International Civil Aviation Organization

THIRTEENTH MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/13)

Bangkok, Thailand, 9-13 September 2002

Agenda Item 2: ASIA/PAC Air Navigation System and Related Activities

2.2 CNS/MET Matters

Procedures to Ensure Spectrum Availability and Protection for the Aeronautical Mobile Satellite (R) Service (AMS(R)S) (Contribution to APG2003-4 Meeting)

(Presented by Japan)

SUMMARY

This paper presents Japan's contribution to APG2003-4 meeting proposing that WRC2003 is to adopt agenda item for WRC05/06 on the subject of "to ensure required spectrum for the safety communications especially for the AMS(R)S and its protection", and reports the result of the meeting.

1 Introduction

The document presents a contribution to the 4th APT (Asia-Pacific Telecommunity) Conference Preparatory Group Meeting for WRC-2003 (APG2003-4) to propose agenda item for World Radio Conference to be held in 2005 or 2006 (WRC05/06) for the consideration of the revision of existing Radio Regulations to ensure spectrum availability and protection required for the aeronautical mobile satellite (R) service (AMS(R)S). Understandings and supports to this subject by the APANPIRG members are expected.

2. Background

Although the usage of radio spectrum for the safety communications are increasing, demand for the other general communications are also rapidly increasing. Especially, in satellite communications, safety communications are obliged to share their spectrum with other general communications to improve spectrum efficiency.

The 1.6/1.5GHz bands were exclusively allocated to the aeronautical mobile satellite (R) service (AMS(R)S), but these bands were opened to all MSS since 1997 although the footnote 5.357A requests priority and protection for safety services.

WRC-2000 discussed methods to ensure required spectrum for AMS(R)S, and modified R.R. No. 5.357A and adopted Res.222 to ensure required spectrum for AMS(R)S, but was insufficiently concluded such as important element of inter-system prioritization was not well confirmed on the practicability of inter-system real time pre-emption, Therefore, future use of safety communications is still not be ensured. Moreover, the bands 1.6/1.5 GHz are now almost fully occupied. Then, WRC2000 invited ITU-R to study this subject by Res.222 and the studies are being carried out.

WRC-2000 also adopted Res. 801 including item 3.2 "to consider results of ITU-R studies in accordance with Res. 222 to ensure spectrum availability for AMS(R)S ....." but it was conditional and therefore it should be enforced in WRC2003.

Without sufficient provisions and procedures to ensure required spectrum for aeronautical mobile satellite (R) service and protection, future aeronautical safety would not be expected.

Taking into account the circumstances above, importance and urgency of this issue, Japan believes that WRC-03 adopt this subject as an agenda item for the WRC-05/06 and thereby proposes to make this item an APT common proposal.

3. Proposal from Japan and discussions in APG2003-4 Meeting

Japan presented the Document APG2003-4/21 (see Attachment) to the APG 2003-4 meeting as an agenda item for the WRC05/06 " to consider procedures to ensure spectrum availability and protection for the aeronautical mobile satellite (R) service (AMS(R)S) in the band 1545 - 1555 MHz and 1646.5 - 1656.5 MHz with regulatory and operational aspects, and take appropriate action on this subject".

APG meeting considered this proposal in the Working Party 1 and concluded that this proposal, among other proposed agenda items for WRC05/06 from the other Administrations, should be discussed in the next meeting (APG2003-5) as a common proposal from the APT, and the proposal (attached Document APG2003-4/21) is annexed to the meeting report.

4. Conclusion

APANPIRG members are encouraged to support Japan's proposal through their respective communications authorities, understanding activities in the ITU to ensure required spectrum for the aeronautical safety communications and its protection, especially for the AMS(R)S in the 1.6/1.5 GHz bands.

5. Action by the Meeting

The meeting is invited to discuss on the conclusion provided in this paper.

Attachment

APG2003-4/21

Date:

Subject: Procedures to Ensure Spectrum Availability and Protection for the Aeronautical Mobile Satellite (R) Service (AMS(R)S)

Origin: Japan

Proposal:

" to consider procedures to ensure spectrum availability and protection for the aeronautical mobile satellite (R) service (AMS(R)S) in the band 1545 - 1555 MHz and 1646.5 – 1656.5 MHz with regulatory and operational aspects, and take appropriate action on this subject"

Background/Reason:

Although the usage of radio spectrum for the safety communications are increasing, demand for the other general communications are also rapidly increasing. Especially, in satellite communications, safety communications are obliged to share their spectrum with other general communications for the improvement of spectrum efficiency.

The bands 1545 - 1555 MHz and 1646.5 - 1656.5 MHz were exclusively allocated to the aeronautical mobile satellite (R) service (AMS(R)S), which are important communications to make sure the safety in the civil air transportation, but these bands were opened to general MSS since 1997 although the footnote 5.357A requests priority and protection for safety services. WRC-2000 discussed methods to ensure required spectrum for AMS(R)S, and modified R.R. No. 5.357A and adopted Res. 222 to ensure required frequency for AMS(R)S, but was insufficiently concluded on inter-system prioritization due to uncertainty of practicability of inter system real time pre-emption, and therefore safety communications may not be sufficiently prioritized and protected under current provisions.

WRC-2000 also adopted Res. 801 including item 3.2 "to consider results of ITU-R studies in accordance with Res. 222 to ensure spectrum availability for AMS(R)S ....."; and WRC-2003 would discuss this matter under agenda item 7.2. The ITU-R SG8 WP8D provided work plan based on Res. 222 to study feasibility and practicability of inter system real-time pre-emptive access between different networks, and the study is now going on.

Especially, actual satellite systems to provide AMS(R)S communications studied and specified by ICAO, are now developed and implemented in several countries, and required for assign their required frequency.

WRC-2003 is requested to study on the above issue, and provide new agenda item to establish appropriate procedures to ensure required spectrum for AMS(R)S in the stages of frequency coordination and operation.

Radio Services concerned: AMS(R)S, MSS

Indication of possible difficulties:

Without sufficient provisions and procedures to ensure required spectrum for aeronautical mobile satellite (R) service and protection, future aeronautical safety would not be expected.

Previous/on-going studies on the issue: ITU-R WP8D Work Plan

Studies to be carried out by: ITU-R, ICAO

with participation of: Administrations and MSS operators concerned

ITU-R Study Groups concerned: SG8

ITU Resource Implications; including financial indications (refer to CV 126)

[Admins could indicate level of extra support it will provide]

Preliminary APG Position:

Position of other Regional Bodies/Administrations

APG Common Proposal: TBD

Multicountry Proposal: TBD

Remarks