International Civil Aviation Organization

The Sixth Meeting of the APANPIRG ATM Sub-Group (ATM/SG/6)

Hong Kong, China, 30 July – 03 August 2018

Agenda Item 4: ATM Systems (Modernization, Seamless ATM, CNS, ATFM)

INFORMATION MANAGEMENT FOR ACTIVATION OF FUA STRUCTURES

(Presented by India)

SUMMARY

India started the process of implementation of Flexible Use of Airspace in 2013. Many FUA Structures such as TRA, TSA and CDR have been created. Pending establishment of Airspace Management Cells (AMC), these FUA structures are activated through issue of NOTAMs. Upon establishment of AMCs, activation of TRA, TSA and CDR will be done through issue of Airspace Use Plans (AUP) or Updated Airspace Use Plans (UUP) in the pre-tactical phase; i.e. one day prior to the day of operation.

This paper presents the format of AUP/UUP for dissemination of information regarding activation of FUA structures and also proposes measures intended to mitigate the risks associated with reduced advance notification time for activation of TRA and TSA.

1. INTRODUCTION

1.1 Flexible Use of Airspace (FUA) is an airspace management concept based on the principle that airspace should not be designated as exclusively military or civil, but as a continuous space that meets the requirements of all users to the extent possible.

1.2 FUA concept envisages a three tier airspace management model for strategic, pre-tactical and tactical management of airspace. This will ensure optimum utilisation of airspace among military and civil airspace users.

1.3 The proposal for implementation of Flexible Use of Airspace (FUA) in India was formally approved by the Government of India in March 2013. Subsequently, National High Level Airspace Policy Body (NHLAPB), with the primary responsibility of implementing FUA in India, came into existence on 24th October 2013. The NHLAPB constituted a National Airspace Management Advisory Committee (NAMAC) to assist NHLAPB in realizing its objectives.

1.4 One of the primary responsibilities of NHLAPB, NAMAC and Airspace Management (ASM) Directorate of AAI is to establish flexible airspace structures such as Temporary Reserved Area (TRA), Temporary Segregated Area (TSA) and Conditional Routes (CDR) and procedures for their allocation. Pre-tactical allocation of these flexible airspace structures will be carried out by Airspace Management Cells (AMC).

1.5 Airspace Management Cells (AMC) are joint civil/military ASM focal-points which have the authority to conduct pre-tactical and tactical ASM within the framework of airspace structures, priority rules and negotiation procedures as laid down in Manual of Flexible Use of Airspace in India approved by the NHLAPB. India will establish four Regional AMCs (R-AMC) at the four major ATS centres at Chennai, Delhi, Kolkata and Mumbai and one National AMC (N-AMC) at New Delhi.

1.6 The R-AMCs will work under the supervision of the N-AMC which will be collocated with the Central Command Centre (CCC) of the Air Traffic Flow Management (ATFM) System.

1.7 India has planned the establishment of R-AMCs in a phased manner. Owing to the limited number of FUA structures established so far (39 TSA/TRA and 23 CDR), R-AMC will be established only at Delhi initially, which will also act as the N-AMC. More RAMCs will be established in a time bound manner based on the requirement.

1.8 This paper presents the format of AUP/UUP for dissemination of information regarding activation of FUA structures and also proposes measures intended to mitigate the risks associated with reduced advance notification time for activation of TRA and TSA.

2. DISCUSSION

Promulgation of AUP / UUP

2.1 Until such time AMCs are established, activation of TSA, TRA and CDR are promulgated through separate NOTAMs, issued by the appropriate NOTAM offices at Chennai, Delhi, Kolkata or Mumbai.

2.2 When established, R-AMC, in coordination with N-AMC, will publish Airspace Use Plan (AUP) / Updated Airspace Use Plans (UUP) on a daily basis, one day prior to the day of operation, to inform stakeholders about the activation plan of TRA, TSA and CDR for the day of operation. AUP/UUP will be published in the form of a NOTAM and disseminated through the AFTN.

2.3 India had conducted the trial operation of Delhi AMC in early 2017, during which activation of TSA, TRA and CDR were published through AUP/UUPs. These AUP/UUPs were published as NOTAM and promulgated through AFTN. The format used for publication of AUP/UUP is attached as **Annexure-I**.

Advance Notification Requirement for Activation of TSA and TRA

2.4 Clause 5.1.1.4 of Annex 15 stipulates that at least seven days' advance notice shall be given for the activation of established danger, restricted or prohibited areas and of activities requiring temporary airspace restrictions other than for emergency operations.

2.5 ICAO has proposed to change this clause with effect from 8th November 2018, whereby it will be removed from Annex 15 and incorporated in PANS-AIM as a recommendation for worldwide application.

2.6 TSA and TRA involve temporary airspace restrictions and hence the relevant clause in Annex 15 / PAN-AIM will be applicable to these FUA structures also. When activation of TSA and TRA are promulgated through AUP /UUP, which will be published 10 to 12 hours prior to the start of the day of operations, the required advance notification period will not be met.

2.7 Even though ICAO has adopted to remove the Standard pertaining to advance notification requirement from Annex 15, India believes that States have an obligation to take

necessary steps to ensure that such information affecting air safety needs to be promulgated as early as possible.

2.8 TRA and TSA established in India till date do not affect international ATS routes, with the exception of TRA603(B), TRA807(B), TRA808(A) and TRA808(B), for which suitable procedures have been established to ensure that flights transiting these TRAs are not affected during their activation. List of TRA and TSA along with the impact on ATS routes is attached as **Annexure-II**.

2.9 Non-availability of domestic ATS routes or route segments will be informed to airline operators before 1230 UTC of the previous day through AUP or UUP. This will ensure that information on non-availability of domestic ATS routes will be made available to the users 11.5 hours prior to the first possible departure. Airspace Management Cells (AMC), responsible for dissemination of AUP/UUP will deliver the information to all stakeholders including airline operators through NOTAM and email, besides publishing the information in ATFM Portal.

2.10 In order to mitigate the risks associated with reduced advance notification time for activation of TRA and TSA, the following additional measures are being contemplated:

a) To the extent possible, upper level of TRA and TSA affecting international ATS routes (which may be established in future) may be limited to FL 270 or below.

b) For all TRA and TSA affecting international ATS routes, standard alternate routes can be published, which should be activated along with the associated TRA/TSA.

c) The additional track miles to be flown on such standard alternate routes may be kept to the minimum and in any case not beyond mutually acceptable values decided in consultation with airline operators.

2.11 AIP can be suitably amended to incorporate the procedures mentioned in 2.10.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) Discuss the format proposed by India for publication of AUP/UUP and if found acceptable, adopt as standard format for the APAC States;

c) Discuss the suitability of the measures proposed by India to mitigate the risks associated with reduced advance notification time for activation of TRA and TSA; and

d) discuss any relevant matters as appropriate.

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Annexure – I

AIRSPACE USE PLAN (AUP) / UPDATED AIRSPACE USE PLAN (UUP) FORMAT

NOTAM N

A. VOMF / VIDF / VECF / VABF
B. 20XXXXXXXXXX
C. 20XXXXXXXXXX
D. 0000 – 2359
E.

AIRSPACE USE PLAN (AUP) / UPDATED AIRSPACE USE PLAN (UUP)[1]

AUP/UUP IDENTIFIER: DDMMMAUP/UUPX[2]

AUP/UUP REPLACED: NIL / DDMMMAUP/UUPX[2]

AIRSPACE ALLOCATION

SL.NO:	SUA IDENTIFIER	ACTIVITY FROM	ACTIVITY TO	LEVEL FROM	LEVEL TO
1					
2					

CDR2 ALLOCATION

SL.NO:	CDR2 DESIGNATOR	ACTIVITY FROM	ACTIVITY TO	LEVEL FROM	LEVEL TO
1					
2					

CLOSURE OF CDR1/CDR2

SL.NO:	CDR DESIGNATOR	TYPE OF CDR[3]	AVAILABILITY STATUS
1			
2			

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1 Delete the irrelevant item

2 DD-date; MMM-Month; Choose either AUP or UUPX and delete the irrelevant item; X (in UUPX) shows the UUP no: pertaining to the D-day e.g. UUP1 is the first UUP pertaining to the day of operation; UUP2, the second, and so on

3 Mention CDR1 or CDR2, whichever is applicable

Annexure – II

LIST OF TRA & TSA AND ATS ROUTES AFFECTED BY THEIR ACTIVATION

SL. NO:	IDENTIFIER	VERTICAL LIMITS	ROUTES AFFECTED	
			INT	DOM
1	TRA501 [Bhuj]	6000 FT AGL/ 200 FT AGL	NIL	NIL
2	TRA601(A) [Panagarh]	4000 FT AMSL/ GND	NIL	NIL
3	TRA601(B) [Panagarh]	FL060/ GND	NIL	NIL
4	TRA601(C) [Panagarh]	FL065/ GND	NIL	NIL
5	TRA603(A) [Purnea]	FL280/ GND	NIL	NIL
6	TRA603(B) [Purnea]	FL260/ GND	A467, R344	NIL
7	TRA604 [Tezpur]	FL460/ FL130	NIL	NIL
8	TRA702(A) [Srinagar]	FL460 / FL170	NIL	W31, W34
9	TRA702(B) [Srinagar]	FL460/ GND	NIL	NIL
10	TRA804(A) [Thanjavur]	4000 FT AMSL/ 1300 FT AMSL	NIL	NIL
11	TRA804(B) [Thanjavur]	4000 FT AMSL/ 2000 FT AMSL	NIL	NIL
12	TRA805(A) [Visakhapatnam]	FL230/ FL145	NIL	NIL
13	TRA805(B) [Visakhapatnam]	5000 FT AMSL/ GND	NIL	NIL
14	TRA806(A) [Cochin]	6000 FT AMSL/ 6000 FT AMSL	NIL	NIL
15	TRA806(B) [Cochin]	FL170/ FL060	NIL	T6, T7
16	TRA806(C) [Cochin]	FL170/ FL150	NIL	W145
17	TRA806(D) [Cochin]	FL130/ FL060	NIL	V27, V28, V29
18	TRA806(E) [Cochin]	FL170/ FL060	NIL	V26, V27, V28, V29
19	TRA806(F) [Cochin]	FL130/ FL060	NIL	V25, V26, V27
20	TRA806(G) [Cochin]	FL170/ FL060	NIL	V26, V27
21	TRA807(A) [Sulur]	9000 FT AMSL/ GND	NIL	NIL
22	TRA807(B) [Sulur]	FL240/ 9000 FT AMSL	R461	NIL
23	TRA807(C) [Sulur]	FL180/ 9000 FT AMSL	NIL	NIL
24	TRA808(A) [Visakhapatnam]	FL230/ FL145	A465	W47, W29, W66
25	TRA808(B) [Visakhapatnam]	FL230/ FL145	A465	V9
26	TRA809 [Bengaluru]	FL400/ GND	NIL	T5
27	TSA602 [Dudhkundi]	FL215/ GND	NIL	NIL
28	TSA605 [Nyishi]	FL460/ GND	NIL	NIL
29	TSA701(A) [Adampur]	FL280/ FL145	NIL	NIL
30	TSA701(B) [Adampur]	FL280/ GND	NIL	NIL
31	TSA801(A) [Thanjavur]	FL100/ 4000 FT AMSL	NIL	NIL
32	TSA801(B) [Thanjavur]	FL135/ MSL	NIL	NIL
33	TSA802(A) [Ramnad]	FL100/ FL060	NIL	NIL
34	TSA802(B) [Ramnad]	FL100/ FL060	NIL	NIL
35	TSA802(C) [Ramnad]	FL120/ FL090	NIL	NIL
36	TSA802(D) [Ramnad]	FL120/ FL090	NIL	NIL
37	TSA803(A) [Visakhapatnam]	FL230/ AMSL	NIL	NIL

38	TSA803(B) [Visakhapatnam]	FL145/ AMSL	NIL	NIL
39	TSA803(C) [Visakhapatnam]	FL230/ AMSL	NIL	NIL