

Report from the 2nd meeting of
APT WRC-07 Conference Preparatory Group (APG)
28 February to 3 March 2005

The second meeting of the Asia-Pacific Telecommunity Conference Preparatory Group for WRC-07 (APG) was held in Bangkok, Thailand from 28 February to 3 March 2005. The highlights/decisions of the meeting, for each WRC-07 agenda item, are provided below.

Agenda Item 1.2 - *consideration of allocations and regulatory issues related to the Earth exploration-satellite (passive) service, space research (passive) service and the meteorological satellite service in accordance with Resolutions 742 (WRC-03) and 746 (WRC-03).*

With regard to sharing issues between the passive services and the fixed and mobile services in the 36-37 GHz band (Res. 742) and 10.6-10.68 GHz band (Res. 746), the preliminary APT position is to ensure that undue constraints are not imposed on the allocated services in the band.

With regard to extending the current 18.1-18.3 GHz geostationary meteorological satellites allocation in the space-to-Earth direction to 300 MHz of contiguous spectrum in the 18.0-18.4 GHz band (Res. 746), APT supports the extension provided that:

- a) existing services (FS, FSS and MS) are protected from harmful interference due to the possible extension of the MetSat allocation;
- b) sharing criteria is appropriately defined;

The APT also plans to consider the following views at the next meeting:

- a) APG Members would not be in favor of an extension of the MetSat allocation into the 18.3-18.4 GHz band if undue constraints are imposed on FSS in this band.
- b) In order to protect the fixed and mobile services, any expansion of the MetSat service allocation beyond the band 18.1-18.3 GHz for geostationary applications will have to comply with the existing pfd limits given in Table 21-4.
- c) MetSat allocation in the band 18.0-18.1 GHz should be governed by the same coordination conditions with the FS and MS as are currently apply in the 18.1-18.3 GHz band.

Agenda Item 1.3 - *allocations related to the Earth Exploration-Satellite Service (active), Space Research Service (active) and the Radiolocation service in accordance with Resolutions 747 (WRC-03).*

With regard the radiolocation upgrade, the APT is of the view that the upgrading of radiolocation service to primary would be supported, subject to agreed ITU-R studies indicating that sharing with the radionavigation service is possible. These studies to be done by ITU-R need to take into account measurement tests. It is also required that the radiolocation service operating in the 9 000-9 200 MHz and 9 300-9 500 MHz bands should not constrain the use and development of the radionavigation service, operating in accordance with the Radio Regulations. This could be accomplished by an appropriate footnote to protect the aeronautical radionavigation and radionavigation systems.

With regard to the extension of EESS and SRS, the APT supports ongoing ITU-R compatibility studies between the existing systems operating in the radiolocation and

radionavigation services in the 9 300 – 9 500 MHz band and the spaceborne radar systems operating under EESS (active) and SRS (active). Any expansion of the EESS (active) and SRS (active) allocation beyond the band 9 500-9 800 MHz should be based on studying its demand for this service and ensure that the incumbent services are protected. Regulatory text will be required to ensure protection to incumbent services.

Agenda Item 1.4 - *frequency-related matters for the future development of IMT-2000 and systems beyond IMT-2000 taking into account the results of ITU-R studies in accordance with Resolution 228 (Rev.WRC-03)*

With regard to this agenda item, the APT is of the view that

- Candidate frequency bands should be lower than 6GHz;
- Spectrum requirements for the future development of IMT-2000 and systems beyond IMT-2000 would be determined based on the result of calculations conducted by ITU-R Study Groups;

The APT agreed that in determining the need for additional spectrum, the following issues need to be taken into account:

- spectrum already identified for IMT-2000;
- the need to protect existing services, in particular, extensive use of these bands by terrestrial services other than terrestrial IMT-2000, including their evolution

The APT also noted that satellites can play a major role in developing countries and thus should also be duly considered and be taken into account in the evolution of IMT-2000 and systems beyond (see Resolution 228).

Agenda Item 1.5 - *spectrum requirements and possible additional spectrum allocations for aeronautical telecommand and high bit-rate aeronautical telemetry.*

With regard to the issue of definitions for the aeronautical telemetry and telecommand in the Radio Regulations, the APT agreed that there is a need to consider inclusion in Article 1 of the following definitions:

- a) Aeronautical telemetry: The use of telemetry for the transmission from an aircraft station to facilitate the measurements made in an aircraft, including those relating to the functioning of the aircraft;
- b) Aeronautical telecommand: The use of radiocommunication for the transmission of signals to an aircraft station to initiate, modify or terminate functions of equipment on an associated aircraft object, including the aircraft station.

The APT also note that revision/modification of footnotes to the Table of Frequency Allocations, Article 5 RR, might be required (i.e. 5.342, 5.343, 5.348B, 5.394, 5.395).

The APT supports the studies under Resolution 230 (WRC-03) into the requirements for justifiable wideband aeronautical mobile telemetry (AMT) and associated telecommand spectrum above 3 GHz, and notes that *considering (d)* of this Resolution identifies a need to protect existing services.

These studies will need to take into account:

- a) the bandwidth demand for wideband AMT and associated telecommand; and
- b) where appropriate, existing ARNS and FSS allocations, including the existing and planned usage by each service; and

- c) possible developments under Agenda item 1.6 (Resolution 414 (WRC-03)) in the 5 091-5 150 MHz and other aeronautical radionavigation bands between 3 and 6 GHz. Allocation to AMT in an ARNS or AM(R)S band should be conditional upon the completion of studies to demonstrate that sharing with the incumbent aviation systems is feasible.

Agenda Item 1.6 - *additional allocations for the aeronautical mobile (R) service in parts of the bands between 108 MHz and 6 GHz, in accordance with Resolution 414 (WRC-03) and, to study current satellite frequency allocations, that will support the modernization of civil aviation telecommunication systems, taking into account Resolution 415 (WRC-03).*

With regard to Resolution 414, the APT supports global allocations to the aeronautical mobile (R) service in the frequency bands 960-1 164 MHz and 5 091-5 150 MHz provided that sharing with the existing aeronautical mobile (R) systems is feasible. In the 5 091-5 150 MHz band compatibility will be required with FSS Earth-to-space feeder links as some Administrations in APT have operational systems in this band. The APT also recognized that there is a need to maintain compatibility with services in adjacent bands. In particular, any allocation changes in the 108-117.975 MHz band must be compatible with terrestrial broadcasting systems and place no additional constraints on the broadcasting service in the band 87-108 MHz.

With regard to resolution 415, the APT agreed that:

- a) existing FSS networks can be used to support civil aviation telecommunications services, including non-safety related ICAO CNS/ATM applications.
- b) the use of satellite-based facilities will contribute to the overall improvement of the aviation communications infrastructure in developing countries and remote areas. These (i.e., FSS) applications are consistent with the existing frequency allocations.

The APT could not reach agreement on the issue of allocations to aeronautical mobile-satellite service on a secondary basis in the FSS Ku bands.

Agenda Item 1.7 - *sharing between the mobile-satellite service and the space research service (passive) in the band 1 668-1 668.4 MHz, and between the mobile-satellite service and the mobile service in the band 1 668.4-1 675 MHz.*

APT is of the view that sharing studies between MSS and SRS (passive) in the band 1668 – 1668.4 MHz and between MSS and MS in the band 1668.4 – 1675 MHz should be continued. APT agreed that incumbent services must be fully protected.

Agenda Item 1.8 - *studies on technical sharing and regulatory provisions for the application of high altitude platform stations operating in the bands 27.5-28.35 GHz and 31-31.3 GHz in response to Resolution 145 (WRC-03), and for high altitude platform stations operating in the bands 47.2-47.5 GHz and 47.9-48.2 GHz in response to Resolution 122 (rev. WRC-03)*

The APT members support sharing studies between HAPS and systems in other services as identified in Resolution 122 (Rev. WRC-03) and Resolution 145 (WRC-03) “on a fair basis for all concerned parties.” APT plans to consider the issue of identification of

appropriate 300 MHz segment in the band 27.5 – 28.35 GHz for use by HAPS in the countries listed in Nos. 5.537A and 5.543A at the next APG meeting.

Agenda Item 1.9 - *technical, operational and regulatory provisions applicable to the use of the band 2 500-2 690 MHz by space services in order to facilitate sharing with current and future terrestrial services without placing undue constraint on the services to which the band is allocated*

APT supports studies to be carried out by ITU-R Joint Task Group 6-8-9 and a “fair” solution that satisfies all concerned parties without any undue constraint on either of terrestrial or space services.

Agenda Item 1.10 - *review of the regulatory procedures and associated technical criteria of Appendix 30B, without impact on existing allotments or assignments, Resolution 146 (WRC-03).*

The APT developed preliminary views on the following issues:

- Macrosegmentation – the APT decided that the principle of macrosegmentation should be excluded in connection with the use of digital transmission methods, but that procedures need to be developed to take account of systems currently in operation in accordance with the Plan using analogue modulation.
- Existing systems – the APT noted that all “existing systems” have been either entered in the Appendix 30B List and brought into use (as well as notified or recorded in the Master Register) or have been cancelled. The APT is, therefore, of the view that Section IB of Article 6 of AP30B (procedure for recording the “existing systems” contained in Part B of the Plan in the List) is no longer necessary.
- PDA retention – the APT is considering that PDA should be set to zero for networks in the “design” and “operational” stages and equivalent to the Service Arc of that allotment in the pre-design stage. Alternatively, there may be no need to retain the PDA concept.

Agenda item 1.11 - *to review sharing criteria and regulatory provisions for protection of terrestrial services, in particular terrestrial television broadcasting services, in the band 620-790 MHz from BSS networks and systems, in accordance with Resolution 545 (WRC-03)*

The APT agreed on the need to protect terrestrial services in the band including television broadcasting, fixed and mobile.

Agenda Item 1.12 - *Coordination and notification procedures for satellite networks” in accordance with Resolution 86 (WRC-03)*

The APT developed preliminary positions on the following issues:

- modify No. 11.47 to take into account the decision of WRC-03 to suppress the possibility of extension of the notified date of bringing into use, previously referred to in No. 11.44;
- Rule of Procedure on No. 9.11A should be reviewed with a view to include them in Article 9;

- provisions of No. 9.11A should apply only between services allocated with equal rights, which should be clearly reflected in the Radio Regulations;
- modify the provisions of No. 11.43A to incorporate the content of the Rule of Procedure on No. 11.43A so as to specify the criteria associated with the applicability of No. 11.43A;
- clarify the wordings of the provisions of No. 11.43B that these provisions relate to the case of a modification to an assignment recorded in the MIFR with a favorable finding under No. 11.31;
- solve the possible inconsistency between the provisions of No. 5.538 and the contents of Table 21-4 of Article 21, by including the 27.500-27.501 GHz band in Table 21-4.

Agenda Item 1.13 - *taking into account Resolutions 729 (WRC-97), 351 (WRC-03) and 544 (WRC-03), to review the allocations to all services in the HF bands between 4 MHz and 10 MHz, excluding those allocations to services in the frequency range 7 000-7 200 kHz and those bands whose allotment plans are in Appendices 25, 26 and 27 and whose channelling arrangements are in Appendix 17, taking account of the impact of new modulation techniques, adaptive control techniques and the spectrum requirements for HF broadcasting*

No common view was agreed to on this agenda item.

Iran:

1. By supporting Resolution 544 (WRC-03), additional broadcasting spectrum as indicated in this Resolution may be identified in order to satisfy the broadcasting needs;
2. Iran is of the view that sharing between Broadcasting and Maritime Mobile Services is not feasible;
3. One possible option is a sharing arrangement between Fixed- and Land Mobile Service and the Maritime Mobile Service in certain portions of the bands of Appendix 17 as modified and as instructed under Resolution 351 (WRC-03), provided that “all parties agreed to that option”;
4. Such sharing arrangement may be implemented by the introduction of digital technology, adaptive control techniques for the Fixed- Land Mobile- and Maritime Mobile Services offering dynamic frequency selection, and the application of appropriate assignment rules;
5. The HF band between 4-10 MHz is heavily used in Iran for the fixed and mobile services;
6. Once the above matters are fully studied and the results are reported to WRC-07, that Conference may place the issue of the assignment of HF band between 4-10 MHz, together with the options identified, on the agenda of a future competent conference (WRC-10). By that time the use of digital audio broadcasting in HF band, the need for additional HF broadcasting band and the spectrum requirement in the band 4-10 MHz band for all concerned services would be further clarified.

Korea

1. Additional frequency allocation per Resolution 544 are required only for broadcasting service;

2. There is no Resolution related to amateur service in the agenda item 1.13, and amateur service should not be considered under this agenda item;
3. Sharing study should focus on the insufficient spectrum allocations and inefficient spectrum use within the scopes as identified by Resolutions 729, 351 and 544.

Agenda Item 1.14 - *Operational procedures and requirements of the Global Maritime Distress and Safety System (GMDSS) and other related provisions of the Radio Regulations*

With regard to Resolution 331, the APT is of the view that sufficient experience has been gained from GMDSS to allow for consideration of modifications to the Radio Regulations at WRC-07. The non-GMDSS distress and safety communications provisions should be gradually revised to accommodate interoperability with GMDSS. In particular, Chapter VII of the Radio Regulations should be revised. This interoperability is required to maintain Safety-Of-Life At Sea (SOLAS) until the maritime community has fully transitioned to the GMDSS standard. In accordance with IMO recommendations, GMDSS ships continue to keep continuous guard on VHF channel 16 (156.8 MHz) with a view to maintaining communications between SOLAS and Non-SOLAS ships. All vessels should be encouraged to make use of the GMDSS as soon as possible. The IMO has authorized the discontinuance of a 2 182 KHz guard for SOLAS vessels. In recognition of continuing domestic requirements regarding non-SOLAS vessels outside of VHF range in some countries, a 2 182 kHz guard will need to be maintained for some time. Resolution 331 (Rev.WRC-03) should be modified to reflect the current situation. Rules and procedures for radiotelegraphy can be deleted from Appendix 13 along with relevant changes to Chapter IX.

With regard to Resolution 342, the APT agrees that it is important that efficient use is made in the maritime VHF band for distress and safety communications as well as other digital communications public correspondence. The APT, therefore is in favor of the introduction of digital systems and rearrangement of channel spacing. The introduction of digital systems into this band should be based on adoption of suitable technologies into a worldwide interoperable standard and incorporate the capability to handle the existing system. Consequential revision of Appendix 18 to reflect these requirements and the decline in VHF public correspondence use may be necessary at a later time.

Agenda Item 1.15 - *secondary allocation to the amateur service in the frequency band 135.7-137.8 kHz*

The APT is in favor of a world-wide secondary allocation to the amateur service in the band 135.7-137.8 kHz with constraints to ensure protection of the incumbent services. The inclusion of an option in the draft CPM Report of an allocation by table entry rather than by footnote is also supported.

Agenda Item 1.16 - *to consider the regulatory and operational provisions for Maritime Mobile Service Identities (MMSIs) for equipment other than shipborne mobile equipment, taking into account Resolutions 344 (Rev.WRC-03) and 353 (WRC-03)*

The APT supports the assignment of MMSIs to SAR aircraft and aids to navigation. The APT is of the view, however, that a unique and entirely different format for these MMSIs

should be developed and not impact on the MMSI numbers available for ship stations and coast stations. The APT also supports the registration of MMSIs assigned to SAR aircraft and aids to navigation in the Maritime Mobile Access and Retrieval System (MARS) and ITU-R studies to satisfy the requirements of Resolution 353 (WRC-03).

Agenda Item 1.17 - *allocation to the FSS for feeder links for non-geostationary-satellite networks in the mobile-satellite service with service links below 1 GHz in the bands 1390-1392 MHz (Earth-to-space) and 1430-1432 MHz (space-to-Earth).*

The APT agreed that operations of the FSS feeder links must fully protect other services allocated in the bands 1390-1392 MHz and 1430-1432 MHz. This protection could be ensured by establishment of the appropriate pfd values.

Agenda Item 1.18 - *pdf limits in the band 17.7-19.7 GHz for satellite systems using highly inclined orbits*

The APT members generally support continued studies to review the current PFD values for satellite systems using highly inclined orbits (HIO) to adequately protect the fixed service without unduly constraining these satellite systems in the band 17.7 – 19.7 GHz. The satellite networks using HIOs should continue to be considered as non-GSOs and have the same regulatory procedure as other types of non-GSOs. There is no need to modify the Radio Regulations in a way that categorizes HIO non-GSO operations separately from other non-GSO systems.

At this meeting, the administrations could not agree on whether the satellite systems considered under Resolution 141 should include circular orbit satellite.

Agenda Item 1.19 - *spectrum requirements for global broadband satellite systems in order to identify possible global harmonized FSS frequency bands for the use of Internet applications, and consider the appropriate regulatory/technical provisions*

The APT agreed that the ability of FSS systems to provide internet access can be fully accommodated under the existing Radio Regulations.

Agenda Item 1.20 - *regulatory measures for the protection of the Earth exploration-satellite service (passive) from unwanted emissions of active services in accordance with Resolution 738.*

The APT considers that adequate protection should be given to EESS (passive) from unwanted emissions without imposing undue burden on active services in adjacent bands. The regulatory measures to regulate unwanted emissions from active services should be “appropriately determined” taking into account the results of ITU-R studies. Regarding the regulatory measures to satisfy this agenda item, the APT plans to consider an approach similar to the regulatory approach adopted through Resolution 739 (WRC- 03) in response to agenda item 1.8.2 (protection of the RAS) at WRC-03.

Agenda item 1.21 - *compatibility between the radio astronomy service and the active space services.*

The APT’s preliminary position is to seek protection of the radio astronomy service from interference arising from unwanted emissions of satellite services in nearby or adjacent bands, without having undue constraints on the active services.

Diverse views were expressed at this meeting on the understanding of Resolution 740(WRC-03). One view is that the compatibility studies should remain within the regulatory framework given in Resolution 739 (WRC-03) and inclusion of frequency band pairs not listed in Resolution 739 (WRC-03) should not be supported. Another view is that the compatibility studies must be undertaken in ITU-R Task Group 1/9 in order to determine, if appropriate, which frequency band pairs and corresponding threshold levels could be added to Tables 1-1 or 1-2 in the Annex to Resolution 739 (WRC-03).

Documents

The documents of this meeting are available at:

<http://www.aptsec.org/meetings/2005/apg07-2/APG2007-2%20Documents.htm>

Next meeting

The next meeting of APG is tentatively scheduled for February 2006.