



ICAO

International Civil Aviation Organization

Ninth Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/9)

Video Teleconference, 01 – 03 June 2021

Agenda Item 3: Review of the Existing Traffic Flow Route Structures in SCS Airspace and Identifying Priorities

ENHANCING AIR TRAFFIC MANAGEMENT THROUGH DESIGNATION OF PBN ROUTE SPECIFICATION

(Presented by Singapore)

SUMMARY

This paper presents the follow up from Working Paper 16 of the Combined Tenth Meeting of the South Asia/Indian Ocean ATM Coordination (SAIOACG/10) and Twenty-Seventh Meeting of the South-East Asia ATS Coordination Group (SEACG/27) on the implementation of RNAV2 on ATS routes L642, M771, N892 and RNP10 on M768.

1. INTRODUCTION

1.1 At the combined meeting of SAIOACG/10 and SEACG/27, Singapore presented its efforts to enhance Air Traffic Management (ATM) in Singapore FIR through the designation of Performance Based Navigation (PBN) on ATS routes and highlighted that harmonisation throughout the Asia/Pacific region would require close collaboration with States.

1.2 Of the three initiatives¹ presented, two are pending confirmation from the States concerned. This paper thus aims to establish the proposed timeline for implementation and update the Point of Contacts.

1.3 The advancement in avionics had created opportunities to optimise ATM and States should endeavour to proactively review ATS route specification to compliment the advancement. With the reduction in air traffic movement throughout the world due to COVID-19 pandemic, this presents an opportunity to start designating higher PBN specifications to acclimatise Air Traffic Controllers with the reduction in separation in preparation of air traffic movement recovery to pre COVID-19 period.

¹ (1) The collaboration with Philippines to designate RNP4 on ATS route M767 and N884 had made good progress with AIC published and planned implementation on 27 January 2022.

(2) At SCSTFRG/7, Indonesia had proposed the enhancement of horizontal separation on ATS route M768 and at the side meeting with Indonesia, Malaysia, Singapore and Vietnam during SCSTFRG/8, it was agreed for a phased PBN enhancement approach starting with RNP10.

(3) At SCSTFRG/7, the meeting agreed to designate ATS routes L642, M771 and N892 as RNP2/RNAV2 to optimise route capacity. The designation would also enable the possibility of future route structure enhancement when deemed necessary.

2. DISCUSSION

Steps and Proposed Timeline for the Designation of RNAV2 on ATS routes L642, M771 and N892

2.1 Through the support of the Air Traffic Management Research Institute (ATMRI), simulations had been done to determine the effectiveness and to facilitate in the analysis of designating ATS routes L642, M771 and N892 to RNP2/RNAV2. The positive results of the simulations shared at SCSTFRG/8 provided States to consider adopting a harmonized and coordinated implementation that would enhance operational efficiency and capacity while maintaining the highest level of safety.

2.2 In order to reduce disruptions to airspace users when re-designating the navigation specifications or routes, there should be a shared timeline and planning amongst States concerned for the implementation.

2.3 Harmonised publication of Aeronautical Information Circular (AIC) on the re-designation navigation specifications should be done suitably in advance as that would help to prepare stakeholders and give adequate notice to stakeholders of the required PBN navigation specification and airspace requirements. Data extracted based on filed flight plan for the period of October to December 2019 indicated that more than 97% of aircraft utilising the above-mentioned routes within the Singapore FIR were RNAV2 equipped. Hence, the transition from existing RNP10 to RNAV2 operation was expected to be seamless.

2.4 Currently, the ICAO Regional Supplementary Procedures (Doc 7030) states that, the field under RNAV2 is indicated as “Nil” and therefore it is proposed that States concerned should collaborate to submit Proposal for Amendment (PfA) to Doc 7030.

2.5 The proposed timeline is as follows for States concerned consideration.

Milestone	Timeline	Description
1	August 2021	Issue harmonised Aeronautical Information (AIC) on RNAV2 mandate on ATS routes L642, M771 and N892
2	October 2021	Submission of joint PfA to Doc 7030
3	February 2022	RNAV2 implementation on ATS routes L642, M771 and N892

Table 1. Proposed Timeline for Implementation of RNAV2 Operations

Implementation of RNP10 on ATS route M768

2.6 M768 serves flights operating to and from multiple aerodromes and traverse through Ho Chi Minh FIR, Singapore FIR, Kota Kinabalu FIR, Ujung Pandang FIR and Brisbane FIR. Reduction in separation would potentially increase the capacity of the ATS route and allow more efficient cruising flight level for operators.

2.7 Data extracted based on filed flight plan for the period of July to December 2019 indicted that 99.6% of flights utilising ATS route M768 were RNP10 equipped. Seamless implementation of RNP10 operations should be expected based on this equipage to reduce longitudinal separation from current 80NM to 50NM. Moreover, RNP10 operations were not new and should be easily adapted by Air Traffic Controllers.

2.8 The implementation timeline as shown in Table 2 has been revised for States concerned consideration.

Date	Event/Action
Jun 2021	Update to list of POCs at SCSTFRG/9.
Jul 2021	Finalise and confirm AIP Supplement relevant to the trial to inform the aviation community of the trial.
Aug 2021	Issue AIP Supplement relevant to the trial to inform the aviation community of the trial.
Sep 2021	Commencement of one-month trial.
Oct 2021	End of trial and gather feedback of one-month trial.
Nov 2021	Agree on date to implement RNP10 operations on ATS route M768.
Dec 2021	Finalise and issue AIP Supplement to implement RNP10 operations on ATS route M768.
Jan 2022	Implementation of RNP10 operations on ATS route M768.

Table 2. Proposed Timeline for Implementation of RNP10 Operations on ATS Route M768

2.9 In addition, to facilitate the implementation, the States concerned are invited to update their Point of Contact (POC).

State	Name	Email
Indonesia	Mr. Yuyun Nugraha	yun.nugraha@gmail.com
Indonesia	Mr. Ari Harsa Nugraha	arieharsa@gmail.com
Malaysia	Mr. David Wong Siew Ngiu	davidwong@caam.gov.my
Singapore	Mr. Tommy Tan	tommy_tan@caas.gov.sg
Viet Nam	TBC	TBC

Table 3. POC list of Participating States

Conclusion

2.10 With implementation of higher PBN specifications, the door of opportunities to implement further ATM initiatives to increase the capacity of a confined airspace to aid in handling future increase in air traffic movement would be opened. The objectives as endorsed for SCSTFRG is to improve safety, increase capacity, harmonise ATM procedures in SCS and leverage on the enhancement of surveillance and communications capabilities. The commitment and collaboration from the various States is necessary for successful and harmonized implementation of such enhancements to ATS route.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) participate and collaborate on the proposed plan for the implementation of RNAV2 on ATS route L642, M771 and N892;
- c) review the timeline for the designation of RNP10 on M768 and provide update to the POC list; and
- d) discuss any relevant matters as appropriate.

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