

**54<sup>th</sup> CONFERENCE OF  
DIRECTORS GENERAL OF CIVIL AVIATION  
ASIA AND PACIFIC REGIONS**

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**AGENDA ITEM 3: AVIATION SAFETY AND  
AIR NAVIGATION**

**CIVIL/MILITARY COOPERATION IN THAILAND**

(Presented by Thailand)

**INFORMATION PAPER**

**SUMMARY**

Civil/Military cooperation is viewed as one of the key factors for improvement of ATM efficiency and has also been identified as top-priority Regional Seamless ATM elements.

This paper presents overview, progress and future plan on Civil/Military cooperation initiatives in Thailand ranging from cooperation on strategic level, airspace organisation and Special Use of Airspace (SUA) review to airspace management coordination on tactical and pre-tactical levels.

## CIVIL/MILITARY COOPERATION IN THAILAND

### 1. INTRODUCTION

1.1 Civil/military cooperation has become a global topic and has enormous positive effects for both civil and military Air Traffic Management (ATM) systems and related aviation operations. It is identified as one of the highest priority items in the Asia/Pacific Region with the focus on the concept that an airspace management concept based on the principle that airspace should not be designated as purely civil or military, but rather as a continuum in which all user requirements are accommodated to the greatest possible extent. Some of key Seamless ATM elements related to Civil/Military cooperation and airspace management are:

- a) Strategic Liaison. The creation of a permanent body and procedures to ensure long and medium-term planning for optimal civil and military operations.
- b) Tactical Liaison. The daily, safe and efficient tactical management of operations, including airspace scheduling through interaction and communications between civil and military units.
- c) Military SUA. The minimisation of airspace exclusively assigned for civil or military use in accordance with FUA principles, assessed by the percentage of military SUA within an FIR.
- d) SUA Review. The regular review of SUA, to ensure that the means and notice of activation provide adequate warning for other airspace users, and the airspace designations as well as the lateral and vertical limits are the minimum required to safely contain the activity therein.

### 2. DISCUSSION

2.1 As main air navigation service providers in Thailand, Royal Thai Air Force (RTAF) and Aeronautical Radio of Thailand Ltd. (AEROTHAI) have a long-standing relationship in air traffic management. In 2012, this was reinforced through the establishment of a joint policy-level committee which works in close conjunction and consultation with the Civil Aviation Authority of Thailand (CAAT), responsible of overall and broader airspace policy in Thailand. The committee has lately focused its efforts on supporting the implementation of Flexible Use of Airspace (FUA) and has also discussed strategic directions on important civil/military issues from interoperability of systems and operations, sharing of infrastructure and data, to ATM contingency planning and in crisis situations. To ensure complete collaboration and involvement of all stakeholders in airspace organisation and management in Thailand, the revision and formation of National High-Level Airspace Policy Body, with representatives from both Ministry of Transportation and Ministry of Defense, are under consideration.

#### Airspace Organisation

2.2 Through mutual understanding and continuing discussion between civil and military parties, flexible airspace structure has gradually been developed in Thailand. Up to date, a number of Conditional Routes (CDR), mainly based on existing military restricted areas, have been established throughout the FIR. Published in AIP Thailand, most CDRs are permanently plannable during inactive periods of nights and weekends. Sharing of the military airspace through the use of CDRs delivers a key benefit in improved flight efficiency which on average translates into 2-6% reduction in carbon emissions.

2.3 On-going discussion has also been conducted between main stakeholders to review airspace structure, taking into consideration both civil and military requirements with the aim of a Win-Win solution for both users. Currently, a few key training areas are under review and expected to be implemented in the near future. On a longer horizon, a major airspace and route structure review for the whole FIR is being carried out as part of an effort to enhance aviation system capacity. Vital to ensuring smooth and success transition for this significant airspace reorganisation are engagement and collaboration with major aviation stakeholders especially military authorities. Pending further discussion, negotiation and validation, the new airspace design, once implemented, is expected to enable more efficient use of airspace as well as increase capacity of air traffic management in Thailand.

### Airspace Management

2.4 Since 2005, a mechanism for tactical coordination between civil and military units has been set up to provide safe and efficient tactical management of operations. The use of military restricted areas when not in use are possible for civil operators through close coordination of a military liaison officer located within Bangkok Area Control Centre. Today, such joint and flexible use of airspace on a tactical level has become normal and been practiced on daily basis.

2.5 In the past few years, the emphasis has been shifted towards pre-tactical airspace management. Adapting from the European model of Airspace Management Cell (AMC), a joint Civil-Military Airspace Management Unit between RTAF and AEROTHAI has been developed and been on operational trial since 2015. The aim of this joint Civil- Military Airspace Management Unit is to coordinate, plan and manage the use of airspace in advance, typically one day before operations. To improve predictability, unit is also responsible for notifying the availability and usage conditions of CDRs to stakeholders especially airspace users for flight planning and resource management purposes. With more areas planned be included in the future, currently eight RTAF Danger areas are being coordinated through this joint Civil-Military Unit.

2.6 To further enhance airspace management and coordination process between civil and military, AEROTHAI has developed a supporting system in collaboration with concerning agencies. The online airspace reservation tool enables timely and effective allocation of airspace, maximises automation of routine tasks as well as improves situational awareness between civil and military. Where applicable, automatically drafted NOTAMs detailing availability of CDRs are disseminated to airspace users. In addition, data exchange through the system can be extracted to provide statistical analysis and performance monitoring as well as recommendation for improvement on airspace structure and coordination procedures. The system, which has been on trial earlier in 2017, is still under continuing development with more advanced functionalities and improved interface with other systems anticipated for the next steps forward.

## **3. ACTION BY THE CONFERENCE**

3.1 The Conference is invited to:

- a) Recognize the status and progress of Civil-Military Cooperation and Coordination in Thailand.
- b) Note other information presented in this Paper.

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