



International Civil Aviation Organization

ICAO

Thirteenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/13) of APANPIRG

Singapore, 25 – 29 August 2025

Agenda Item 8: Any Other Business

**INCLUSION OF ATFM-RELATED PHRASEOLOGIES CONTAINED IN ICAO DOC 9971
INTO ICAO DOC 4444**

(Presented by India/Airports Authority of India)

SUMMARY

Airports Authority of India (AAI) has presented a working paper (i.e. WP/25) in ATM/SG/15 related to harmonization of air traffic services (ATS) procedures with the provisions of air traffic flow management (ATFM) to enhance efficiency and effectiveness of air traffic management (ATM). In this paper, AAI has elaborated the benefits of including enabling provisions of ATFM in relevant manual of air traffic services to enhance efficiency and effectiveness of ATM. In this paper, India has requested ATM/SG to consider recommending inclusion of phraseologies contained in the *Manual on Collaborative Air Traffic Flow Management* (ICAO Doc 9971) into the *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, ICAO Doc 4444).

ATM/SG/15 in the Appendix G – Task List, Action Item 15/4 and para 4.57 of its report, has advised India to present a working paper on the subject of including ATFM-related phraseologies contained in ICAO Doc 9971 into ICAO Doc 4444 (PANS ATM) at ATM/SG meeting.

This working paper presents the rational, importance and benefit of including ATFM-related phraseologies contained in ICAO Doc 9971 into ICAO Doc 4444.

1. INTRODUCTION

1.1 Airports Authority of India (AAI) through its working paper, WP/25 in ATM/SG/15 highlighted the benefits of harmonization of air traffic services procedures with the provisions of air traffic flow management (ATFM) to enhance efficiency and effectiveness of air traffic management. In the process of such harmonization of procedures, AAI suggested to include following enabling provisions of ATFM in manual of air traffic services procedure:

- a) Start-up time procedure, related to ATFM provisions as per ICAO Doc 4444.
- b) ATFM-related phraseologies contained in ICAO Doc 9971 on collaborative ATFM.
- c) Strip marking procedures to include Flow measure information on controller's strips.

1.2 ICAO Doc 4444 specify procedures, in greater detail, elaborating the actual procedures to be applied by air traffic services units. ICAO Doc 4444 stipulates the requirement of having local procedures/instructions at many places, so that such procedures can be suitably adapted as per local requirements. Based on ICAO Doc 4444 and other ICAO documents, States are developing their Manual of Air Traffic Services procedures applicable for the concerned nation.

1.3 ICAO Doc 4444 also contains the provisions related to ATFM procedures and capacity management. It also stipulates the requirement that the procedures governing the provision of the ATFM measures, and service within a region or area should be prescribed in a regional ATFM manual or handbook. Accordingly, AAI has prepared and published an operations handbook containing comprehensive information on procedures of ATFM operations including duties and responsibilities of stakeholders.

1.4 AAI has also prepared a document called Manual of Air Traffic Services Part 1 (MATS 1) for the use and guidance of the executive and staff of AAI. This manual provides processes, procedures and instructions that are essential for the provisions of safe and efficient air traffic services within the airspace/airports under the jurisdiction of AAI. This document has been prepared in accordance with national regulations, ICAO SARPs Annex 11, Doc 4444 and other ICAO documents relevant to provision of air traffic services. Based on MATS 1, every ATS facility also prepares a facility specific document, Manual of Air Traffic Services Part 2 (MATS 2) containing instructions valid for the concerned facility.

1.5 ICAO Doc 9971 details the purpose, uses and benefits of flow management. It provides a complete set of operational guidelines that cover the definition and improvement of capacities, the various ATFM solutions and measures, as well as the communication requirements underscoring flow management.

1.6 Air traffic in India has been growing at rapid pace, accordingly the requirement of ATFM measures are also increasing along with it. In the year 2023, total 348 ATFM measures were applied, whereas in the year 2024, total 757 ATFM measures were applied across India.

1.7 AAI has harmonized its ATS procedures with ATFM related provisions, based on provisions contained in ICAO Doc 4444, Doc 9971, ATFM Operational Hand Book. The objective of such harmonization is to facilitate enhanced common situational awareness of air traffic controllers about flow constraints, readily available relevant ATFM provision as ATS instruction and its effective application through appropriate phraseologies. The increased successful application of such provisions in MATS 1 is expected to meet the evolving level of ATFM services by better monitoring and ensuring CTOT compliances, leading to efficient and effective air traffic management.

1.8 Para 6.5.4 Table II-6-4 of ICAO Doc 9971 outlines the phraseology to be used for communication between the ATC unit and pilots on ATFM operations. Chapter 12 of the ICAO Doc 4444 contains the phraseologies for various ATC scenarios.

2. DISCUSSION

ICAO Doc 9971 Chapter 6 ATFM Communication para 6.5.4 ATFM Phraseologies

2.1 Table II-6-4 of ICAO Doc 9971 outlines the phraseology to be used for communication between the ATC unit and pilots on ATFM operations, some of the examples are:

Table II-6-4. ATFM Phraseology

<i>Circumstance</i>	<i>Phraseology</i>
Calculated take-off time (CTOT) delivery resulting from a slot allocation. <i>The CTOT shall be communicated to the pilot at the first contact with ATC.</i>	<i>CTOT (time)</i>
Change to CTOT resulting from a slot revision.	REVISED CTOT (<i>time</i>)
CTOT cancellation resulting from a slot cancellation.	CTOT CANCELLED, REPORT READY

2.2 The above table clearly stipulates the circumstances associated with ATFM measures and phraseologies to be used by ATC unit and pilots contextually.

Chapter 12 Phraseologies of the ICAO Doc 4444

2.3 Chapter 12 of the ICAO Doc 4444 contains the phraseologies with following details:

- a) Para 12.3 ATC phraseologies;
- b) Para 12.4 ATS surveillance service phraseologies;
- c) Para 12.5 Automatic dependent surveillance — contract (ADS-C) phraseologies;
- d) Para 12.6 Alerting phraseologies; and
- e) Para 12.7 Ground crew/flight crew phraseologies.

2.4 Chapter 12 of the ICAO Doc 4444 contains phraseologies for various ATC scenarios. However, chapter 12 of the ICAO Doc 4444 does not contain the phraseologies pertaining to ATFM mentioned in ICAO Doc 9971. ICAO Doc 4444 contains procedures of air navigation for air traffic management. ICAO Doc 4444 definition of air traffic management states, ATM as dynamic, integrated management of air traffic and airspace including air traffic services, airspace management and air traffic flow management — safely, economically and efficiently. So, ICAO Doc 4444 chapter 12 should also contain the phraseologies of ATFM, in addition to the phraseologies of ATS.

2.5 The inclusion of ATFM related phraseologies contained in ICAO Doc 9971 into ICAO Doc 4444 will encourage the States to incorporate such phraseologies in their respective Manual of Air Traffic Services. Such readily available phraseologies in ATS document will help controllers in establishing improved communication through enhanced common situational awareness, ensuring better CTOT compliances leading to effective air traffic management.

2.6 ICAO Doc 4444 is widely referred by air traffic management personnel's and Crew for ATM related subject including phraseologies. Whereas, ICAO Doc 9971 *Manual on Collaborative Air Traffic Flow Management* is referred by the ATFM stakeholders. Normally, the important stakeholders air traffic controller and crew, directly involved in the compliance of flow restrictions such as CTOTs and CTOs, may not actively refer the ICAO Doc 9971, whereas PANS-ATM is expected to be referred by all such stakeholders. The availability of ATFM related phraseologies mentioned in Table II-6-4 of ICAO Doc 9971 in chapter 12 of the ICAO Doc 4444 will enhance the probability of successful application of flow measures through appropriate phraseologies, thus creating an enabling environment leading to efficient and effective air traffic management.

2.7 Inclusion of such ATFM related phraseologies in ICAO Doc 4444 will offer numerous benefits including reduced risk of misunderstandings, facilitating clear and concise communication, improved efficiency and enhanced safety in air traffic management operations. By using specific, unambiguous terms pertinent to scenario, such phraseologies will minimize the potential for misinterpretations that could lead to delays.

2.8 In India, overall CTOT compliance during year 2023 was 77%, whereas after the initiative of harmonization of air traffic services procedures with the provisions of ATFM, overall CTOT compliance during year 2024 has risen to 85%.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) consider recommending the inclusion of phraseologies contained in ICAO Doc 9971 *Manual on Collaborative Air Traffic Flow Management* Chapter 6 ATFM communication, para 6.5.4 ATFM Phraseologies Table II-6-4, at suitable place in ICAO Doc 4444 Chapter 12; and
- c) discuss any relevant matters as appropriate.

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