritime mobile service in the band 495-505 kHz in all three regions and a co-primary allocation in the band 510-525 kHz in Region 2. This corresponds to Method C of the draft CPM report;

- Regarding the revision of Appendix 18 including VHF Data (Resolution 342 (Rev.WRC-2000)), port operations and ship movement, for ship/port security and maritime safety systems (Resolves 1 of Resolution 357 (WRC-07)) (Issue D), APT members support a review of Appendix 18 for the identification of more single-frequency voice channels for port operation and ship movement. With regard to the VHF data channel, the majority of APT members support Method D1 of Draft CPM Report which consists in introduction of a digital band and identification of additional simplex channels in RR Appendix 18. Some APT members propose the allotment of data bands taking into consideration the requirement for existing analog channels for voice service.

China intends to develop a further method (Method D3), for the identification of the bands 157.125–157.325 MHz and 161.725–161.925 MHz in order to provide a 2 x 200 kHz band for the use of digital technologies which is harmonized with the footnote o) of Appendix 18, which “balances Method D1 and Method D2”.

Agenda Item 1.11: Primary allocation to the space research service (Earth-to-space) within the band 22.55-23.15 GHz (Resolution 753)

APT Members support a primary allocation in the band 22.55 – 23.15 GHz to the space research service (SRS) (Earth to space) along with a regulatory provision defining the minimum coordination distance from international borders. Indonesia is of the view that a 54 km coordination distance, as recommended by WP-7B, may be insufficient and requires further consideration.

Agenda Item 1.12: Protect primary services in the band 37-38 GHz from interference resulting from aeronautical mobile service (Resolution 754)

The majority of APT Members support Method A of the draft CPM report -- propose to add “except aeronautical mobile” after the mobile service allocation in the bands 37-37.5 GHz and 37.5-38 GHz.

Malaysia is of the view that with appropriate pfd limit, the SRS earth stations, FSS earth stations, and FS stations can be protected (i.e., support Method B)

Agenda Item 1.13: Spectrum usage of the 21.4-22 GHz band for plan BSS in Regions 1 and 3

With regard to this agenda item, the APT members adopted the following views:

- Taking into account rain attenuation characteristics in Region 3 and high annual service availability for BSS (HDTV) system, $-105 \text{ dB(W/(m}^2 \cdot 1 \text{ MHz))}$ should be considered as the reference pfd at the Earth’s surface to be used for efficient implementation the BSS network in the band 21.4-22.0 GHz in Region 3.
- The BSS and terrestrial service can operate on co-primary basis in Region 3, provided that:
 - For the protection of BSS from terrestrial service -- in the band 21.4-22.0 GHz, stations in the fixed and mobile service shall not exceed $-\text{XXX.X dB(W/(m}^2 \text{ [1 MHz][4kHz])}$ pfd at [3] m above ground for more than [YYY %, e.g. 0.01%] of time at the border of the territory of another administration.
 - For the protection of terrestrial service from BSS -- the following pfd

limits shall apply to BSS space station in the band 21.4 – 22.0 GHz (hard limit or coordination threshold);

$$\begin{array}{ll} -115 \text{ dB(W/(m}^2 \cdot \text{MHz))} & \text{for } 0^\circ \leq \theta \leq 5^\circ \\ -115 + 0.5(\theta - 5) \text{ dB(W/(m}^2 \cdot \text{MHz))} & \text{for } 5^\circ \leq \theta \leq 25^\circ \\ -105 \text{ dB(W/(m}^2 \cdot \text{MHz))} & \text{for } \theta > 25^\circ \end{array}$$

where, θ is angle of arrival above the horizontal plane.

Note: The next APG meeting will consider whether the condition above would be applied as hard limit or coordination threshold.

Concerning the intra-service issues, Australia, Malaysia and Korea support the application of the current coordination procedures for BSS in 21.4-22.0 GHz band. Iran supports the equitable access to orbit/spectrum resources principle (Method E).

Concerning feeder-links for BSS, Iran supports a new allocation to the FSS (Earth-to-space) in the band 24.65-25.25 GHz in Region 1 and in the band 24.65-24.75 GHz in Region 3. Australia offered NOC in the 24.65-25.25 GHz band.

Concerning Article 23, Australia, Japan and Malaysia are of the view that modifications to No. **23.13** should not be considered under this agenda item. Iran and Vietnam expressed that inconsistencies with Nos. **23.13A** and **23.13B** must be corrected.

Agenda Item 1.14 – Allocations or regulatory provisions for radiolocation service in the range 30-300 MHz (Resolution 611)

The APT Members agreed that:

- any possible allocation in VHF frequency band should be made under the condition that adequate required protection for primary services to which the band is currently allocated has been provided..
- do not support allocation of the band 154-156 MHz for Radiolocation service (Method D).
- interference protection criteria of field strength of 12 dB(μ V/m) is inappropriate to provide adequate protection of MS stations in Region 3. The protection criteria in Recommendation ITU-R M.1808, based on I/N values, shall be applied in protection of existing services and their future development.

Australia supports consideration of a primary allocation to the radiolocation service in the band segment 154-156 MHz within the 30-300 MHz band for the implementation of new applications in the radiolocation service.

Agenda Item 1.15: Consider possible allocations in the range 3-50 MHz to the radiolocation service for oceanographic radar applications (Resolution 612)

The APT members support possible allocations in the range 3-50 MHz to the radiolocation service for oceanographic radar applications. The decision on possible allocations of the bands currently used by the maritime mobile service systems and/ or safety systems will require special care and protection of existing services, especially in the lower part of the band 3 - 50 MHz according to the ITU-R studies.

Vietnam supports possible allocations in the range 3–50 MHz to the radiolocation service for oceanographic radar applications in 4613 – 4650 kHz, 12100 – 12230 kHz; 24000 – 24890 kHz, 41.015 – 47 MHz bands. Malaysia supports allocations in all the frequency

bands listed in Method A. China does not support allocations in the frequency bands 14 815-14 825 kHz and 29 700-39 500 kHz. Japan is considering a secondary allocation to the radiolocation services.

Agenda Item 1.16: Needs of passive systems for lightning detection in MetAids, including possibility of an allocation in the range below 20 kHz (Resolution 671)

The APT members support a new allocation for the meteorological aids service on a Primary basis in the frequency band 9-11.3 kHz.

Agenda Item 1.17: Sharing studies between the mobile service and other services in the band 790-862 MHz in Regions 1 and 3 (Resolution 749)

The APT members developed the following views:

- *Between countries that are non-Contracting Members to GE06 Agreement*
There is no need to change the current provisions in RR. (Method A2)
- *Between countries that are Contracting Members and non-Contracting Members to GE06 Agreement*
There is no need to change the current provisions in RR.
- *Between countries that are Contracting Members to GE06 Agreement (in Region 3 this condition applies only to the Islamic Republic of Iran)*
There is no need to change the current provisions in RR in force. Arrangements to account for a potential impact of cumulative interference from MS to BS, can be developed in the revised Resolution **749 (Rev. WRC-12)**. This view was expressed by Iran.
- *Between Aeronautical Radionavigation Service (ARNS) in Region 1 and Mobile Service in Region 3*
There is no need to change the current provisions in RR. With regard to this issue, the APT Members noted that the allocation to the Mobile service in Region 3 and the allocation to the ANRS in 19 countries in Region 1 have coexisted for a many years prior to WRC-07 without any need for additional regulatory provisions. The APT Members are of the view that the JTG 5-6 studies on sharing between MS and ARNS do not apply to Region 3.
- *Between Fixed and Mobile Services in Region 3*
There is no need to change the current provisions in RR.

Agenda Item 1.18: Radiodetermination-satellite service (s-to-E) allocations in the band 2 483.5-2 500 MHz (Resolution 749)

With regard to this agenda item, the meeting noted that in Region 3, China currently operates the Compass RDSS network and India has filed the INSAT-NAV RDSS network. It was also noted that in Japan, Vehicle Information and Communication System (VICS) has been operating in most cities since 1996 and the number of stations exceeds 23 million. Japan expressed a concern that RDSS earth stations may be susceptible to unacceptable interference from the VICS stations.

The APT members agreed to support a worldwide primary radiodetermination-satellite service (space-to-Earth) allocation subject to protection of, and compatibility with

incumbent services in the 2 483.5-2 500 MHz band. The new RDSS systems should be subject to the application of a coordination threshold level of -129 dBW/m²/MHz.

Agenda Item 1.19: *Regulatory measures related to the introduction of SDR and CRS (Resolution 956)*

With regard to this agenda item, APT members expressed the following views:

- The APT Members support the results of the ITU-R studies on software-defined radio (SDR) and cognitive radio systems (CRS) that have the potential to provide end-user and overall spectrum management benefits.
- The APT Members are of the view that SDR and CRS are not radiocommunication services as defined in Article 1 of the Radio Regulations (RR), but SDR and CRS are technologies that can be implemented in systems of any radiocommunication services and there is no need for any specific frequency allocations for any system of a radiocommunication service using SDR and/or CRS technologies.
- Any system using SDR and/or CRS technologies in an allocated frequency band shall be operated in accordance with the provisions of the Radio Regulations governing the use of that band. The introduction and operation of stations using SDR or CRS technologies in systems of any radiocommunication services should not impose any additional constraints to other services sharing the same band.
- With respect to SDR (Issue A), the APT Members support Method A (No change to the Radio Regulations and suppression of Resolution **956 (WRC-07)**).
- With respect to CRS (Issue B), the APT Members support NOC and suppression of Resolution **956 (WRC-07)**
 - The APT Members are of the view that further technical and operational studies to facilitate the introduction and/or the implementation of CRS technologies are required so that an ITU-R Resolution or WRC Resolution will be developed to provide guidance for these studies.
 - The APT Members are of the views that technical and operational considerations related to the CRS technologies implemented in any systems of each radiocommunication service could be developed in ITU-R Recommendations and Reports by responsible ITU-R study group(s) as appropriate.

Agenda Item 1.20: *HAPS gateway links in the range 5 850-7 075 MHz (Resolution 734)*

The APT members are of the view that HAPS gateway deployment(s) should not constrain the development of the existing services such as GSO-FSS and FS and AP **30B** Allotment Plan.

Bangladesh, Japan and Korea expressed support for the results of ITU-R sharing studies for potential frequency identification for HAPS gateway links in the range 5 850-7 075 MHz. Australia supports consideration of the bands 6 440-6 520 (downlink) and 6 560-6 640 (uplink) for HAPS gateway. Vietnam, Malaysia and Iran support No Change under this agenda item.

Agenda Item 1.21: Consider a primary allocation to the radiolocation service in the band 15.4 – 15.7 GHz

The APT Members support a primary allocation to the radiolocation service in the band 15.4-15.7 GHz provided that there are no constraints on the existing primary services in the band or on ARNS and RAS in the adjacent band.

Agenda Item 1.22: Emissions from short range devices (Resolution 953)

Vietnam expressed that harmonization of frequency bands and technical rules for SRDs would minimize the impact of SRDs on other radiocommunication services. Therefore, Vietnam supports Method C. Australia and Iran were of the view that the regulation of emissions of short-range devices was a national matter. Australia and Iran support Method A. The APT members were encouraged to review the results of APG12-4 and CPM12-2 meetings, and to develop APT common proposal on this agenda item.

Agenda Item 1.23: Secondary Allocation of about 15 KHz to Amateurs in the Band 415-526.5 kHz

The APT members support the studies carried out by the relevant ITU-R Working Parties which show that sharing by the amateur service with the other services in some parts of the band 415-526.5 kHz is possible with appropriate measures for the protection of the incumbent services. For example, the provision of RR No. 5.67A for Amateur Service allocated in the Band 135.7 to 137.8 kHz may be used as a guideline. The majority of the members were supportive of Method B or Method C. The APT members agreed that Method A or D are not appropriate alternatives under this agenda item.

Agenda Item 1.24: Expansion of non-GSO MetSat (s-E) allocation in 7750-7850 MHz to 7850-7900 MHz (Resolution 672)

With regard to this agenda item, the APT members support a primary allocation to the MetSat service in the band 7 850-7 900 MHz on a world-wide basis, limited to non-geostationary satellite systems with the consequential changes to Article 21, etc.

Agenda Item 1.25: Additional allocations to the MSS with particular focus on the bands between 4 GHz and 16 GHz (Resolution 231)

The APT Members reviewed 6 candidate bands identified for consideration by the ITU-R WP-4C. The views expressed by the individual APT members on this issue are summarized in the table below:

	VTN	INS	AUS	MLA	KOR	CHN	IRN	JPN
5150 – 5250 MHz	NO	STUDY	STUDY	STUDY	NO	STUDY	NO	NO
7055 – 7250 MHz	NO	NO	7055-7145 MHz	STUDY	STUDY	NO	NO	NO
			7145-7235 MHz	NO				
			7235-7250 MHz	STUDY				
8400 - 8500 MHz	NO	NO	NO	STUDY	NO	NO	NO	NO
10.5 – 10.6 GHz	NO	NO	STUDY	STUDY	NO	NO	NO	NO
13.25 – 13.4 GHz	NO	STUDY	STUDY	STUDY	NO	NO	NO	STUDY
15.43 – 15.63 GHz	NO	STUDY	NO	STUDY	NO	STUDY	NO	STUDY

STUDY: Decision is pending upon further studies to ensure the sharing criteria with incumbent services prior to WRC12.

NO: Not feasible

Agenda Item 8.1.2: on any difficulties or inconsistencies encountered in the application of the Radio Regulations

Issue A: Resolution 63 (Rev.WRC-07): Protection of radiocommunication services against interference caused by radiation from industrial, scientific and medical (ISM) equipment

The APT Members are of the view that the emissions of ISM equipments are adequately managed by national regulations based on the emission limits of ISM equipments provided by Publication CISPR 11. the APT Members support the modification of Resolution **63 (Rev. WRC-07)** for the further review of the radiation limit of ISM equipments taking into account the protection criteria of the radiocommunication services using digital technology.

Issue B: Resolution 547 (Rev. WRC-07): Updating of the “Remarks” columns in the Tables of Article 9A of Appendix 30A and Article 11 of Appendix 30 of the Radio Regulations

The APT Members did not reach substantive conclusions on this issue.

Issue C: Resolution 673 (WRC-07): Radiocommunications use for Earth observation applications

The APT Members support the efforts in recognition of Earth Observation radio services.

Agenda Item 8.2: Next WRC Agenda

The APT Members initiated development of WRC-15 agenda items as summarized below:

- New Zealand proposed to modify Preliminary Agenda Item 2.1 of WRC-15(Resolution **806 (WRC-07)**), as follow:
 - 2.1 to consider spectrum requirements and possible additional spectrum allocations ~~to support the operation of unmanned aircraft systems (UAS) in non-segregated air space;~~
- New Zealand also proposed a new WRC-15 agenda item to consider spectrum requirements and possible frequency allocations and regulatory actions to support wireless avionics intra-communications (WAIC) systems.
- Japan proposed a new WRC-15 agenda item to consider a primary allocation in the band 77.5 - 78.0 GHz to the radiolocation service for short-range high-resolution radar.
- New Zealand, Japan, Korea and China proposed a new WRC-15 agenda item to consider spectrum requirements and regulatory actions for broadband mobile communications (satellite, terrestrial including IMT).
- Australia, China and Thailand proposed a new WRC-15 agenda item to consider allocations to the Fixed Satellite Service (Earth-to-space) with particular focus in the band 13-17 GHz in Region 3.

Deleted: in the radiodetermination service

Deleted: aerial