



INTERNATIONAL CIVIL AVIATION ORGANIZATION

ASIA AND PACIFIC OFFICE

**Report of the First Regional Preparatory Group (RPG) Meeting for
ITU World Radiocommunication Conference (WRC) – 2012**

Bangkok, Thailand, 8 - 9 December 2009

TABLE OF CONTENTS

<u>History of the Meeting</u>	Page
Introduction.....	i-3
Attendance	i-3
Opening of the Meeting	i-3
Officer and Secretariat	i-3
Agenda of the Meeting	i-3
Organization, Working arrangements, Language and Documentation.....	i-3
<u>Report on Agenda Items</u>	
Agenda Item 1: Introduction to ITU and the WRC Process	1
Agenda Item 2: Aviation issues at WRC-2012.....	3
Agenda Item 3: Role of aviation sector in the preparations for WRC-2012.....	4
Agenda Item 4: Any other business	6
<u>Appendix</u>	
Appendix 1: List of contact person for WRC-2012	
<u>Attachment:</u>	
Attachment 1: List of participants	
Attachment 2: List of working papers and presentations	

1. Introduction

1.1 First Regional Preparatory Group Meeting for ITU World Radiocommunication Conference – 2012 (WRC – 2012) was held in Bangkok, Thailand on 8 and 9 December 2009. The meeting was organized in conjunction with the Twenty First Meeting of the Aeronautical Communication Panel, Working Group – F (ACP WG-F/21). The objective of the meeting was to provide a forum for the contact points designated by the States, responsible for the preparation of World Radiocommunication Conference 2012 to be thoroughly briefed about ICAO Position and help them in effectively participating at the national and regional level forums in support of ICAO position.

2. Attendance

2.1 The meeting was attended by 36 participants from 16 States and 1 industry partner, The list of participants is at **Attachment 1**.

3. Opening of the Meeting

3.1 The meeting opened with the welcome message from Mr. Mokhtar A. Awan, ICAO Regional Director for the Asia and Pacific regions read out by the Secretariat. Mr. Li Peng, Regional Officer CNS and Acting Deputy Regional Director, ICAO Asia Pacific Office, in his opening address stressed on the significance of protecting the spectrum and keeping it free from harmful interference in the interest of safety of operations. He was of the opinion that due priority should be given to this issue. He also explained the outcome of recent regional meetings on this issue. Mr. Steven Mitchell, Rapporteur, Aeronautical Communication Panel, Working Group F, in his addressed hoped for active participation of the State civil aviation organizations in the development of national and regional positions. He also touched upon the importance of protecting the spectrum and keeping it interference free.

4. Officer and Secretariat

4.1 Mr. Steve Mitchell, Rapporteur, ICAO Aeronautical Communication Panel Working Group F, chaired the meeting.

4.2 Mr. Li Peng, Regional Officer CNS acted as Secretary for the Meeting and he was assisted by Mr. Loftur Jonasson, Technical Officer CNS, ICAO Headquarters Montreal and Mr. Sujan K. Saraswati Regional Officer CNS of the ICAO Asia/Pacific Office.

5. Agenda of the Meeting

5.1 The Agenda of the meeting was as follows:

1. Introduction to ITU and the WRC Process
2. Aviation Issues at WRC – 2012
3. Role of aviation sector in the preparation for WRC – 2012
4. Any other business

6. Organization, Working arrangement, Language and Documentation

6.1 The Group met as a single body. The working language was English inclusive of all documentation and this report. A list of working papers and presentations presented at the meeting is at **Attachment 2**.

Agenda Item 1: Introduction to International Telecommunication Union (ITU) and the WRC Process

1.1 Under this agenda item, the meeting was informed about the role of ITU in the management of radio frequency spectrum. Information on different types of services with respect to the World Radiocommunication Conference (WRCs) agenda items was also noted.

1.2 The meeting noted various issues included in ICAO Position on agenda items of concern to international civil aviation, which will be discussed at the ITU World Radiocommunication Conference 2012 (WRC-2012), planned to be held *from 23 January to 17 February, 2012 in Geneva, Switzerland*. Meeting was also informed that this changed schedule for the next WRC meeting has already been informed to the States by ITU.

1.3 The meeting noted that radio frequencies are required for CNS services and availability of well protected radio frequencies was recognized essential for the safety, regularity and efficiency of air navigation. It was also noted that aviation frequencies are a target for re-allocation to non-aviation users as the spectrum is a limited/scarce resource that feeds the requirements for technological developments in various sectors. If the aviation frequencies are lost to non-aviation users, it will have adverse effect on CNS/ATM implementation, and will result in impairments in safety, regularity and efficiency of air transportation. The loss will also be irreversible. In order to protect aviation interest and to meet the challenges, ICAO has developed international civil aviation position for WRC-2012.

1.4 The aviation interests reflected in the ICAO Position for WRC-2012 can only be protected with the support from the civil aviation administrations and telecommunication regulatory authorities in each contracting State of ICAO. It was recognized that active involvement and participation of the entire aviation community from all the ICAO regions is needed in the preparation for ITU WRC-2012. Stressing on the importance of adequate interference free spectrum availability for the Communication, Navigation and Surveillance systems, Secretariat in its presentation highlighted the requirement of active participation by the States in national and regional level activities. Presentation introduced ITU and its spectrum management tools. The meeting was briefed about the last WRC meeting held in November 2007 and its outcome, particularly with reference to civil aviation requirements. It was mentioned that ICAO exclusively manages the usage of that portion of the spectrum, for which no permission for sharing to any other service has been granted. But if a portion of the spectrum is being shared with some other services, then for that portion, ICAO has to go to WRC if an issue comes up for resolution. It was informed that the process of developing common proposal in all the three ITU regions has started and in the Asia Pacific Region, the common proposal may take a more firm shape in the next APG meeting scheduled for March, 2010. It was therefore stressed that the Contact Points in the States should immediately start taking initiative and should ensure that ICAO Position on the WRC – 2012 Agenda Items of interest to civil aviation are reflected in the national and regional positions. Regional Office suggested that the Contact Points in the States can use references to APANPIRG Conclusions and DGCA Conference action items to support them in pursuing this subject with the national regulatory bodies. Meeting was of the opinion that agenda items related to satellite (VSAT) provision are of critical interest for the region because of the existence of large oceanic areas. It was also pointed out that in some States, aviation issues may be considered as less significant as compared to other issues, it is hence required to be clarified to the national regulatory bodies that spectrum issues related to aviation have a significant effect on the safety of human lives and also have a global relevance and hence the interest of civil aviation is required to be given its due importance.

1.5 Presentation also detailed the process the development of ICAO Position on ITU WRC Agenda Items went through before it was finally circulated through the State Letter dated 30 June 2009. It was explained that whereas, ICAO Policy statements included in the '*Handbook on Radio Frequency Spectrum Requirements for Civil Aviation*' (Doc 9718) are enduring in nature, ICAO Position is developed for each agenda item of relevance to civil aviation for each WRC cycle. Presentation also discussed agenda items, which were perceived as threats and potential threats to civil aviation.

1.6 Rapporteur, ICAO Aeronautical Communication Panel Working Group F discussed in detail ICAO position on WRC-2012 agenda items of significance for civil aviation. Main principles like ITU Radio Regulations not compromising the safety of civil aviation, their not conflicting with ICAO SARPs and frequency allocations to aeronautical safety services protected in conformity with internationally agreed requirements etc. were included in the presentation. It was informed that ICAO is not averse to sharing spectrum with other services, but this sharing should not compromise safety of operations and should be supported by elaborate studies. In response to a query, it was clarified that ICAO is not proposing new allocations for future requirement in WRC – 2012 and if required, ICAO position will be revised but this revision will be completed before early 2011.

1.7 Meeting was informed about the WRC-2012 related outcomes of APANPIRG meetings and DGCA Conferences. It was informed that nominations of Focal Contact Points from 17 States only had been received so far. While reviewing the outcomes of the APANPIRG and DGCA Conferences, meeting agreed to adopt the following action items recommended in the presentation:

- a) Note the nominated Contact Persons in each Administration to coordinate ICAO Position on WRC – 2012 Agenda Items of critical interest to Civil Aviation;
- b) Note the directive by DGCA Conference/46 in its action item agreed 46/8; and
- c) Consider APANPIRG Conclusion 20/58 and Action Item 46/8 of DGCA Conference and note the importance of aeronautical spectrum protection attached by the high level civil aviation forums in the Asia and Pacific Regions.

1.8 ICAO Secretariat, while presenting the '*Handbook on Radio Frequency Spectrum Requirements for Civil Aviation*' (Doc 9718), mentioned that the latest version (Version 5) is now available in the digital format and hard copy of the same will be available shortly. It was informed that the first issue of the handbook was published in 1998 and four revisions since then have been published. The document is updated after every WRC meeting to incorporate changes in the Radio Regulations. Information provided in each Chapter was explained to the meeting. In 1993, the concept of regional telecommunication organizations was introduced and common proposals developed by these regional organizations are now used as inputs by the WRC. Since these regional organizations represent block of States, it is very difficult to change this regional position once it has been finalized. It was also clarified that since the Radio Regulations are treaty document and they can be modified by WRC only. Handbook contains the allocations made for the Safety Services, radio navigation service, radionavigation satellite service and aeronautical radionavigation service. Handbook also addresses protection from interference and includes important aspects of radio equipment on board the aircraft. Chapter 7 of the document contains overview of all frequency allocations, details and policies of allocations for civil aviation. It was clarified that secondary allocation shall not cause harmful interference to a primary allocation and must accept interference from the primary allocation – at any time.

1.9 Differentiating the terms relevant for spectrum management, it was clarified that Allocation is made to the radio service, Allotment is made to an area and Assignment is made to a Station. Radio Regulation 4.4 permits the States to use frequencies in a manner that does not comply with the Radio Regulations, however, such usage must protect stations which operate in compliance with the radio regulations.

Agenda Item 2: Aviation issues at WRC-2012

2.1 Explaining the mechanism of developing Radio Regulations, the role of regional telecommunication bodies was highlighted in the presentation made on behalf of APT. It was mentioned that ITU had divided the whole world into three regions and Asia and Pacific was included in Region 3 For which Asia Pacific Telecommunity (APT) is the relevant regional organization. Structure and work plans of Asia Pacific Telecommunity (APT) were described in detail. It was mentioned that the WRC – 2012 Agenda Items had been broken down into three groups with the Agenda Items 1.3, 1.4 and 1.7 in first group ‘Agenda Items related to specific aviation issues’, Agenda Items 1.2, 1.5, 1.9, 1.12, 1.14, 1.15, 1.19, 1.21, 1.22, 1.23, 1.25, 4 and 8.2 in the second group ‘Agenda Items in which aviation is a concerned party’ and remaining in the third group containing Agenda Items not of immediate relevance to civil aviation.

2.2 On behalf APT Preparatory Group for WRC – 2012, presentation was made to inform the meeting about APT Preliminary Views on WRC – 12 Agenda Items. Meeting was informed about the activities in APG, outcomes of its 1st Meeting held from 6 to 8 March 2008 in Bangkok, Thailand and 2nd Meeting held from 22 to 26 June 2009 in Hangzhou, China. APT preliminary position, developed in the 2nd Meeting of APG as compared to the ICAO Position circulated was discussed in the presentation. It was observed that the position developed in the APG meeting was more or less in line with ICAO position, however it was cautioned that it is required to be ensured that APT position developed in subsequent meetings continues to be in line with ICAO position.

2.3 Presentation on WRC – 2012 Agenda Item 1.7 by Japan included a brief overview of the agenda item, historical background, considerations and activities taken up relevant to the item. It was mentioned that until WRC – 87, bands 1545 – 1559 MHz and 1646.5 – 1646.5 MHz were allocated exclusively for the use of AMS(R)S. In WRC-87, 4 MHz band was removed from this exclusive allocation and subsequently in WRC – 97, AMS(R)S lost the exclusivity of this remaining allocation also. However, priorities for use of this band by AMS(R)S was assured through footnote 5.357A, Resolution 222 (WRC – 2000). It has now emerged that though footnote 5.357A allocates priority to AMS(R)S, but it does not prescribe as to how this priority is to be exercised practically. Agenda Item still stresses on the requirement of giving priority for AMS(R)S in the band but maintains generic allocation to MSS unchanged. MSS position on this agenda item is that no specific issue has been raised by AMS(R)S users so far and they insist that AMS(R)S should opt out of this band regardless of whether the spectrum requirement is less than 10MHz or not. Also, it is important to note that for Asia Pacific region, this agenda item is particularly important since satellite issue is significant in the region because of the presence of a huge oceanic area. Presentation suggested that this issue should be explained to the national administrations by the designated contact points so that adequate protection can be ensured.

2.4 Based on the material provided by USA, ACP WG-F Rapporteur presented details about WRC – 2012 Agenda Item 1.4. This agenda item considers further regulatory measures to facilitate introduction of new Aeronautical Mobile (R) Service systems in the band 112 – 117.975 MHz, 960 – 1164 MHz and 5000 – 5030 MHz. Present allocations in the bands were discussed in detail. Specific mention was made about the allocation of 120 MHz in the C band for meeting the requirements at the airports. It was stressed that the national regulators should be explained that LANs allocated for the mobile service can support both mobile and fixed applications. The radio regulators also need to be explained the purpose for this application. The application is restricted for use in the airports. It was clarified that the requirement of 120 MHz band is divided into different items and will be used for the enhancement of safety at the airports.

2.5 Canada discussed issues involved in WRC – 2012 Agenda Item 1.3 on the spectrum requirements of Unmanned Aerial Systems (UAS). Presentation defined the concept of UAS, the structure of the system and issues relevant specifically to the UAS system. Communication requirements for different purposes like integration into ATC system and the national airspace, command and control link, sense and avoid systems etc. were explained. While discussing the specifics of the agenda item, developments that are taking place in ITU Working Party 5B were also brought out. Presentation included bandwidth assessments and informed about the specific frequency bands that

were under consideration. Protection for different systems which are working in these bands was also discussed in the presentation.

2.6 Representing *Aerospace Vehicle Systems Institute* (AVSI), representative from Boeing explained the concept of *Wireless Avionics Intra-Communications* (WAIC) an official project of AVSI. The project is aimed at making the aircraft more wireless but is scheduled to be deployed decades later. It was mentioned that previous efforts were towards going wireless for non-safety related applications only, but now there is a move towards developing applications for the safety related systems also.

2.7 WAIC is the wireless communication between two points on the same aircraft with an objective to save weight and take advantage of the resultant benefits like reduction in fuel consumption etc. Other benefits like reduction in the number of connections, etc. were also explained. In ITU – R, this subject is being dealt in Working Party 5B. It was expressed that there may be a more comprehensive agenda item on WAIC in the next cycle of WRC after the concept is sufficiently developed and the States were urged to support inclusion of this agenda item for subsequent WRCs. Since, the application of this system is envisaged on board the aircraft, the issue is expected to have a global ramification. On the issue of specific frequency band allocation, it was clarified that the band assigned for radio altimeter may also be considered for this application. Presentation was made to support ICAO position on WRC-2012 Agenda Item 1.12.

Agenda Item 3: Role of aviation sector in the preparation for WRC- 2012

3.1 The meeting noted actions taken by the aviation community in the preparation for WRC-2012. Main emphasis was placed on the need for the States to effectively participate at the national as well as at regional forums and to support ICAO Position.

3.2 The meeting noted the role of ICAO in the preparation of ITU WRCs and the strategy adopted to support ICAO Position. The need for the nominated Contact Points to be thoroughly familiar with the ICAO Position and participate effectively in the national and regional level Conference Preparatory Group Meetings organized for WRC-2012 was repeatedly stressed.

Regional activities

Action item 44/9 of DGCA Conference

3.3 It was noted that the 44th Conference of the Directors General of Civil Aviation, ASIA/PAC Region in its Action Item 44/9 had strongly urged the States to support ICAO Position for WRC 2012 and actively participate in the regional preparatory activities.

Action Item 46/8 of DGCA Conference

3.4 46th DGCA Conference recognized the crucial importance of protecting the aeronautical frequency spectrum at WRC – 2012 and strongly urged the States to give high priority to ensure support to ICAO position through enhanced coordination between respective authorities and to actively implement APANPIRG Conclusions 19/41 and 20/58, which are as follows:

Conclusion 19/41 – Contact Person for WRC-11 and active participation by the States in WRC – 11 related national and regional activities

That, States be urged to:

- a) nominate a Contact Person responsible for the preparation for WRC – 11 in their Administration and inform ICAO Asia and Pacific Office about the contact details of the nominated Contact Person; and

- b) actively participate in all the national and regional level activities related to the preparation for WRC – 11.

Conclusion 20/58 – ICAO Position for the World Radio Communication Conference 2011 (WRC-11) Agenda Items

That, States be urged to:

- a) integrate ICAO Position on WRC-11 Agenda Items into their State Position presented to the regional telecommunication forum (APG) involved in the preparation of joint regional position on the Agenda Items;
- b) include ICAO Position on WRC-11 Agenda Items into the State Position to the extent possible;
- c) undertake to provide experts from their civil aviation authorities to participate in the development of State and regional positions; and
- d) ensure to the extent possible, State delegation to regional conferences, ITU Study Groups and WRC should include experts from Civil Aviation authorities.

Asia-Pacific Telecommunity (APT)

3.5 The APT convenes several Conference Preparatory Group Meetings (generally 5) for WRCs and extends invitation to the Telecommunication Regulatory Authorities in the ASIA/PAC region to contribute to the preparation of regional position. At such meetings representative from State civil aviations are required to be included in the national delegation to provide necessary support to the ICAO Position as conveyed through APANPIRG Conclusion 20/58.

3.6 ICAO Position was presented to the Second APT Conference Preparatory Group (APG) meetings for WRC-2012 held in Hangzhou, China in June 2009. The Second APG meeting developed APT preliminary common position/draft proposals on some agenda items. The Third APG meeting will be held in **March 2010** and the Fourth meeting is planned for **fourth quarter of 2010**. The APT preliminary common position/draft proposals are subject to be reviewed by the subsequent APG meetings and finalized for presentation to WRC-2012. It was therefore, considered important to have aviation representatives included in the national telecommunication delegations at the subsequent meetings to provide necessary support.

Designation of contact person

3.7 In accordance with the Conclusion 19/41 of ASIA/PAC Air Navigation Planning and Implementation Regional Group (APANPIRG), States were requested to nominate a contact point in their Administrations responsible for preparation for WRC-2012. Based on the responses received from the States a list of designated contact points has been developed which is provided in Appendix 1.

Need for further action to support of ICAO Position

3.8 The entire civil aviation community has, no doubt, assured support to ICAO Position however, substantial effort is yet to be made by the civil aviation administrations to secure full support from the Frequency Regulatory Authorities in States and express the support in their States position paper to be presented to the APT meetings and to the WRC-2012. It is of critical importance that State civil aviation organizations should coordinate with their respective Frequency Regulatory Authorities and attend APT APG meetings and WRC-2012 to ensure that ICAO Position is supported.

3.9 Meeting supported the recommendations made in paragraph 1.7. Based on the information provided through presentations and deliberations that took place on each agenda item, meeting developed following Recommendations:

Recommendation 1 – Preparation for WRC-2012

That States:

- a) have the designated contact person closely involved in the preparatory work for WRC-2012 at the national level in close coordination with the contact points designated by respective telecommunication regulators; and
- b) make necessary arrangement for the designated contact persons to attend at the APT APG meetings and at WRC-2012 to protect aviation interests.

3.10 The meeting was informed that the States can get the latest information on the subject from ICAO Aeronautical Communication Panel (ACP) website (<http://www.icao.int/anb/panels/acp/index.cfm>). Website contains information on the latest developments in various radio regulatory forums. It is an open repository of information which contains Working/Information papers for various relevant meetings and other materials for WRC. Major developments on the subject are uploaded on the website. ICAO position (latest) on WRC – 2012 Agenda Items of significance for civil aviation is also provided on the website. The meeting was however of the opinion that more visibility should be provided to ICAO position on the ICAO website. Following recommendation was therefore made by the meeting.

Recommendation 2 - Visibility

3.11 That better visibility should be provided on ICAO Website for ICAO Position on WRC – 2012 Agenda Items of significance to civil aviation.

Agenda Item: 4: Any other business

4.1 The meeting ended with thanks to the chair.

-END-

RPG/1 for WRC-2012
Appendix 1 to the Report

**LIST OF DESIGNATED CONTACT PERSONS
RESPONSIBLE FOR PREPARATION OF
WORLD RADIOCOMMUNICATION CONFERENCE (WRC-2012)**

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**FIRST REGIONAL PREPARATORY GROUP (RPG)
MEETING FOR ITU WORLD RADIOCOMMUNICATION
CONFERENCE 2012 (WRC-2012)
Bangkok, Thailand
8-9 December 2009**

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International Civil Aviation Organization

**FIRST REGIONAL PREPARATORY GROUP (RPG) MEETING FOR
ITU WORLD RADI COMMUNICATION CONFERENCE 2012
(WRC-2012)**

Bangkok, Thailand, 8 – 9 December 2009

LIST OF WORKING PAPERS AND PRESENTATIONS

WP/IP/ SP No.	Agenda Item	Subject	Presented by
WP/1	-	Provisional Agenda	Secretariat
WP/2	2, 3	Working Document toward draft CPM text on WRC-12 Agenda Item 1.7	Japan
WP/3	2, 3	Work Plan for WRC-12 Agenda Item 1.7 (Resolution 222 (Rev.WRC-07))	Japan
WP/4	1.3	Review Outcome of APANPIRG/20 and DGCA CONF/4 on Preparation Activities for WRC-2012 and Spectrum Management	Secretariat

PRESENTATIONS

SP/1	APT Preliminary Views on WRC-12 Agenda Items	Secretariat
SP/2	WRC-12 Agenda Item 1.7	Japan
SP/3	Aviation Frequency Spectrum and the ITU World Radiocommunication Conferences	Secretariat
SP/4	ICAO Position for ITU WRC-12	ACP WG F Rapporteur
SP/5	ICAO Radio Frequency Handbook Doc 9718 - Fifth Edition	Secretariat
SP/6	Update on WAIC Issues – ITU R Working Party 5B and Future Regulatory Considerations	Boeing
SP/7	ITU WRC-12 Agenda Item 1.4	USA
SP/8	WRC-12 Agenda Item 1.3 on UAS	Canada
