



International Civil Aviation Organization

The Second Meeting of ICAO Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/2)

Bangkok, Thailand, 1 – 4 October 2013

Agenda Item 4: Review of Current CDM/ATFM Operations and Problem Areas

CURRENT ATFM STATUS IN JAPAN

(Presented by Japan)

SUMMARY

This paper presents current ATFM status in Japan.

Strategic Objectives:

A: *Safety – Enhance global civil aviation safety*

C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-1 Flexible use of airspace

GPI-6 Air traffic flow management

GPI-7 Dynamic and flexible ATS route management

GPI-8 Collaborative airspace design and management

GPI-19 Meteorological Systems

1. INTRODUCTION

1.1 In Asia Pacific region, the continuous increase of traffic demand is predicted along with economic growth. The traffic increase might cause various issues such as the increase of airborne holding or the increasing unexpected traffic restrictions which could occur everywhere. JCAB recognizes that ATFM is essential function in order to deal with the increasing traffic such as; open the new airport; enhance the airport capacity; and create/accept new traffic flow. This paper presents current status regarding ATFM to contribute to the discussion in this meeting.

2. OVERVIEW of ATFM in Japan

History

2.1 The new CNS/ATM concept was approved at the 10th ICAO Air Navigation Conference in 1991 to respond to the worldwide increase in aviation traffic demand in the future. In accordance with ICAO CNS/ATM system concept, in Japan, the modernized and system based Air Traffic Flow Management has started with the establishment of the ATFM Center since 1994. ATFM systems, which has been established in the ATFM Center, could compute the necessary delay in order to balance the traffic demand with the capacity and distribute it to each aircraft.

Renovation From ATFMC to ATMC (Network Operation) in 2005

2.2 In 2005, JCAB established the Air Traffic Management Center by recomposing existing ATFM Center, to act as leading and central function in order to drive forward Japanese Air Traffic Management (ATM). ATM Center works to promote air traffic safety and to improve flight efficiency by integrating 3 functions of Airspace Management, Air Traffic Flow Management and Air Traffic Control services. These functions of ATM Center are planned to be upgraded step by step according to a medium to long term planning.

ATFM and ASM

2.3 ATFM balances traffic demand with airspace and airport capacity with minimum impact on the flights while coordinating with relevant participants. ASM increases airspace capacity and improves efficient use of airspace by designing efficient route-network, optimizing airspace configuration and making flexible use of airspace as much as possible. JCAB planned that capacity enhancement is higher priority, demand regulation is second one. This policy highlights the ASM is the key enabler of maximizing airspace capacity. However, there are some aspects of difficulty to realize effective ASM, because it needs much coordination with all stakeholders, which will take much more time before making it work well than ATFM. JCAB is continuing this challenge to conduct ASM in order to maximize the airspace capacity effectively. Effective ASM could lead to the reduction of system delay.

2.4 On the other hand, JCAB re-highlights ATFM. JCAB recognizes that the ATFM could be contributing to future Trajectory Based Operation (TBO). ATFM enables to increase the accuracy of traffic demand forecast. The most Effective Air Traffic Flow will be realized when all the traffic would fly, following the scenario that the ATFM system would predict in CDM environment. JCAB would like to develop a new ATFM method to approach TBO through the CDM.

ATFM measures

2.5 JCAB has developed and implemented typical ATFM measures described below.

- ◇ Ground Delay Program with slot swapping (including Ground Stop Program)
- ◇ Rerouting Program (Strategic phase, Pre-tactical phase and Tactical phase)
- ◇ Miles In Trail
- ◇ Minutes In Trail
- ◇ SCAS (Specifying Calculated Fix Departure Time for Arrival Spacing program)

ATFM in collaboration with MET

2.6 The weather factor is the most influenced natural phenomenon to the airport or airspace capacity. If the significant weather is expected around big airport, ATMC will coordinate closely with MET agency on the expected capacity decrease, then ATM officers will set appropriate capacity value to the ATFM system. ATM officers continue to monitor the situation whether the demand and capacity can be balanced or not. JCAB continues to study in order to utilize weather information effectively.

CDM

2.7 ATMC holds ATM collaborative meeting with all ATM stakeholders twice a year. If ATMC introduces a new ATFM technique into real operation, ATMC has to express overview of new ATFM technique and expected influence to the Aircraft Operators. This manner secures the transparency of equality for all stakeholders. ATMC announces officially the standard capacity value of the airport and the airspace. In addition, ATMC dynamically announces capacity value changing every hour by weather or special events such as runway closure, using web based information sharing. All stakeholders can easily access all ATFM information with using IP based network.

2.8 CDM to be achieved by close coordination and cooperation with the parties concerned will be introduced into the management of air traffic. This would enable effective air traffic management, taking the intentions (plans) of Aircraft Operators into consideration, and would contribute to the reduction in the restriction of aircraft operations, such as delays.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper.

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