



*International Civil Aviation Organization*

**The Fifth Meeting of ICAO Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/5)**

Bangkok, Thailand, 30 March – 3 April 2015

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**Agenda Item 5: Development of Regional ATFM Framework**

**ATFM TRAINING FOR ATM OFFICERS IN JAPAN**

(Presented by Japan)

**SUMMARY**

This paper presents ATFM training practices for ATM officers currently conducted at Air Traffic Management Center (ATMC) in Fukuoka, Japan.

This paper relates to the draft ATFM Training Requirements Document presented by EU-AATIP at ATFM/SG/4 meeting in December 2014.

**1. INTRODUCTION**

1.1 ATMC is the organization of Japan Civil Aviation Bureau (JCAB) providing ATFM services to the aircraft flying Fukuoka FIR. The personnel providing ATFM services are called ATM officers. As of 1st February 2015 there are one hundred and forty-four (144) ATM officers in Japan.

1.2 The recruitment/application activities for ATM officers are handled by managerial positions of ATC division, JCAB HQ. The requirement to apply for ATM officers is having a background as an air traffic controller with an en-route radar control qualification or a terminal radar control qualification. In other words, all ATFM trainees have experiences of ATC, thus the ATFM training curriculum in the ATMC does not have to cover ab-initio contextual knowledge or pre-requisite skills.

**2. DISCUSSION**

2.1 As soon as transferring into ATMC, a rookie ATM officer starts initial training for an assistant position in the first place. The training course includes, but not limited to:

- Concept of Air Traffic Management
- Organizational structure and regulatory bases of ATMC
- Outline of ATM services (i.e. ASM, ATFM, Oceanic ATM, and CDM)
- Knowledge and understanding of the present ATM environment (i.e. FIRs, Sectors of ACCs, TMAs, ATS routes, Training/Restricted areas, Navigational aids, Operations and performances of aircraft, Information processing system/tool/network related to ATM services, Communication procedures, etc.)

2.2 The special training for ATFM positions is scheduled following the above-mentioned initial training. The ATFM training consists of two parts. The first part is classroom lectures and practical simulator trainings. The second part is on-the-job trainings.

2.3 The ATFM training starts from the classroom lectures and practical simulator trainings, which are typically programmed as follows:

Day 1: ATFM system and other associated equipment

Management and coordination procedures of standard routes and alternative routes

Day 2: Capacity value calculation procedures

Weather and ATFM

Day 3: Monitoring and prediction of traffic volume

Flow control procedures

Day 4: Algorithm of Expected Departure Clearance Time (EDCT) calculation

Handling procedures related to diversions at major airports

Day 5: Cross border ATFM

Characteristics of traffic flow and ATC operating procedures in ACC sectors

Day 6: Specifications of airports/aerodromes and ATC operating procedure

ATM operations plan (OP) and CDM

Simulator: Extracting relevant information/lists, setting capacities

Day 7: Regulations and agreements on ATFM

Simulator: Flow management of ACC sectors

Day 8: In-house operating procedures

Simulator: Flow management of RJTT/RJAA

Day 9: Recently introduced/amended procedures

Simulator: Flow management of international ATS routes

Day 10: Case studies

Final checks

2.4 The scores of the final checks with comments of the instructors are reported to the Chief ATM officer, who then judges whether the trainee should join one of the crews working in shifts and start on-the-job trainings.

2.5 The on-the-job training (OJT) is phased and standardized. The trainee and the training supervisors are supposed to use "OJT check sheet" so that the trainee can master a required skill for ATFM services systematically (**Attachment A**). The crew forms an "OJT training team" for the trainee, and the progress of training is reported monthly to the office staff in charge of training.

2.6 Forty-six (46) trainees had successfully completed ATFM OJT and two (2) trainees had failed between January 2010 and December 2014. On average, the trainees needed four (4) months and three (3) weeks to complete the ATFM training during the half decade.

2.7 After having been recognized that the trainee attained the required skills, knowledge, and attitudes by the “OJT training team”, the trainee will take a qualification examination. The ATFM qualification examination consists of a practical test, an oral test, and a written test. The score of 70% is the pass mark.

2.8 The following advanced trainings are conducted for the qualified ATM officers as needed basis:

- Training for an ATM supervisor position
- Training for a facilitator of CDM web meeting

2.9 The refresher/recurrent trainings for the qualified ATM officers are conducted regularly (at least once a year). And also, the periodic test is scheduled every year to check if the qualified ATM officers maintain adequate level of skills and knowledge.

2.10 The training course on Airspace Management (ASM) for ATM officers is established separately from the ATFM training course. Civil/military coordination and the handling of airspace related matters are covered in the ASM trainings.

### **3. ACTION BY THE MEETING**

The meeting is invited to note the information contained in this paper.

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OJT check sheet		phase <b>A · B · C</b>		month	Starting date of the phase														Total OJT hours in the month
ATFM	crew	graduating class	name	Number of mark "4" earned by previous month	A:				B:				C:						hour note
					date	date	date	date	date	date	date	date	date	date	date	date	date	date	
					hour SV	hour SV	hour SV	hour SV	hour SV	hour SV	hour SV	hour SV	hour SV	hour SV	hour SV	hour SV	hour SV	hour SV	
phase	<b>Monitoring traffic volume</b>			4	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	
A	able to manipulate FMW and display necessary information timely																		
A	able to calculate workload value of sectors per aircraft																		
A	able to extract relevant departure flight plans for flow control initiatives																		
A	able to evaluate EDCT flow controls before starting/ending the initiatives																		
B	able to evaluate EDCT flow controls including a groundstop																		
B	able to evaluate flow controls thru assignment of departure intervals																		
B	able to evaluate flow controls thru assignment of inflow intervals																		
B	able to except particular aircraft from flow controls or demand tallying process before/during initiatives																		
B	able to monitor airports/sectors with traffic flow characteristics taken into account																		
B	able to analyze flight plans correctly																		
B	checking combine/decombine status of sectors and conditions of inflight aircraft by manipulating FPVD																		
B	able to plan and input the pre-tactical operation of variable sectors																		
C	able to perceive RWY operation patterns of RJTT/RJAA and input correctly																		
C	able to input capacity values correctly in accordance with present MET conditions or RWY in use																		
C	able to change capacity values in accordance with expected scenarios																		
C	able to predict the change of traffic demand graph and cope with it when traffic is surged against prediction																		
C	able to evaluate intended flow controls with the initiatives planned in the other ATFM position taken into account																		
C	able to cope with the unexpected, such as RWY closure																		
	<b>Flow control procedures</b>																		
A	able to figure out and input FROM-TO of EDCT flow controls																		
A	able to figure out and input START-END of EDCT flow controls																		
B	able to coordinate about the start of flow controls with related ATC facilities																		
B	Conveying just enough information (i.e. flow controlled area, measure, start time, end time, FROM-TO, max demand value, capacity value) to an ATM supervisor before starting initiatives timely																		
B	able to make flow controls on inflight aircraft (i.e. assigning inflow intervals, specifying airspeed/altitude/route, assigning airborne holding)																		
B	able to make flow controls on departures by assigning departure intervals																		
B	able to figure out appropriate FROM-TO of flow controls on airports																		
B	able to figure out appropriate FROM-TO of flow controls on sectors																		
B	able to figure out appropriate FROM-TO of flow controls on ATS routes																		
B	able to adjust EDCT appropriately as needed																		
B	balancing the amount of delay of EDCT and arising no reverse in departure sequence in the respective airports																		
B	able to evaluate and decide the end time of flow controls appropriately																		
B	able to coordinate about the end of flow controls with related ATC facilities																		
B	able to cope with the change in ending time of flow controls (including input timing of "TO")																		
B	able to cope with EDCT exceeding the ending time of flow controls																		
C	able to cope with reversed departure sequence arisen by the capacity change during EDCT flow controls																		
C	able to make flow controls on departures by using the groundstop feature																		
C	able to conduct time frame coordination																		
C	able to make a judgement on whether ongoing ATC restrictions should be changed to ATFM initiatives, and able to cope with the change																		

[Marks] 1: incapable/unknowing 2: lack of skill/understanding 3: barely able 4: able 5: well enough

The mark "4" indicates 70-80%, and "5" indicates beyond 80%, which are acceptable level.

When marking "5", the training supervisors should fill in own initials to the right column. The "5" marked training items will be exempted in the subsequent OJT.

The training items rarely happen can be substituted by oral tests in the OJT. The mark through oral tests shall be expressed by an encircled number.

Acquiring "4" three times or more, or acquiring "5" can complete the training item. After completing all the training items of the phase, the OJT moves on to the next phase.

[Abbreviations] FMW: Flow Management Workstation, EDCT: Expected Departure Clearance Time, FPVD: Flow Plan View Display  
CCW: Traffic Control Condition Supervised Workstation, SSW: Strategic Statistics Workstation, SAW: Statistic Analysis Management Workstation

ATFM (back)																note	
phase		4	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12	d13	d14	
	<b>Cross Border ATFM</b>																
A	able to extract aircraft groups bound for particular destination via particular ATS route																
B	able to adequately communicate with foreign ANSPs																
B	able to make a judgement on whether the ATFM initiatives are consistent with the stipulations of LOA (i.e. flow controlled airport, reason, lead time for coordination, measure)																
B	able to coordinate with related ATC facilities about the flow controls on G585 (SAPRA) requested from Incheon ACC																
B	able to coordinate with related ATC facilities about the flow controls requested from Taipei ACC																
C	able to cope with the unexpected or any change in ATFM initiatives requested by foreign ANSPs																
	<b>Operating procedures for handling diversions</b>																
A	able to notify facilities concerned without omission in accordance with the phase of diversions																
A	able to input start/end to CCW																
A	able to display number of spots available all day in the phase 1																
B	able to allocate airports for diversion appropriately in response to requests																
B	able to manage the case when aircraft request diversion to RJOO																
B	able to manage the case when the width or length of diverting aircraft is unclear (including A346, B777, B773, B77W, etc)																
B	able to manage the case when aircraft request diversion to RJTY or RODN																
C	able to manage the case when aircraft request diversion to airports not registered in CCW																
C	able to manipulate CCW when aircraft canceled diversion																
C	able to make a judgement and coordination about ending respective phases of diversion																
	<b>Acquiring/providing adequate information</b>																
A	able to extract necessary NOTAMs quickly																
A	able to display MET data of particular airports																
B	Keeping good watch on the situations being faced in the other ATFM positions																
B	able to get information about restricted areas, training/testing areas, etc																
C	able to exchange information with the other ATFM positions that will be affected by the own flow controls decided and being started shortly																
	<b>Handling SAW/SSW</b>																
B	able to manipulate SSW and get daily statistical information																
C	able to make coordination with AO thru SSW about flight planned routes for the next day																
C	able to confirm and input the information about the cancellation of a flight thru SSW																
	<b>Miscellaneous</b>																
B	able to take over the ongoing ATFM services accurately																
C	able to handle rarely happened situations																

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