



International Civil Aviation Organization

**EIGHTEENTH MEETING OF THE COMMUNICATIONS/NAVIGATION
AND SURVEILLANCE SUB-GROUP (CNS SG/18) OF APANPIRG**

Asia and Pacific Regional Sub-Office, Beijing, China
(21 – 25 July 2014)

Agenda Item 8: Aeronautical electromagnetic spectrum utilization

1) Preparations for WRC-2015

OUTCOME OF SECOND AND THIRD APT-APG MEETINGS

(Presented by Secretariat)

SUMMARY

This paper presents the outcome of the second and third APT-APG meetings.

1. INTRODUCTION

1.1 The second meeting of the Asia-Pacific Conference Preparatory Group for WRC-15 (APT APG2015-2) was held in Bangkok Thailand from 1 to 5 July 2013 and was attended by about 300 participants, including National frequency spectrum policy makers from Administrations in the Asia-Pacific Region, regional and International Organizations and industry.

1.2 The purpose of ICAO participation was to introduce the ICAO Position on all WRC-15 agenda items relevant to civil aviation and seeking support from administrations and ensure to the maximum extent possible that the common Asia-Pacific preliminary views are in line with ICAO Position.

1.3 363 participants attended the third meeting of the Asia-Pacific Conference Preparatory Group for WRC-15 (APT APG2015-3) was held in Brisbane, Queensland, Australia, from 9 to 13 June 2014.

1.4 ICAO participated to seek support from administrations and ensure to the maximum extent possible that the common Asia-Pacific preliminary views are in line with ICAO Position, and to seek support for the Global Flight Tracking initiative.

2. DISCUSSION

APT-APG/2

2.1 The ICAO position for WRC-2015 was introduced through an Information Paper.

2.2 The outcome of the meeting was as follows:

- **Agenda Item 1.1** - Additional allocations to IMT, threatening frequency bands used by aviation (1300 – 1400 MHz (PSR), 1518 – 1559 and 1626.5 – 1660.5 MHz (AMS(R)S – both Inmarsat and Iridium Satcom, 2700 – 2900 MHz (S-band ARNS - PSR), 2900- 3400 MHz (S-band ARNS – PSR), 3400 – 4200 MHz (VSAT), 5350- 5470 MHz (airborne weather radar). No consensus could be reached. The threat on aviation bands remained.
- **Agenda Item 1.5** - FSS for UAS. A very comprehensive Preliminary View document was developed which discussed the various issues reasonably in line with the ICAO position. However, no methodology was developed yet to attempt a solution on the Agenda Item.
- **Agenda Item 1.6** - Additional FSS allocations (1.6.1 / 1.6.2) APT was of the view that 13.25 – 13.75 GHz (ARNS) be excluded. There was no indication of position on 15.25 – 15.4 GHz (ARNS).
- **Agenda Item 1.7** - Noting the potential deletion of time limits of the FSS (E-s) (feeder links) allocation in the MLS extension band (5091 – 5150 MHz), the outcome of the meeting was in line with ICAO position.
- **Agenda Item 1.10** - MSS to support IMT. Compatibility studies required in order to protect existing services and their future deployment – in line with ICAO Position.
- **Agenda Item 1.11** - EESS in the 7 – 8 GHz range. The focus of studies appeared to be on the 7 GHz band, hence no issues with ARNS in 8750 – 8850 MHz (Doppler navigation systems).
- **Agenda Item 1.12** - Extension of EESS in the 9 GHz range. The current reflections in APT preliminary position may not sufficiently reflect ARNS concerns in the 9000 – 9200 MHz band (ASDE, ASMR, PAR).
- **Agenda Item 1.17 (WAIC)** - The preliminary view was in line with ICAO Position.
- **Agenda Items 4 and 8** - Considerations were still at a preliminary stage.
- **Agenda Item 9.1.5** - VSAT in C-band. No input was made.

APT-APG/3

2.3 The outcome of the meeting was as follows:

- ICAO flight Global tracking initiative: an information paper was introduced and presented by ICAO in the plenary session and is placed at **Attachment A**. A good support was received, but without direct input from any State to the APG-3 meeting, the drafting could not take place at this meeting. The matter would be progressed through the Plenipotentiary Conference and its preparatory meetings and in APG-4 and -5 meetings.
- **Agenda Item 1.1** - Additional allocations to IMT: this complex item has slowly progressed and did not yet show any regional alignment on any frequency band to be allocated to IMT. No major issue was detected against ICAO position during the meeting.
- **Agenda Item 1.5** - FSS for UAS. The background and preliminary views were much debated. APT Members were in favour of globally harmonized spectrum (as for manned A/C) and support the preparation of ITU regulatory actions to enable use of frequency bands allocated to the FSS for UAS control and non-payload communications (CNPC) links in

accordance with Article 11 of the Radio Regulations and to ensure consistency with ICAO technical and regulatory requirements for a safety service in non-segregated airspaces as well as pursuant to No. 4.10 of the Radio Regulations. Some APT Members support Method B, some others Method A while recognizing that the associated draft Resolution [FSS-UA-CNPC]) needs to be satisfactorily progressed to facilitate use of the FSS for UAS CNPC. It was also discussed that some APT Members remained open to other Methods (that would be brought by Europe to the WRC), while some opposed.

- **Agenda Item 1.6** - Additional FSS allocations (1.6.1 / 1.6.2)
 - APT confirmed in APG-3 the view that 13.25 – 13.75 GHz (ARNS, airborne Doppler radar) be excluded. No indication of position was given on 15.25 – 15.4 GHz (ARNS);
 - Some APT Members had preliminary view to support consideration of possible additional primary allocation in the band of 15.43-17 GHz to FSS pursuant to the study conducted by ITU-R WP4A;
 - 15.4 – 15.7 GHz (aeronautical radionavigation): one State supported possible additional primary allocation in the band of 15.43-17GHz to FSS; and
 - 24.25-24.65 GHz (ASDE): one State supported possibly new allocations within portions of the bands between 22 and 26 GHz
- **Agenda Item 1.7** - was in line with ICAO position. APT Members support studies of the ITU-R on compatibility between aeronautical radionavigation service and fixed-satellite service (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the mobile-satellite service) in the frequency band 5 091-5 150 MHz with a view that the date limitation should be removed, the MLS systems should be fully protected, and Resolution 114 (Rev.WRC-12) should continue to apply to this allocation with the necessary consequential amendments.
- **Agenda Item 1.10** - MSS to support IMT. APT Members expressed their concerns regarding studies of potential allocation for MSS, which would require compatibility studies. This was in line with ICAO Position.
- **Agenda Item 1.11** - EESS in the 7 – 8 GHz range. In line with ICAO position, no issues with ARNS in 8750 – 8850 MHz (Doppler navigation systems).
- **Agenda Item 1.12** - Extension of EESS in the 9 GHz range. 9000 – 9200 MHz band (ASDE, ASMR, PAR). The meeting views were now in line with ICAO position: APT members support an extension of EESS (active) by up to 600 MHz within the frequency ranges 9 200-9 300 MHz/9 900 – 10 400 MHz or 9 900 - 10 500 MHz on a primary and/or secondary basis.
- **Agenda Item 1.17** - WAIC. In line with ICAO Position. APT Members support a primary allocation to AM(R)S in the frequency band 4 200-4 400 MHz, limited to WAIC systems.
- **Agenda Item 4** - Few and minor changes to recommendations of previous conferences.

- **Agenda Item 8** - APT Members do not support the use of this Agenda item to facilitate the adding of country names to footnotes or the addition of new country footnotes.
- **Agenda Item 9.1.5** - VSAT in C-band. APT Members will monitor ITU-R studies noting this is a Region 1 issue, and not support any aspects of this Agenda item being applied to Region 3.
- **WRC-18** - one State proposed a new Agenda Item for WRC-18: to consider identification to IMT in the frequency range between 6 GHz and [60] / [100] GHz including possible additional allocations to mobile service on a primary service. Another State proposed a new Agenda Item for WRC-18: “frequency-related matters for future development of mobile communication systems for 2020 and beyond. The WRC may be held in 2019.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper. Aviation spectrum managers are urged to continue their discussions with the national frequency regulators to protect the aviation spectrum and favour solutions for the new aviation needs.



International Civil Aviation Organization

Recommendations for consideration on Global Tracking of Aircraft

Asia Pacific Telecommunity
APT Conference Preparatory Group for
WRC-15

Brisbane, Australia 9 – 13 June 2014

Recent events in aviation

- Recent accidents have resulted in the loss of aircraft in very remote areas
- The loss of AF 447 and MH 370 occurred in remote oceanic areas
- There have been accidents in the Arctic region
- In the case of AF 447 location and identification of the event area was delayed due to lack of last known position information from the aircraft
- MH 370 event area is not known with certainty

Efforts in search and rescue

- Coordination of search and rescue efforts has been hampered by the lack of last known position of aircraft
- Considerable cost and resource expenditure has been necessary
- In oceanic events, when an aircraft ELT is submerged the signals cannot be received by COSPAS SARSAT
- Remote areas are beyond the coverage of air traffic management radar
- Polar areas are beyond the coverage of geostationary satellites

Global Tracking Meeting at ICAO

- ICAO is the UN agency setting the global standards and practices for aviation safety
- ICAO convened a Special Multi-disciplinary meeting on Global Airline Flight Tracking in Montreal on 12-13 May

<http://www.icao.int/Meetings/GTM/Pages/Documentation.aspx>

Recommendations of Global Tracking Meeting

- Consensus among its Member States and the international air transport industry sector on the near-term priority to track airline flights, no matter their global location or destination
- global tracking of airline flights will be pursued as a matter of priority to provide early notice of and response to abnormal flight behaviour
- airlines will be encouraged to use existing equipment and procedures to the extent possible to support flight tracking

Recommendations of Global Tracking Meeting

Recommendation n)

- n) ICAO should encourage States and International Telecommunication Union (ITU) to take action, at the earliest opportunity, to provide the necessary spectrum allocations as emerging aviation needs are identified. This includes spectrum for satellite and radio services used for safety of life aviation services. ICAO encourages ITU to place this on the Agenda for the upcoming ITU World Radio Conference 2015;

Involvement of the ITU

- The Malaysian Government formally requested the ITU to be involved in finding technology solutions to provide global tracking
- The ITU and ICAO as sister United Nations organisations work very closely together
- ITU Expert Dialogue on Real-Time Monitoring of Flight Data, was held in Kuala Lumpur, Malaysia, 26 – 27 May 2014

<http://www.itu.int/en/ITU-T/Workshops-and-Seminars/ccsg/expdial/Documents/communique.pdf>

Proposed Action of ITU Expert Dialogue

Proposed Action 1.

1. Some participants called upon ITU to take action, at the earliest opportunity, to provide the necessary spectrum allocations as emerging aviation needs are identified. This includes spectrum for satellite and radio services used for safety of life aviation services. The meeting encouraged ITU to continue to study and address current and future spectrum requirements for flight tracking and real-time flight data monitoring and make appropriate allocations at upcoming World Radiocommunication Conferences, including the conference in 2015.

Conclusion

- Asia Pacific Administrations are encouraged to support the global tracking initiative as a priority.
- Administrations are encouraged to assist ICAO in working towards a global tracking solution
- That Administrations support ICAO at WRC-15 on the global tracking initiative that will enhance aviation safety in all regions of the world

ICAO Position for WRC-15

APT-APG-2, Information Document 2:

http://www.apg.int/sites/default/files/2013/06/APG15-2-INF-02_ICAO_Position.docx

Thank You