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ICAO

Fourteenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/14) of APANPIRG

Bangkok, Thailand, 3 – 7 August 2026

Agenda Item 6: ATM Coordination and Implementation

6.4: ATS Route Development

PROPOSAL FOR ADVANCING REGIONAL COLLABORATION AND ACCELERATING PARALLEL ROUTE A1 IMPLEMENTATION

(Presented by China and Hong Kong China)

SUMMARY

This paper presents operational challenges on ATS Route A1, especially after Hainan Free Trade Port (FTP) officially commenced operations. The proposal to establish a parallel uni-directional route structure for A1 was first presented in 2009 at the ICAO SEA-RR/TF/1. Since then, it was identified as Priority Area 1 in APAC Region at SCSTFRG and the concerned States/Administration have worked collaboratively and reached consensus on key technical details such as traffic flow orientation and navigation specification. The remaining technical parameters, e.g. Transfer of Control (TOC) point between Sanya and Ho Chi Minh FIRs, are under coordination. Future priorities include strengthening cross-FIR coordination and encouraging stakeholder engagement to improve regional safety, efficiency, and system resilience.

1. INTRODUCTION

1.1 The air traffic in Southeast Asia is highly complex, with numerous FIRs and dense traffic flows requiring frequent transitions across FIRs. In such a high-density and high-frequency operational environment, seamless air traffic management services are essential to airspace safety, simplified flight operations and minimized operational errors.

1.2 ATS route A1 has long served as a vital corridor for regional connectivity, linking Southeast Asia and Northeast Asia, and traversing some of the busiest portions of the South China Sea airspace. Following the rapid traffic demand recovery in 2025, traffic volume has returned to pre-2019 levels and are forecast to exceed them in this year, with peak periods approaching or surpassing 600 daily movements. This resurgence has reaffirmed the segment's status as one of the most congested and strategically significant portions of the APAC ATS route network, placing immense pressure on air traffic control workload, airspace capacity and flight level allocation.

1.3 The official launch of the island-wide special customers operations at Hainan FTP on 18 December 2025 has significantly reduced the cost of goods entering the Chinese market, accelerated economic and trade flows, and enhanced exchanges of talent, services, and capital, ushering in new opportunities for the regional economy.

1.4 This has facilitated the growth of commodity trade and spurred greater development in civil aviation, imposing greater demands and challenges on the safety and efficiency of regional aviation

operations.

2. DISCUSSION

Current Challenges

2.1 Currently, A1 has been facing challenges in several aspects, requiring enhanced cooperation among relevant FIRs to further improve regional operational efficiency and safety.

2.2 *Flight conflicts.* The current bi-directional A1 route creates crossing conflicts particularly for flights arriving at and departing from Sanya Airport. At the same time, controllers also need to handle flight conflicts between Da Nang Airport and Sanya Airport. Altitude adjustments for over flights and terminal flights, combined with the convergence of multiple routes, create a fairly complex operational scenario.

2.3 *Traffic volume.* In 2019, the ATS route A1 in Sanya FIR reached a peak of 610 daily flight movements, approaching the operational capacity of air traffic management. Since 2024, traffic has rebounded significantly, in 2026 the traffic has returned to 2019 levels. According to statistical studies, it is projected that future flight traffic will grow at a compound annual growth rate (CAGR) of 7.15%, with the average daily flight volume exceeding 700 movements by 2035.

2.4 *Weather avoidance causing traffic surge on A1.* During adverse weather events such as tropical cyclones affecting the Manila and Ho Chi Minh FIRs, ATS Route A1 frequently serves as a critical re-routing corridor. Taking Super Typhoon "Ragasa" (No.2518) as an example, the typhoon passed through the northern Philippines as a super typhoon on 22 September and subsequently entered the South China Sea, causing significant impact on flight operations. Statistical data reveals that from 1 to 19 September, the daily average traffic volume on A1 was 345 movements. From 20 to 22 September, as the typhoon approached and passed through the Philippines, a large number of flights within Manila FIR detoured to A1, with daily traffic volumes climbing to 376, 407 and 408 movements respectively, representing an increase of 9.0%, 18.0% and 18.3% over the baseline level. On 25 September, after the typhoon made landfall and weakened, the release of previously pent-up demand resulted in a sharp rebound of A1 daily traffic to 427 movements, an increase of 23.8% over the baseline, marking a monthly peak.

Phase	Date	A1 Daily Traffic (movements)	Change from Baseline	Remarks
Normal operation period	1–19 Sep (daily avg)	345	—	Baseline
Typhoon in Manila FIR	20 Sep	376	9.00%	Rerouting began to surge
	21 Sep	407	18.00%	Rerouting continued to increase
	22 Sep	408	18.30%	Manila FIR operations severely disrupted
Post-typhoon recovery	25 Sep	427	23.80%	Pent-up demand released, monthly peak

2.5 The above data demonstrate that when adjacent FIRs are affected by adverse weather, the influx of re-routing flights can easily push A1 traffic volume to over 400 movements per day, thereby increasing the workload for air traffic controllers. Likewise, the release of pent-up demand after weather improvement creates similar sharp peak impacts. Currently operating as a bi-directional route, A1 lacks sufficient operational resilience and airspace capacity when confronted with extreme weather and other events.

Progress Made under ICAO Platform

2.6 *Consensus on the establishment of parallel routes.* The optimization of trunk route A1 has always been recognized as the highest-priority in the SCSTFRG, thus the implementation of A1 parallel routes has been identified as Priority Area 1 in APAC Region. After sufficient research and discussion, States/Administrations along the ATS Route A1 have reached a clear consensus on the necessity of establishing parallel routes.

2.7 *Agreement on traffic flow organization.* During the SCSTFRG/13, a side meeting was convened among representatives of Cambodia, China, Hong Kong China, Lao PDR, Thailand and Viet Nam, focusing on the establishment of parallel uni-directional routes intended to replace the existing bi-directional ATS route A1 and its connecting route from Cambodia. The participants engaged in detailed discussions on various technical matters, including navigation specifications, route structure, traffic flow organization, FLAS/FLOS, location of TOC points, route spacing requirements and other related matters. Consensus was reached on the traffic flow organization of the parallel routes, with the northern route designated for westbound traffic and the southern route designated for eastbound traffic.

Close Communication and Coordination among Adjacent FIRs

2.8 Recognizing the urgency of implementing A1 parallel routes under SCSTFRG Priority Area 1, the parallel routes connecting existing ATS route A1 within Hong Kong FIR have been in operation since 2020. The Air Traffic Management Bureau (ATMB) of the Civil Aviation Administration of China (CAAC) and the Civil Aviation Department of Hong Kong, China (HKCAD) have reached consensus on the TOC point coordinates (see paragraph 2.9 b) below), flight level allocation, direction of traffic flow and navigation specification between Hong Kong and Sanya FIRs and have been maintaining close communication on the implementation of A1 parallel routes.

2.9 ATMB and VATM conducted the 8th ATM/CNS Coordination Meeting from 11 to 12 March 2026 in Ha Noi. Both sides reviewed the A1 operations, and engaged in an in-depth discussion on the technical parameters for the A1 route optimization. The proposed arrangement within the Sanya FIR is as follows:

- a) The southern route will be a newly established route between New Waypoint 1 (N16°39'54" E109°35'58") and IKELA, accommodating west-to-east traffic under the right-hand rule;
- b) The northern route will be a newly established route between BUNTA and New Waypoint 2 (N18°51'31"E112°04'33") , running generally parallel to the southern route and accommodating east-to-west traffic under the right-hand rule;

Note. the coordinates are preliminary calculated, subject to change.

2.10 VATM noted ATMB's proposal and indicated that it would be reported to the Civil Aviation Authority of Viet Nam (CAAV) after the meeting.

2.11 Since then, the two parties have remained in contact via email. As yet, feedback from CAAV is pending.

Way Forward

2.12 *Enhancement of Coordination and Communication.* Given the range of operational and technical issues that may arise during implementation, reliance on annual meetings alone may be insufficient. It is therefore recommended to strengthen communication and coordination to effectively address any implementation issues.

2.13 *Engagement with other Stakeholders.* The ultimate objective of implementing A1 parallel routes is to better serve airlines, ANSP and other operational stakeholders. Active engagement with IATA, airlines and other relevant stakeholders is encouraged, in order to gather feedback and continuously optimize the operational arrangements, thereby enhancing the overall level of ANS.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) encourage all relevant States/Administrations to provide progress on this item; and
- c) discuss any relevant matters as appropriate.

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