



ICAO

International Civil Aviation Organization

Eleventh Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/11)

Bangkok Thailand, 04 – 06 July 2023

Agenda Item 4: Discussion on PBN Routes Development and FLAS/FLOS Optimization

PBN ROUTES DEVELOPMENT IN VIET NAM

(Presented by VIET NAM)

SUMMARY

This paper presents current PBN routes and intended PBN routes Plan in Viet Nam, which should need close coordination with ICAO Regional Office and the States concerned in Southeast Asia. It also presents updates on action items in the SCSTFRG Task List that Viet Nam has participated in.

1. INTRODUCTION

1.1 Viet Nam has further developed its PBN Implementation Plan in 2016 to orient the PBN application and time frame as the basis for PBN implementation within Ha Noi and Ho Chi Minh FIRs. The plan was updated to the latest version in 2019. While new ATS routes have been established using RNAV 2, the upgrade of the conventional ATS routes system is being studied. Currently, Viet Nam has PBN routes as follows:

- 4 RNAV 10 (RNP 10) oceanic ATS routes (L625, L642, M771, N892).
- 7 RNAV 5 continental ATS routes (Q1, Q2, Q3, Q4, Q5, Q6, Q7).
- 5 RNAV 2/RNP2 continental ATS routes (N639, Q10, Q11, Q12, Q14).

1.2 Viet Nam has participated in many items in the SCSTFRG Task List including:

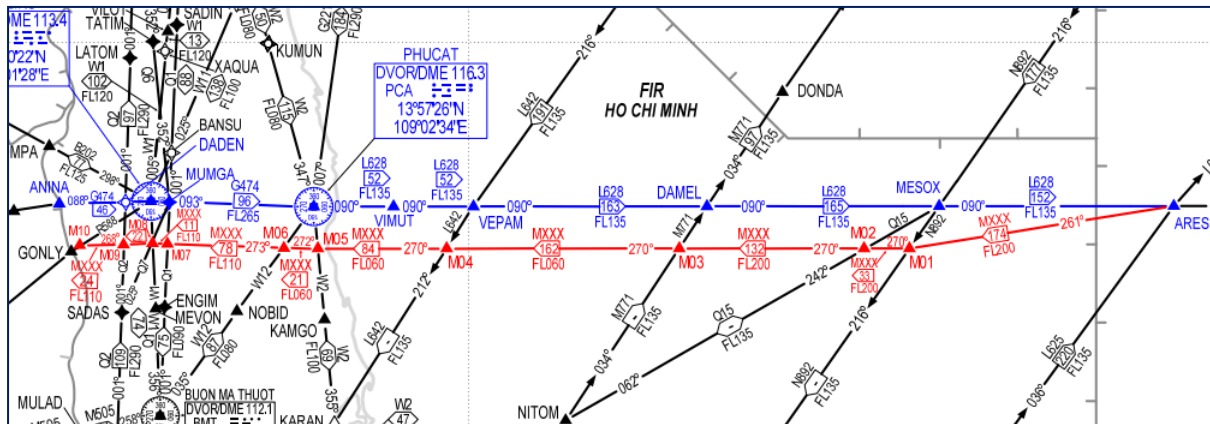
- Establishment of parallel routes to A1, R208.
- Direct communication link between Da Nang APP and Sanya ACC.
- AIDC between Sanya ACC, Ho Chi Minh ACC, Ha Noi ACC.
- Optimising routing into China to allow more options for aircraft going beyond Pearl River Delta (Cat Bi - Nankang).
- Enhancement of longitudinal spacing on ATS routes L642, M771, M768, L625, N892...
- FL390 that is currently a FLAS level on ATS route A1 to be assigned to ATS route Q1/Q2.
- Removal of flight planning restrictions on ATS route L644.

2. DISCUSSION

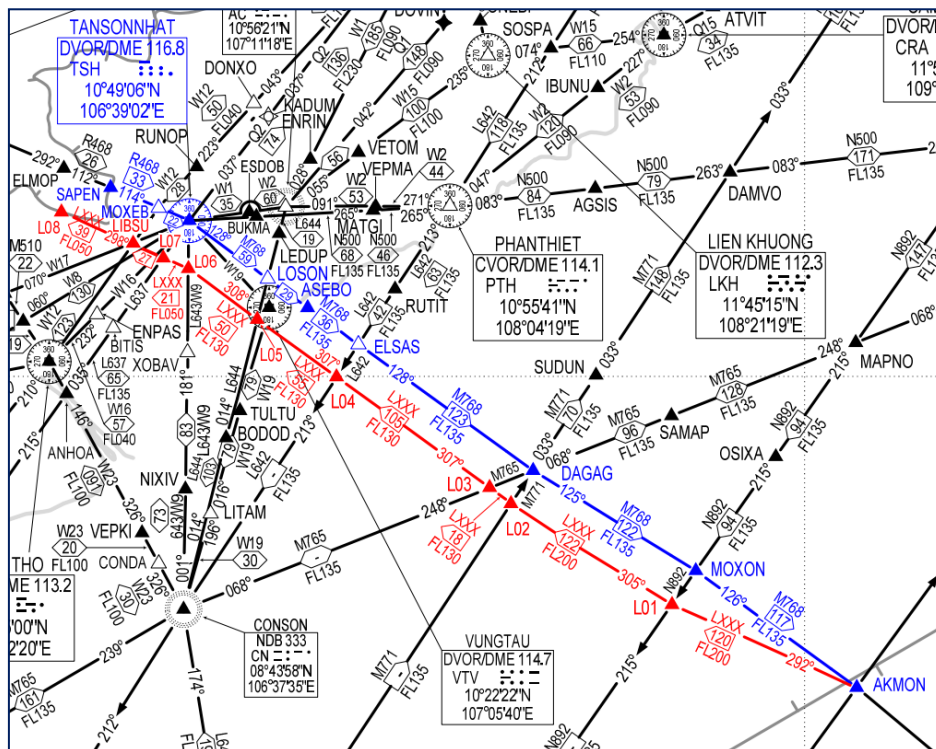
PBN Routes development

2.1 Establishment of a new PBN route connecting TEBAK – MC NDB to serve overflight traffic from Guangzhou FIR to Vientiane FIR and to avoid traffic congestion at Noi Bai International Airport airspace. The ATS routes R474, B465, W4 and W14 (connected with MC NDB) will be also planned to upgrade to RNAV 2/RNP 2 (or RNAV5/RNP4 subject to the States concerned) due to the withdrawal of MC NDB in the future (aircraft not approved for the associated navigation specification will be arranged at lower flight levels) as well as the need for enhancing PBN capability (aircraft not

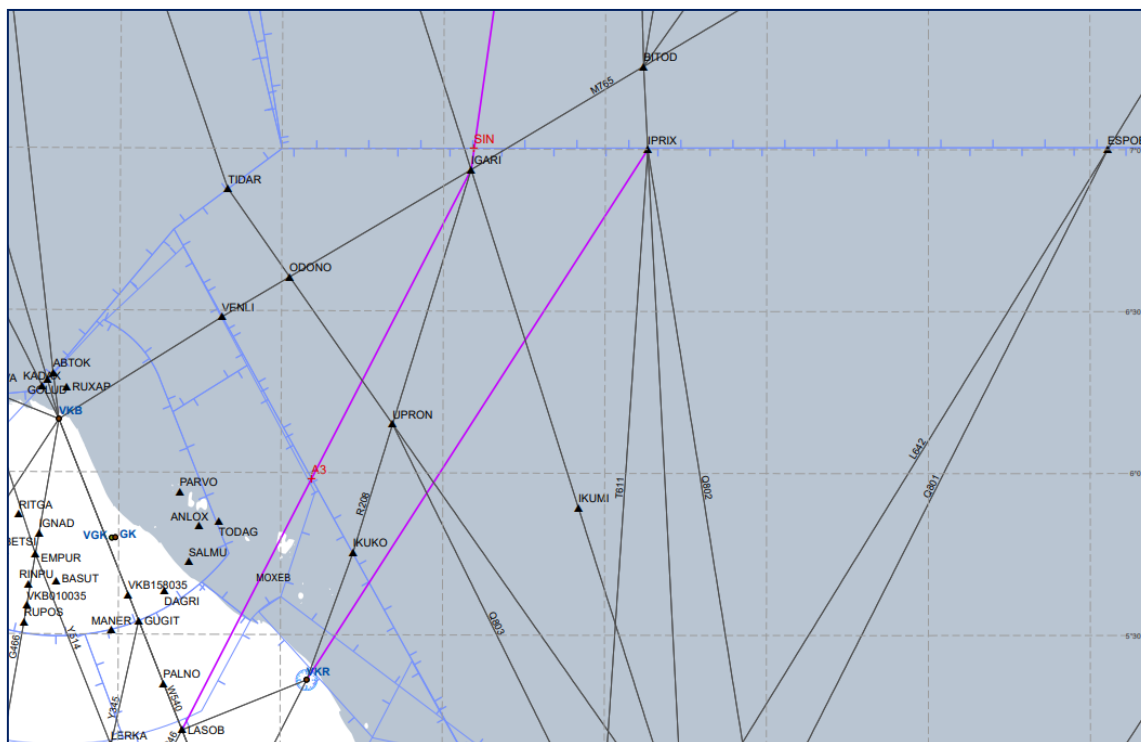
2.3 Establishment of uni-directional parallel route to G474 and L628 to connect with the existing route M633 in Phnom Penh FIR will be further taken. The ATS routes G474 and L628 will be also upgraded to RNAV 2/RNP 2 or RNP 4/RNAV 5 (aircraft not approved for the associated navigation specification will be arranged at lower flight levels).



2.4 Establishment of uni-directional parallel route to R468 and M768 to connect with the existing route P629 in Phnom Penh FIR: The new route will cross over 1 danger area and 1 restricted area published in Viet Nam AIP. It will require the amendment of 12 SIDs, 8 STARs and 7 IAPs at Tan Son Nhat International Airport. The ATS routes R468 and M768 will be also upgraded to RNAV 2/RNP 2 or RNP 4/RNAV 5 (aircraft not approved for the associated navigation specification will be arranged at lower flight levels).

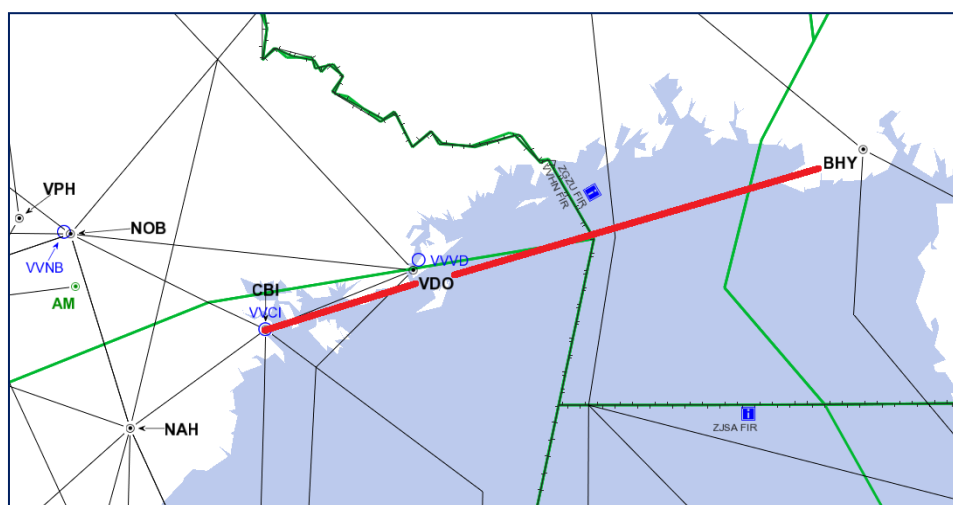


2.5 Establishment of uni-directional parallel route to R208 (SCS 11): At the Tripartite Meeting (through video teleconference) between Malaysia, Viet Nam and Singapore on ATS route and other relevant issues on 28 July 2022, Viet Nam in principle agreed to the proposal for the establishment of new ATS route as requested by IATA. Viet Nam suggested a minor adjustment to the proposal that VKR–IPRIX should be used instead of VKR–BITOD to minimize the number of transfer point (IPRIX) and reduce the workload of ATC. Viet Nam also suggested RNAV 2/RNP 2 for both routes. The timeline is depending on Malaysia and Singapore sides.



Upon agreement by States concerned (Malaysia and Viet Nam), IATA proposed an extension from IPRIX to VIGEN to this proposal for smooth joining to M765 saving 5-6 NM for eastbound flights. Viet Nam saw some limitations of the proposal as it can reduce 1 minute flight time but will generate additional coordination, especially in case of bad weather, and difficulties in aircraft separation.

2.6 Establishment of new route CBI (Cat Bi) - BHY (Nankang) (VIET NAM 02): In 2018 and 2019 CNS/ATM Bilateral Coordination Meetings between Viet Nam Air Traffic Management Corporation and Air Traffic Management Bureau of Civil Aviation Administration of China, both parties agreed in principle at operational level to establish the new route CBI-BHY. According to the latest update of this proposal on 3 March 2022 in the Asia/Pacific Region ATS Route Catalogue version 21.2, China proposed for deletion due to inconsistency with overall flight flow. However, Viet Nam still prefers this route proposal to be considered further.



2.7 Establishment of new route VPH-ROT: At The Second Meeting of the South Asia, Indian Ocean and Southeast Asia ATM Coordination Group (SAIOSEACG/2) on 20-24 March 2023, Viet Nam supported the initiative by Thailand, and added that the new route would be further realigned with

2.11 Enhancement of longitudinal spacing on ATS route M768 to 50 NM

On September 10, 2019, Vietnam informed that it would be able to support reducing separation of 20NM/30NM/50NM following the proposal of Malaysia at the 6th Meeting of the Vietnam - Malaysia Aviation Advisory Committee.

Vietnam proposes to consider applying RNP 2/RNAV 2 or RNP 4/RNAV 5, so aircraft that do not meet requirements have to fly from FL290 or below or other flight level. In addition, Viet Nam also encourages to use the existing ADS-B in this area to optimize the capacity.

2.12 Establishment of direct communication link between Da Nang APP and Sanya ACC

Currently, for traffic departing/arriving at Da Nang International Airport to/from Sanya FIR, ATC at Ha Noi ACC will have to implement a tripartite coordination between Da Nang APP - Ha Noi ACC - Sanya ACC, this leads to overload at some point for ATC. After assessing the flow and volume of traffic, Vietnam found that it is necessary to establish a direct communication link between Da Nang APP and Sanya ACC. This helps to reduce the workload, save time as well as avoid errors in coordination.

2.13 AIDC between Sanya ACC and Ha Noi ACC

On May 16, 2023 and May 23, 2023, respectively, Sanya ACC and Ha Noi ACC conducted AIDC tests on the test platform of the primary/secondary ATC automation system. A total of 57 test flights were conducted on the primary/secondary ATC automation system with 53 successful flights (93% success rate) and 4 failed flights. The average bidirectional packet delay was 8.36 seconds, the longest was 16 seconds, and the shortest was 6 seconds. The cause of the AIDC failure has been identified, which is not a system function problem. The test ATC automation system functions normally, the transmission link delay is acceptable and meets the requirements of the real-time AIDC trial.

Ha Noi ACC and Sanya ACC already signed a provisional procedure for AIDC operational system trail. Ha Noi ACC is conducting AIDC trial on the primary/secondary ATC automation system with Sanya ACC from July 1 to 31, 2023.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

.....