

**61ST CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGION**

*Kuala Lumpur, Malaysia
7 – 11 September 2026*

**AGENDA ITEM 8: CAPACITY DEVELOPMENT AND
IMPLEMENTATION**

**MULTI-STAKEHOLDER TABLE-TOP EXERCISE ON AIR
TRAFFIC MANAGEMENT CONTINGENCY PLANS
OPERATIONS IN THE KOTA KINABALU FLIGHT
INFORMATION REGION (KKFIR)**

(Presented by Malaysia)

INFORMATION PAPER

SUMMARY

This paper presents Malaysia's experience in conducting a multi-stakeholder Table-Top Exercise (TTX) to evaluate the effectiveness of Air Traffic Management (ATM) contingency arrangements within the Kota Kinabalu Flight Information Region (KK FIR). The exercise brought together key aviation stakeholders, including military authorities and the meteorological service provider, to assess operational preparedness under a range of contingency scenarios. The paper highlights the exercise approach, key observations, lessons identified, and future initiatives aimed at strengthening ATM contingency preparedness, operational resilience and inter-agency coordination.

TABLE-TOP EXERCISE ON AIR TRAFFIC MANAGEMENT CONTINGENCY PLANS OPERATIONS IN THE KOTA KINABALU FLIGHT INFORMATION REGION (KK FIR).

1. INTRODUCTION

1.1 Air Traffic Management contingency planning is essential to ensure the safe and orderly provision of air navigation services during major operational disruptions.

1.2 Consistent with ICAO provisions on contingency planning and operational resilience, Malaysia conducts periodic exercises to validate contingency arrangements, assess organisational preparedness and strengthen coordination among relevant stakeholders.

1.3 To support these objectives, Malaysia organised a multi-stakeholder Table Top Exercise (TTX) involving agencies and organisations responsible for maintaining ATM service continuity within Kota Kinabalu FIR, including participation from various divisions within the Civil Aviation Authority of Malaysia (CAAM), the Royal Malaysian Air Force (RMAF), the Malaysian Meteorological Department (METMalaysia), Communication, Navigation and Surveillance (CNS) and ATM systems maintenance contractors, and other relevant operational and technical stakeholders.

1.4 Three (3) operational scenarios were simulated during the exercise:

No	Scenario	Purpose
1.	Volcanic ash activity	Assess coordination and dissemination of meteorological and operational information, including the simulated volcanic ash scenario, reinforced the importance of timely meteorological information, rapid dissemination of operational advisories, and coordinated airspace management to minimise operational impacts while maintaining aviation safety.
2.	Temporary Reserved Area (TRA) for military activities	Assess civil-military coordination and airspace management, including the Temporary Reserved Area scenario, highlighted the importance of early coordination between civil and military authorities to optimise airspace utilisation and minimise disruption to civilian air traffic through timely flight rerouting and traffic management measures
3.	ATM Facility Malfunction and Partial Loss of Building	Assess activation of contingency and business continuity arrangements, including an operational building malfunction scenario, successfully demonstrated the activation of business continuity arrangements, including the continuity of ATM services through contingency facilities and established operational procedures.

1.5 The exercise evaluated operational performance against the following objectives:

- a) Response time for reporting and escalation of operational anomalies;
- b) Accuracy and timeliness of operational decisions by supervisors and controllers;

- c) Resilience of ATM services in maintaining operational continuity;
- d) Effectiveness of internal and inter-agency communications; and
- e) Compliance with contingency procedures and established safety protocols.

1.6 The exercise highlighted several important observations relevant to ATM contingency preparedness:

- a) Early information sharing significantly improves decision-making during contingency situations;
- b) Close civil-military coordination remains essential when contingency measures affect available airspace;
- c) Clearly defined communication channels improve coordination among operational stakeholders;
- d) Regular validation exercises help maintain organisational readiness and familiarity with contingency procedures;
- e) Multi-agency participation provides a more realistic assessment of national contingency preparedness.

2. DISCUSSION

2.1 The exercise demonstrated the effectiveness of existing ATM contingency arrangements in maintaining safe and continuous air traffic services during multiple concurrent operational disruptions. Participants were able to activate contingency procedures promptly and coordinate operational responses among the participating organisations.

2.2 Overall, the exercise successfully achieved its intended objectives by validating the effectiveness of the established contingency plans and operational procedures, confirming the robustness of coordination and communication mechanisms among key operational stakeholders, and assessing the timeliness and effectiveness of decision-making under time-critical scenarios.

2.3 The exercise also demonstrated the resilience of Malaysia's Air Traffic Management (ATM) system in maintaining the continuity of air navigation services during disruptive events, while identifying opportunities for further enhancement of operational preparedness and inter-agency collaboration in accordance with ICAO guidance on contingency planning and business continuity.

2.4 The exercise also identified several opportunities to further strengthen future contingency preparedness, including enhancing information-sharing mechanisms among participating agencies to improve situational awareness, increasing participation from additional aviation stakeholders such as airlines, airport operators, and neighbouring Air Navigation Service Providers (ANSPs) where appropriate.

2.5 Malaysia intends to incorporate the lessons identified during the exercise into future revisions of its ATM contingency arrangements and continue conducting regular multi-stakeholder exercises to strengthen national operational resilience.

2.6 The exercise provided a useful opportunity to validate existing contingency arrangements and identify practical areas for further improvement in operational preparedness, coordination and business continuity planning.

2.7 Development of ATM Contingency TTX Handbook

2.7.1 In relation to this, Malaysia has developed the Contingency Plan Table Top Exercise (TTX) Handbook, which presents a set of guidelines designed to evaluate, discuss, and improve the Air Traffic Management (ATM) Contingency Plan and Business Continuity Plans of all relevant stakeholders in response to a variety of potential disruptions and emergency scenarios.

2.7.2 As the global aviation industry continues to evolve, the robustness of Malaysia's airspace and operational systems becomes increasingly crucial. The ATM Contingency Plan and Arrangement serve as a strategic tool to ensure that, in the event of unexpected disruptions such as severe weather conditions, technical malfunctions, security issues, or other unexpected occurrences, the ATM Contingency Groups (ACG)s' and Central Coordinating Committees (CCC) responses are swift, coordinated, and are managed effectively.

2.7.2 Moving forward, Malaysia is considering further contingency validation activities, similar exercises involving the Kuala Lumpur Flight Information Region (KL FIR), subject to operational requirements and stakeholder coordination.

2.7.3 Moments of the table top exercise as shown below:



Figure 1: Participants during table top Exercise in Kota Kinabalu



Figure 2: Activity during the table top Exercise

3. ACTION BY THE CONFERENCE

- 3.1 The Conference is invited to note the information contained in this Paper.

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