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

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AGENDA ITEM 4: AIR NAVIGATION

DEVELOPMENT OF THAILAND'S AVIATION PERFORMANCE MEASUREMENT SYSTEM (APMS) IN SUPPORT OF THE GLOBAL AIR NAVIGATION PLAN

(Presented by Thailand)

INFORMATION PAPER

SUMMARY

This paper presents Thailand's initiative to develop a national Aviation Performance Measurement System (APMS) in alignment with the ICAO Global Air Navigation Plan (GANP, Doc 9750). Building upon the National Airspace and Air Navigation Master Plan (NANP) 2022–2040, the Civil Aviation Authority of Thailand (CAAT) is establishing a comprehensive system to define, collect, and analyse macro- and micro-level performance indicators across all phases of flight. The system will serve as the primary instrument for measuring the outcomes of Thailand's airspace and air navigation development.

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1. INTRODUCTION

1.1 The International Civil Aviation Organization (ICAO) has established the Global Air Navigation Plan (GANP, Doc 9750) as the overarching strategic framework for the development and improvement of air navigation services worldwide. The GANP defines eleven key performance areas (KPAs) and key performance indicators (KPIs) aligned with the Global Air Traffic Management Operational Concept (GATMOC), against which States and service providers are expected to demonstrate measurable and continuous progress.

1.2 In fulfilment of these international obligations, Thailand has developed the National Airspace and Air Navigation Master Plan (NANP) 2022–2040, which constitutes the national blueprint for systematic development of Thailand's airspace and air navigation systems. The NANP is supported by a National Airspace Policy that serves as the overarching policy instrument for driving capacity enhancement, airspace modernization, and performance improvement in line with global standards.

1.3 The Civil Aviation Authority of Thailand (CAAT) has established a strategic plan oriented towards performance-based standards, with the goal of achieving an air navigation system whose capability is competitive in all dimensions and fully responsive to the expectations of the aviation community. This strategic goal is measured against operational performance targets spanning all eleven dimensions identified in the GATMOC and the GANP.

2. DISCUSSION

2.1 To effectively measure and evaluate the outcomes of NANP implementation, and to ensure alignment with the ICAO GANP, CAAT has initiated the development of a national **Aviation Performance Measurement System (APMS)**. This system will serve as the primary mechanism for performance-based governance of Thailand's air navigation development, providing a structured and data-driven approach to monitoring progress across all phases of flight. This initiative responds directly to the mandate of CAAT's Air Navigation Operations Planning Division, responsible for reviewing and advising on ICAO requirements related to capacity, efficiency, cost effectiveness, and other performance dimensions expected by airspace stakeholders.

2.2 The APMS is designed to achieve the following three objectives:

2.2.1 to establish a macro- and micro-level Key Performance Indicator (KPI) database aligned with the NANP, including the development of data ingestion channels from relevant national agencies and aviation stakeholders;

2.2.2 to develop an efficient aviation performance analysis system capable of processing and interpreting collected data across all relevant operational performance areas; and

2.2.3 to measure the outcomes of Thailand's airspace and air navigation development as undertaken under the NANP, ensuring conformance with the ICAO GANP.

2.3 The APMS is expected to deliver the following outcomes:

2.3.1 CAAT will possess an operational system capable of defining quantitative targets and tracking macro- and micro-level performance indicators in accordance with ICAO guidance. The system will measure the outcomes of NANP implementation.

2.3.2 CAAT will have access to comprehensive, evidence-based performance data enabling informed planning and decision-making to ensure Thailand's air navigation system capability remains competitive in all dimensions and fully responsive to the expectations of the aviation community.

2.3.3 Flight efficiency across all phases of flight shall improve and meet annually defined targets and development milestones, as assessed against GANP-aligned Key Performance Indicators (KPIs).

2.4 The APMS will serve a broad range of stakeholders within Thailand's aviation sector, including airlines, aerodrome operators, air navigation service providers, military authorities, the Thai Meteorological Department, and other relevant entities within the aviation industry. Its outputs will inform cross-agency coordination and support multi-stakeholder engagement in Thailand's ongoing ANS development.

2.5 Thailand is an active member of the ICAO Data Analytics Ad Hoc Group (DAG), established to collaboratively develop and refine Key Performance Indicators for air navigation performance measurement. Through this engagement, Thailand contributes directly to the global effort to harmonise performance metrics and leverages international expertise to inform the development of its APMS, ensuring that Thailand's performance measurement framework is fully consistent with evolving ICAO standards and guidance material.

3. ACTION BY THE CONFERENCE

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

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