



INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA/PACIFIC CIVIL/MILITARY COOPERATION LECTURE AND SEMINAR
(Beijing, China, 19-21 November 2014)

REPORT

1. INTRODUCTION

1.1 The Asia/Pacific Civil/Military Cooperation Lecture and Seminar was held from 19 to 21 November ,2014, at ICAO APAC RSO , Beijing, China. The Lecture and Seminar was attended by 46 participants from 10 States and administrations, and 4 International Organizations. The participants included a broad mix of Civil and Military Authorities, Air Navigation Service Providers (ANSPs), civil/military airspace managers and airspace users. The relevant presentations and documents are available at <http://www.icao.int/APAC/RSO-Beijing>.

1.2 This Lecture and Seminar was convened by the International Civil Aviation Organization (ICAO), with support from the European Organization for the Safety of Air Navigation (EUROCONTROL), the International Air Transport Association (IATA), the Federal Aviation Administration (FAA), the German Air Navigation Services (DFS) and the ASEAN Air Transport Integration Project (AATIP).

1.3 The objectives of the event were:

- to raise awareness on high priority accorded CMAC and benefits of civil and military cooperation;
- provide useful guidance based on ICAO Circular 330/AN *Civil/Military Cooperation in Air Traffic Management* with a special focus on Conditional Route (CDR) and Airspace Management Cell (AMC) operations which can benefit airspace management;
- share best practices from successes in civil and military cooperation that can facilitate implementation of Flexible Use of Airspace(FUA).

1.4 Mr. Noppadol Pringvanich , Chief of RSO addressed opening remarks and presided over the seminar. Mr. Liu Song, Regional Officer ATM(AOM-FUA) was the coordinator and organizer of the Lecture/Seminar and was assisted by Mr. Perhinba Renganathan, Regional Officer ATM(AOM-ASM). Mr. Gustavo De Leon, Regional Programme Officer, Air Navigation Bureau, ICAO HQ, supported the Lecture/Seminar on spot. Mr. Leonard Wicks, Regional officer ATM, provided the RO's view on regional civil/military coordination.

1.5 Mr. Joel Morin (IATA), Mr. Anders Hallgren (AATIP) , Mr. Noppadol Pringvanich and Mr. Liu Song acted as facilitators and/or moderators of the Lecture/Seminar.

2. **DISCUSSION**

2.1 On the first day the Lecture session, ICAO presented an overview of Circular 330 with special focus on ICAO's institutional and regulatory framework as well as airspace organization and management, DFS and FAA were invited to present the appendices to Circular 330 which incorporates the best practices of civil and military cooperation in Germany and United States.

2.2 On the second and third days the Seminar session, highlighted the importance of regional civil/military cooperation. China, India, Japan, Malaysia, Singapore, Republic of Korea and Thailand shared improvements achieved in their countries, the current situation and future plans, their experiences and lessons learned. EUROCONTROL and AATIP presented the current FUA implementation in Europe based on successful applications and the advanced FUA concept developed by EUROCONTROL. IATA emphasized the concerns of the CDM process in FUA and the Coast Guard of United States highlighted civil military collaboration in SAR.

2.3 The Seminar session consisted of 4 discussion themes and the presentations covered following topics:

2.3.1 **Theme 1 :Best Practices and Lessons Learned**

EUROCONTROL and AATIP introduced the FUA experiences and best practices in European. The concept of Advanced Flexible Use of Airspace , the example of Airspace Management Cell and the Enhanced ASM/ATFCM process were enlightening for APAC region and were discussed during the seminar.

Japan presented Airspace Management in Air Traffic Management Centre (ATMC) with special focus on civil/military coordination process on Conditional Route(CDR), and the Joint Training Airspace Use concept between USF and JASDF. Japan's experiences on CDR and ASM consistency with ATFM are useful and could be used as a reference by other countries.

Singapore presented Civil/Military Collaboration, including airspace management and civil/military co-use airport. The current operation and future plan of civil military co-use airport/runway and the civil/military operation in the same TMA , provide a very good example on how to achieve win-win result between civil and military in a busy airport.

2.3.2 **Theme 2 :Regional Civil/Military Coordination and Experience**

ICAO presented Regional Civil/Military Cooperation. Regional Office provided the whole picture of civil/military cooperation in APAC region with special focus on civil/military elements described in ATM Seamless Plan. Regional Office also highlighted the high priority of civil/military cooperation and the need to strengthen a significant aspect of civil/military cooperation in the area of Search and Rescue (SAR).

China introduced Flexible Use of Airspace in China. Presently, temporary routes account for 20% of total ATS routes length in China and are playing a very important role during important events and bad weather to mitigate the delay. Airlines also benefit a lot from these temporary routes, from 2009 to 2013, total 32,970,000 tons of fuel were saved. In the future, China will take into consideration to increase the utilization of temporary routes by optimizing civil/military coordination, increasing the predictability and classifying temporary routes.

India introduced Civil/Military Cooperation and Flexible Use of Airspace in India. The presentation reviewed the progress achieved by civil/military in the past decades, the current situation of joint use of airports, joint use of air navigation facilities and dynamic airspace management process. The milestone event is that India has adopted the Manual on Flexible Use of Airspace in India. India were suggested by the Seminar to share this good manual when it is available to publish.

Thailand introduced Civil/Military Air Traffic Management Cooperation in Thailand. Air traffic has increased rapidly with 14% average annual since 2010. Comparing to the rapid growth, 44% of the airspace is allocated as P/R/D area. In order to accommodate both civil and military air traffic requirements, Thailand has reviewed and redesigned P/R/D Areas, developed CDR routes, enhanced coordination on tactical/real-time use of military area to allow shortcuts, weather deviation etc. Thailand is also Setting up/Trial of Joint ASM Unit to facilitate the airspace allocation. In the future, Thailand plans to develop/improve priority & negotiation process of airspace use; continue process of reviewing and improving Flexible Use of Airspace; incorporate supporting tool - Airspace Booking and Management Software and develop Common training/procedures in ATM.

Republic of Korea introduced Established with PBN New Route as a Civil/Military Coordination. ROK established PBN parallel routes with 8NM route spacing through close civil/military coordination process. When implementing these routes, obvious increase on route capacity and reduce on fuel were achieved.

2.3.3 **Theme 3: CDM process in FUA**

IATA provided airlines' perspectives on FUA. The presentation emphasised the importance to get airlines engaged in the process of airspace coordination and allocation based on CDM methodology. In the meantime, IATA expressed his concerns about rapid air traffic growth compared to limited airspace sharing in this region, and tried to convince military that a country's more successful economy means more resources for National Programs.

Malaysia provided example shared experience on international civil/military coordination framework. This presentation explained the cross border coordination and collaboration process among different ANSP and military authorities. In Asia/Pacific Region, where there are many small FIRs, the experiences of this sort of coordination and collaboration are extremely valuable.

2.3.4 **Theme 4: Civil/military collaboration in SAR**

The recent unfortunate events in 2014 highlighted the need to strengthen a significant aspect of civil/military cooperation in the area of Search and Rescue (SAR). Upon the request of ATM/SG2, CMAC Lecture/Seminar invited speaker from Coast Guard of United States to present the civil/military collaboration in SAR. United States shared their perspectives and experienced on information sharing and flexible use of airspace in SAR, especially in international and oceanic airspace.

3. **KEY POINTS AND RECOMMENDATION**

The Lecture and Seminar discussed in depth the problems raised and concerns of States based on the current situation, future developments and likely obstacles in this region. The Seminar identified 7 key points and made relevant recommendations aiming to facilitate the implementation of FUA and improvements to CMAC.

3.1 **Key Point 1:** Common understanding and mutual trust are the fundamental requirements for successful civil and military coordination and flexible use of airspace.

The Seminar urged ICAO to continue inviting States to include their military agencies in their delegations to relevant ICAO meetings and activities. Civil Aviation Authorities are also invited to engage in continuing discussions and dialogues with their military partners on airspace usage and optimization using appropriate Collaborative Decision Making (CDM) processes.

3.2 **Key Point 2:** The Seminar recognizes the value of ICAO Circular 330 for the States' development and regional harmonization of CMAC and FUA process.

The Seminar urged ICAO, international organizations and States to commit necessary resource, expertise and relevant materials to support the enhancement of Circular 330.

3.3 **Key Point 3:** Consistency of CMAC/FUA terminology and data structure are important requirements for regional and global harmonization.

The Seminar invited APAC States to consider using consistent and harmonized CMAC/FUA related terminology and data structure to support regional interoperability of airspace management.

3.4 **Key Point 4:** The Seminar notes the necessary linkage among Airspace Management, ATFM/CDM process and ATS Service Provision to ensure effective and efficient conducts of military missions and civil aviation operations.

The Seminar urged APAC States to review its current ATM process to ensure proper coordination and sharing of data and information among States' Airspace Management units, ATFM units and ATS units, from both civil and military organizations.

3.5 **Key Point 5:** The Seminar reemphasizes that proper communication process, data

sharing mechanism, decision-making framework and negotiation guideline are some of the fundamental requirement supporting civil and military coordination and flexible use airspace.

The Seminar urged APAC States to develop and continue enhancing and reviewing their civil and military coordination process, data sharing mechanism, decision-making framework and negotiation guideline to support flexible use of airspace. The process, mechanism, framework and guideline may be structured into 3 sequential levels, including strategic, pre-tactical and tactical.

3.6 **Key Point 6:** The Seminar reemphasizes the need for governmental support at the policy level to facilitate effective civil and military coordination to ensure the efficient use of national airspace resource.

The Seminar urged APAC States to engage with their governments at the highest levels to ensure that the national airspace resource is better utilized and a national policy ensuring effective civil and military coordination process is developed.

3.7 **Key Point 7:** The Seminar recognizes the role of civil and military coordination which is required to support effective Search and Rescue operations.

Noting the important role of civil and military coordination during SAR missions, the Seminar urged APAC States to consider developing/enhancing their on-going Search and Rescue framework to include effective civil/military coordination both within the domestic and international airspace, including cross-border operations.

3.8 **Recommendation from the Seminar:** The Seminar requested ICAO Secretariat to present the successful outcomes of this Civil/Military Cooperation Lecture and Seminar to relevant formal ICAO meetings. The Seminar also invites ICAO to consider arranging similar civil and military cooperation and coordination events for the APAC in the future.