



International Civil Aviation Organization

The 10th Meeting of the FANS Implementation Team for South-East Asia (FIT-SEA/10) and the 17th Meeting of South-East Asia ATS Coordination Group (SEACG/17)

Singapore, 24 – 27 May 2010

Agenda Item 11: Any Other Business

RNAV5 PREFERENTIAL OPERATION

(Presented by Japan)

SUMMARY

This paper provides outline of the RNAV5 Preferential Operation (Sky Highway) which will be in force from October 2010 in domestic airspace of the Fukuoka FIR.

1 INTRODUCTION

1.1 In September 2007, JCAB introduced the RNAV1/5 standards in accordance with ICAO PBN manual, and replaced existing Japanese RNAV routes as RNAV5 routes. In order to increase airspace capacity, improve efficiency and ensure safety, JCAB introduced parallel RNAV5 routes between major city pairs, and limited some RNAV5 routes for one-way using. Currently 114 RNAV5 routes are operating, and continue to establish new RNAV5 route for shortening flight routes and alternating conventional VOR routes.

1.2 In other hand, conventional VOR routes are still existing and available for non-RNAV5 approved aircraft. Aircraft operators may file flight plan whichever RNAV5 routes and VOR routes.

1.3 This circumstances that RNAV5 routes and VOR routes are established in the same airspace lead to increase air traffic controllers' workload. Air traffic controllers always have to care of separation between aircraft on RNAV5 route established close to VOR route, because lateral separation between RNAV5 route and VOR route is not considered when establishing RNAV5 route. And aircraft on RNAV5 route has much possibility to overtake aircraft on VOR route.

1.4 Increasing air traffic controllers' workload means decreasing ATC capacity. In order to make the most of capacity enhancement using RNAV5, JCAB plans to introduce RNAV5 preferential operation named the Sky Highway Project.

1.5 The Sky Highway is to separate flights on RNAV5 routes and VOR routes operationally at FL290. The Sky Highway will be in force in October 2010 at when fourth runway of the Tokyo International Airport (Haneda) will be opened.

2 OPERATIONAL PROCEDURE

2.1 The Sky Highway is not RNAV5 mandate, and not exclusive RNAV5 operations at or above FL290 in the Fukuoka FIR. The Sky Highway is one of ATC operational procedures which are to prevent increasing air traffic controllers' workload with securing safety.

2.2 Air traffic controller will assign cruising altitude between FL290 and FL410 for only RNAV5 approved aircraft. For aircraft coming from adjacent FIR or oceanic airspace, air traffic controller will change cruising altitude to at or below FL280 or at or above FL430 if the aircraft is not RNAV5 approved.

2.3 Following aircraft/cases are exception of the Sky Highway.

2.3.1 In order to avoid turbulence or bad weather area; or

2.3.2 ATC instruction for establishment of ATC separation; or

2.3.3 Low traffic situation such as night time, and when ATC units accept it ; or

2.3.4 The state aircraft which has to fly at or above FL290 for their operational reasons.

3 FLIGHT PLAN

3.1 Aircraft operators are requested to file flight plan according to the aircraft capability whether the RNAV5 approved or not.

3.1.1 If the aircraft is RNAV5 approved and plans to operate between FL290 and FL410, the operator shall file flight plan along RNAV5 routes; and

3.1.2 If the aircraft is not RNAV5 approved, the operator shall file flight plan at or below FL280/at or above FL430.

3.2 Air traffic controller will assign cruising altitude as to notations on the flight plan. Aircraft operators are requested to flight plan correctly as follows.

3.2.1 If the aircraft is RNAV5 approved;

a) Enter “Z” in Item 10 with additional information in Item 18; and

b) Enter “NAV/RNAV5” in Item 18 (Remarks).

4 AERONAUTICAL INFORMATION CIRCULAR

4.1 An Aeronautical Information Circular regarding the Sky Highway (AIC JAPAN Nr 056/09 dated 22 October 2009) has been published as attachment.

5 ACTION BY THE MEETING

5.1 The meeting is invited to:

a) Note the information in this paper, and;

b) Support the Sky Highway as one of the program to ensure airspace capacity and efficiency, and;

c) Request IATA to circulate this information to all member airlines.

JAPAN

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Nr 056/09
22 OCT 2009

056/09

RNAV5 優先運用 (スカイハイウェイ) について

東京国際空港の新滑走路供用開始日 (平成 22 年 10 月予定) から、福岡 FIR における FL290 以上 FL410 以下の国内空域全域において、RNAV5 優先運用 (スカイハイウェイ) が実施される。

1. 概要

我が国では、飛行経路の短縮及び空域容量の拡大を目的として、RNAV5 経路の設定を進めており、平成 22 年 10 月までに主要な RNAV5 経路の設定を完了する。

現在の航空路網は、VOR 等の航空保安無線施設を結ぶ航空路 (VOR 経路) と RNAV 経路が混在して設定されているため、FL290 以上 FL410 以下の国内空域においては、航空交通の輻輳により管制業務が複雑化し、管制官のワークロードは増大している。

平成 22 年 10 月に予定されている東京国際空港の新滑走路供用後においては、更に交通密度が高まるものと予測される。

このため、今後、増加する交通量に対し、管制官が安全に処理することが可能な空域容量を確保することを目的として、巡航する航空機が集中する FL290 以上 FL410 以下の国内空域を RNAV5 航行許可機の優先空域として運用するものである。

2. 運用方式

FL290 以上 FL410 以下の高度は、原則として RNAV5 経路を計画する RNAV5 航行許可機のみ承認される。

3. 適用除外

次に掲げる場合においては、交通状況に応じ RNAV5 航行許可機以外の航空機であっても FL290 以上 FL410 以下の高度が承認される。

- 1) 乱気流や悪天候回避等のため、FL290 以下の高度での飛行が困難である場合
- 2) 管制間隔設定のため、FL290 以上の高度を飛行させる必要があると管制官が判断した場合
- 3) 夜間等交通量の少ない時間帯において、管制機関が対応可能と判断した場合
- 4) 国の航空機であり、その任務上 FL290 以上の高度で飛行する必要がある場合

4. 飛行計画

RNAV5 優先運用開始後は、以下の飛行計画が要求される。

- 1) RNAV5 航行許可機が FL290 以上 FL410 以下の高度を飛行する場合は、RNAV5 経路を計画すること。
- 2) VOR 経路を飛行する航空機は、FL290 以下または FL430 以上の高度を計画すること。

5. RNAV5 優先運用の詳細については、追って航空路誌改訂版により通知される。

6. 問い合わせ窓口

国土交通省航空局管制保安部管制課
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056/09

Implementation of RNAV5 Preferential Operation (Sky Highway)

From the date of opening of the new runway at Tokyo International Airport (scheduled for OCT 2010), preferential operation for RNAV5 approved aircraft will be implemented within whole domestic airspace of Fukuoka FIR between FL290 and FL410 inclusive.

1. General

Japan has introduced RVAV5 standards and established RVAV5 aiming for shortening route distance and increasing airspace capacity. By OCT 2010, the establishment of RVAV5 routes will be completed for the most of part.

The present route network in Japan is a mix of airways that are connected by ground-based navigation aids such as VOR (VOR routes) and RNAV routes. As a consequence, increasing traffic nowadays in domestic airspace between FL290 and FL410 inclusive has caused complexity in ATC and increased controller workload.

It is expected that traffic density of domestic airspace will rise further after the opening of the new runway at Tokyo International Airport scheduled for OCT 2010.

Thus, in order to ensure airspace capacity in which efficient and safe ATC can be provided, domestic airspace between FL290 and FL410 which is cruising aircraft congested airspace, will be operated as preferential airspace for RNAV5 approved aircraft.

2. Operation procedure

Generally, controller will assign cruising altitude between FL290 and FL410 for only RVAV5 approved aircraft planning RNAV5 routes.

3. Exceptions

Aircraft/cases listed below are exceptions. Depending on traffic situation, aircraft other than RNAV5 approved aircraft may be assigned altitude between FL290 and FL410 inclusive.

- 1) In order to avoid turbulence or bad weather area;
- 2) ATC instruction for establishment of ATC separation;
- 3) Low traffic situation such as night time, and when ATC units accept it; and
- 4) The state aircraft which has to fly at or above FL290 for their operational reasons.

4. Flight plan

It is requested for aircraft operators to flight plan as follows after implementation of RNAV5 preferential operation.

- 1) RNAV5 approved aircraft shall flight plan RNAV5 routes when cruising between FL290 and FL410 inclusive.
- 2) Aircraft intending to fly VOR routes shall flight plan cruising altitude below FL290 or above FL410.

5. Details of RNAV5 preferential operation will be notified by further AIP AMDT.

6. For further information

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