

**AGENDA ITEM 2.4: OTHER AIR NAVIGATION  
MATTERS**

## **Agenda Item 2.4      Other Air Navigation Matters**

### **Statement of Basic Operational Requirements and Planning Criteria (BORPC)**

2.4.1            The meeting was presented with a Statement of Basic Operational Requirements and Planning Criteria as contained in Part I of the ASIA/PAC Basic Air Navigation Plan and FASID document that was approved by the President of the Council on 11 August 2001.

2.4.2            The statement of BORPC provides operational and planning criteria which forms the basis for development of the Air Navigation Plans. The meeting noted that APANPIRG/13 formulated Conclusion 13/35 pertaining to changes to the MET part as contained in section 9 of the BORPC as a result of the closure of the Regional Area Forecast Centres (RAFCs) and new provisions in regard to the exchange of OPMET data included in Amendment 72 of Annex 3, that became applicable on 1 November 2001.

2.4.3            The meeting was informed that the task of revising the BORPC would be initiated after the completion of the 11<sup>th</sup> Air Navigation Conference in October 2003.

2.4.4            In reviewing the BORPC, the meeting did not feel the need to propose any changes.

### **Progress Report on the Preparatory Work for the Conduct of Safety Audits in the areas of Expansion**

2.4.5            The meeting was presented with a progress report on the preparatory work for the conduct of safety oversight audits in the areas of expansion of the ICAO Universal Safety Oversight Audit Programme (USOAP) to Annex 11 — *Air Traffic Services*, Annex 13 — *Aircraft Accident and Incident Investigation* and Annex 14 — *Aerodromes*.

2.4.6            The preparatory work has focussed initially on the development of the relevant auditing documentation, including the pre-audit questionnaires, audit protocols, auditors' training courses and related guidance material. The pre-audit questionnaire will be an essential auditing tool, designed to solicit relevant information required for audit scheduling and planning purposes, as well as to provide a user-friendly format for States to ascertain the status of implementation of Standards and Recommended Practices (SARPs) in their national framework and to identify any difference which may exist between their national regulations and relevant Annex provisions. The meeting noted that pre-audit questionnaire; called State Aviation Activity Questionnaire (SAAQ) has already been prepared and dispatched to all Contracting States on 30 May 2003. Furthermore, the electronic format (Web-based) is available on Safety Oversight Audit Section's web page of the ICAO-Net to facilitate States to submit their response online. The meeting was apprised that a memorandum of understanding (MOU) relating to the conduct of audits in the areas of the expansion has also been developed and includes the elements contained in the MOU of the Universal Security Audit Programme (USAP).

2.4.7            The work in progress includes preparation of the draft audit protocols, training programmes for auditors and update of Doc 9734, Part A — *The Establishment and Management of a State's Safety Oversight System*. The meeting noted that on the advice of the Commission, the Secretariat will also develop guidance material for the establishment of regional or group of States safety oversight system. The resulting manual will be known as *Safety Oversight Manual*, Part B — *The Development and Management of Regional Safety Oversight Systems*, and would be published before the commencement of audits in early 2004.

**Asia Pacific Traffic Forecasting Group**

2.4.8 The meeting was advised that the Asia Pacific Area Traffic Forecasting Group (APA TFG) held its Eleventh Meeting in Bangkok between 30 September to 4 October 2002. The key findings of the APA TFG were presented and attention was drawn to significant long-term reductions in Trans-Pacific aircraft movements as a result of the events of 11 September 2001. However, it was pointed out that the APA TFG needs to review its forecasts in the context of the current set of adverse conditions.

2.4.9 It was explained that, while circumstances in recent years have made the task of forecasting more challenging, the review of the long-term impacts of the events of 11 September 2001 demonstrated the importance of the APA TFG's work to APANPIRG. It was pointed out that the APA TFG requires the full support of States through the provision of suitable experts to participate in the development of forecasts and regularly attend TFG meetings along with the provision of data and other information required for the development of forecasts. The meeting was advised that this support had not been fully forthcoming in recent years and attention was drawn to APANPIRG Conclusion 13/37 – Need for Adequate Resources for Traffic Forecasting Groups.

2.4.10 The meeting noted the revised forecasts and the need to review these in the light of recent events. The meeting also expressed strong support for the APA TFG in its reaffirmation of APANPIRG Conclusion 13/37.

**11<sup>th</sup> Air Navigation Conference**

2.4.11 The meeting noted the AN-Conf/11 matters regarding ATM and the Report of the AN-Conf/11 Preparatory meeting held at Bangkok, 27-28 January 2003.

**Air Traffic Management Operational Concept**

2.4.12 The meeting noted that the ATM Operational Concept document developed by the Air Traffic Management Concept Panel (ATMCP) would be presented to the AN-Conf/11 under Agenda Item 1 and would also form the basis of the major part of the discussions under the ATM Agenda Items 2 to 4.

2.4.13 The meeting noted that the ATM operational concept was a gate-to-gate approach that would facilitate implementation of a seamless global ATM system. In this regard, the global ATM operational concept describes how an integrated global ATM system should operate and would provide States and industry with clearer objectives for designing and implementing ATM and supporting systems. This aspect was of considerable interest to States and the regions in respect to determining operational requirements for implementation of airspace improvements associated ATM enhancements and supporting technology.

2.4.14 The meeting endorsed the view of the AN-Conf/11 Preparatory Meeting, which emphasized that interoperability, efficiency and cost were of primary concern. Also, priority needed to be given to integrate present ATM systems and this work would be primarily undertaken at a regional level.

2.4.15 Of considerable interest to the meeting was how the ATM systems of today would transition to a global ATM system as envisaged in the ATM Concept, and expected AN-Conf/11 to give clear guidance on this matter. In this regard, the meeting reinforced the view of the Preparatory Meeting that the review and assessment of the ATM Concept by the AN-Conf/11 should have a practical focus that would facilitate the eventual acceptance and implementation of the ATM

Concept into the planning framework of States and planning and implementation regional groups (PIRGs). Further, the meeting fully supported the comment made by the Preparatory Meeting that harmonizing air traffic services regionally has proved to be difficult to achieve, and implementation issues were major obstacles to achieving a global ATM system. In particular, interoperability issues States' ATM automated systems and aircraft systems had a significant impact on successful implementation of regional planning.

2.4.16 The meeting supported the approach taken in the ATM operational concept that the driver for change in the ATM system should be ATM user expectations within a framework of safety case/cost/benefit analyses and a business case. The meeting noted that, in the planning and implementation experience of this region, this matter was given high priority.

2.4.17 In regard to safety certification of ATM systems the meeting recognized that this was an important matter that required considerable in depth examination, and felt it would be difficult to achieve standardization given the wide range of ATM systems in use. The adopting of existing international standards for ATM systems such as the International Organization for Standardization (ISO) system of standards and certification, which were widely used by States, could be an approach to take. The users of ATM systems should expect and receive systems, which were installed and maintained to the highest possible standards irrespective of the airspace they were flying over, or entering. In this regard, the meeting noted that the expansion of the Universal Safety Oversight Audit Programme to include Annex 11 - *Air Traffic Services* and Annex 14 - *Aerodromes* in 2004 would further strengthen improving overall safety.

#### Airspace safety management systems and programmes

2.4.18 The meeting noted that the availability of safety management guidance material was a matter of priority and urgently needed by States in meeting the Annex 11 applicable on 27 November 2003 requiring States to establish the acceptable level of safety and safety objectives applicable to ATS within airspaces and at aerodromes.

#### Required System Total Performance (RSTP)

2.4.19 There was high expectation that the AN-Conf/11 would clarify the concept of use of Required System Total Performance (RSTP) and its components, which would give direction to equipment manufacturers and ATS providers. The meeting reiterated that concepts needed to be rooted in practical application that met State requirements as reflected in regional air navigation plans.

#### Enhancing capacity

2.4.20 In regard to enhancing capacity, the meeting noted the strides taken in the Asia/Pacific Region through a cooperative approach between ICAO, States and international organizations to utilize available CNS/ATM technology to improve the airspace structure. For example, the revised South China Sea ATS route structure and the EMARSSH project were major airspace ATS route structures that made use of RNAV, RNP 10 and reduced horizontal separation, and were successfully implemented in 2001 and 2003 respectively. Also, extensive use was being

made of ADS and CPDLC in the Pacific Region Planning was underway to implement these systems in the Asia Region.

2.4.21 The meeting recognized that considerable progress made to enhance capacity in the international airspace of the Region, including widespread introduction of RVSM. Similar attention

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had not been given at an international level to airports and terminal operations. It was recognized that airport capacity was the defining limiting factor in achieving maximum utilization of airspace capacity, and thereby gaining full benefits of a gate-to-gate ATM system. The meeting expected the AN-Conf/11 to address this matter and provide appropriate guidance on how to integrate, en-route, terminal and airport operations to achieve a balanced capacity and demand.

#### Regional issues

2.4.22 The meeting noted that there was no regional specific item on the agenda of AN-Conf/11, although many of the subjects had regional relevance and would have significant impact on regional planning and implementation. A regional view or position on the conference agenda items had not been sought by ICAO and the meeting hoped that there would be full regional involvement in the post AN-Conf/11 activities. In regard to a regional perspective and bringing these before AN-Conf/11, the meeting emphasized that it would be left to individual States to present and represent regional interests at AN-Conf/11.

#### IATA preparations

2.4.23 The meeting noted that the IATA working papers along with the other papers to be presented at AN-Conf/11 were available at [www.icao.org/icao/en/anb/meetings/anconf11/index.html](http://www.icao.org/icao/en/anb/meetings/anconf11/index.html).

#### Outcome of the WRC-2003 and its impact on aeronautical electromagnetic spectrum utilization

2.4.24 It was noted that the meeting reviewed the explanatory notes on agenda item. APANPIRG meetings and DGCA Conferences had urged States to provide necessary support for the ICAO position at national level discussions, at the regional level as well as at WRC-2003. In order to provide supporting technical information and to assure coordinated efforts by all designated contact points, the Regional Office conducted two Regional Preparatory Group Meetings, which were well attended. Necessary support was secured for ICAO Position at the Regional level.

2.4.25 The meeting reviewed the outcome of the WRC 2003 and noted that ICAO position was fully supported with the exception of 3 agenda items for which there were partial support. It was noted that the AN-Conf/11 would assess its impact on aeronautical spectrum requirements and would also consider the need to ensure continuing availability of spectrum for aeronautical communications and navigation. It was, therefore, considered very important for States to study spectrum allocations to all aeronautical services in light of the outcome of WRC 2003 and present proposals at the AN-Conf/11 if further actions are required to ensure availability of adequate spectrum to support the ATM operational concept.

#### Aeronautical navigation issues

2.4.26 The meeting thoroughly reviewed the agenda item and the explanatory notes on this agenda item with a view to develop full understanding of the issues involved. The meeting also reviewed the strategies for the provision of precision approach and landing guidance system and the GNSS implementation for the ASIA/PAC region adopted by APANPIRG. The strategy contained in Annex 10, Volume I, and Attachment B was reviewed. It was also noted that Attachment B would be updated by the Conference based on the developments and progress in implementation of GNSS. It was also noted that the Conference would recommend revision to the Global Air Navigation Plan for the CNS/ATM System – Second Edition 2002, develop guidelines for transition to GNSS, identify the need for a back-up system and draft amendments to SARPs in Annex 10.

2.4.27 It was further noted that an inter-operability of various systems such as GPS, GLONASS, Galileo, and WAAS, EGNOS and MSAS as SBAS would be addressed by the Conference.

2.4.28 Emphasis was placed on the training need to make full use of the capabilities afforded by GNSS. It was recognized that a formal training programme was required to be conducted at regular intervals, such as procedure design, training of concerned personnel and to address issue relating to certification and operational approvals, etc. IATA had emphasized that full capability of GNSS would also greatly assist in providing navigation guidance to address CFIT accidents.

Aeronautical air-ground and air-to-air communications

2.4.29 The meeting noted that availability of adequate spectrum for different communication systems is becoming a critical aspect of air navigation planning.

2.4.30 It was noted that almost all the SARPs for air-ground data links were completed. The outstanding issues identified were the need for integration of multiple data links for simultaneous operation and provision to ensure priority access and pre-emption over non-aeronautical users on the 1.5/1.6 GHz band AMS(R) S spectrum. The agenda proposed by Japan and supported by Australia for WRC-2007 to review the current provision which had caused practical difficulty in ensuring preemption, priority access and protection of the AMS (R) S in the band 1.5/1.6 GHZ was delayed until WRC 2010.

2.4.31 The meeting noted that SARPs for SSR Mode-S data link and VDL Mode-4 have been included in Annex 10 and SARPs for UAT being considered for ADS-B. The interoperability of the three data links was a matter of concern. It was recognized that careful consideration should be given in identifying a suitable a data link for ADS-B including possibility of multi model data link system which would address interoperability issue.

2.4.32 Subsequently, the ADS-B Study and Implementation Task Force had identified SSR Mode-S Extended Squitter 1090 MHz as a suitable link to be used in the ASIA/PAC region. The proposal was endorsed by APANPIRG/14. States, while preparing paper for the AN-Conf/11, were encouraged to take note of the recommendation of APANPIRG.

2.4.33 The meeting reviewed the Key Priorities for CNS/ATM Implementation in the ASIA/PAC region. In particular, the meeting took note of the item, ADS-B study and implementation.

2.4.34 The meeting noted the Sub-Groups, under relevant agenda items, had addressed the tasks assigned to them by APANPIRG/13 to deal with the AN-Conf/11 agenda items in order to assist States in the preparation for the Conference.