



ICAO

International Civil Aviation Organization

Thirteenth Meeting of the Air Traffic Management Sub-Group (ATM/SG/13) of APANPIRG

Singapore, 25 – 29 August 2025

Agenda Item 5: ATM Systems (Modernization, Seamless ATM, CNS, ATFM)

TERMS OF REFERENCE AND PROGRESS UPDATE OF THE ICAO ASIA/PACIFIC FLIGHT AND FLOW INFORMATION FOR A COLLABORATIVE ENVIRONMENT (FF-ICE) AD-HOC GROUP

(Presented by Singapore and Thailand on behalf of the FF-ICE Ad-hoc Group)

SUMMARY

This paper presents the Terms of Reference (TOR) for the ICAO Asia/Pacific (APAC) Flight and Flow Information for a Collaborative Environment (FF-ICE) Ad-hoc Group and its progress update, including outcomes from its second workshop conducted in March 2025 and the development of the APAC Regional FF-ICE/R1 Implementation Framework.

Strategic Objectives:

B: Air Navigation Capacity and Efficiency — *Increase the capacity and improve the efficiency of the global aviation system*

1. INTRODUCTION

1.1 The ICAO Asia/Pacific (APAC) Flight and Flow Information for a Collaborative Environment (FF-ICE) Ad-hoc Group was established by ATM/SG/11 in October 2023 through **Decision ATM/SG/11-4**. The Ad-hoc Group was formed to achieve the following objectives: to develop regional FF-ICE/R1 operational requirements, and to develop an implementation strategy for the APAC region. To achieve the Ad-hoc Group's objectives, the group has undertaken several tasks, including the development of harmonised operational requirements and procedures, and coordination with relevant APANPIRG contributory bodies to ensure seamless implementation.

1.2 The Ad-hoc Group conducted its first workshop with tabletop exercise in June 2024, which successfully raised the region's understanding of FF-ICE through comprehensive sharing of global FF-ICE developments and details on FF-ICE/R1 services. Building on this foundation, the Ad-hoc Group held its second workshop at the ICAO Asia/Pacific Regional Office in Bangkok, Thailand from 18 to 20 March 2025. The workshop was attended by 86 participants from 19 States/Administrations and International Organizations. The workshop materials can be accessed at [icao.int/APAC/Meetings/Pages/2025-FF-ICE-2-and-WS-with-TTX.aspx](https://www.icao.int/APAC/Meetings/Pages/2025-FF-ICE-2-and-WS-with-TTX.aspx). The second workshop focused on agreeing on specific FF-ICE/R1 regional implementation timeline for inclusion into the APAC Regional FF-ICE/R1 Implementation Framework.

2. DISCUSSION

Terms of Reference of APAC FF-ICE Ad-hoc Group

2.1 Since the establishment of the Ad-hoc Group in 2023, the group have conducted activities to raise the region's understanding of FF-ICE and discuss implementation topics. To support the group in meeting its established objectives, the proposed Terms of Reference for the APAC FF-ICE Ad-hoc Group are presented in **Appendix A** to this paper. The group reports its progress, findings, and recommendations to the ATM Sub-group and CNS Sub-group of APANPIRG, with regular updates provided to the ATFM/SG and SWIM/TF.

Updates from Second Workshop

2.2 The second workshop noted the need for a regional implementation framework to address FF-ICE/R1 implementation issues, including technical and operational aspects specific to the APAC region. The proposed implementation framework will be aligned with ICAO *Manual on FF-ICE Implementation Guidance* (Doc 9965 Volume II), ensuring consistency and interoperability while being flexible enough to accommodate individual State's needs. The framework is targeted for endorsement at the ATM/SG/14 in 2026.

2.3 A proposed scope for the framework was discussed at the workshop. Key topics included the six FF-ICE/R1 services, mixed-mode environment, re-evaluation process, implementation monitoring, framework update cycle and post-implementation process. Selected topics were further discussed to achieve consensus on the details for inclusion within the implementation framework.

Three FF-ICE/R1 Services to Support FPL2012 Sunset

2.4 The workshop noted that although ICAO *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444) specifies only mandatory two services (Filing Service and Flight Data Request Service), three services (Filing Service, Flight Data Request Service, and Notification Service) are required to fully transition from FPL2012. These three services would be necessary to replace the respective ATS messages, which are expected to sunset globally in 2034. With the planned sunset of FPL2012 and its associated ATS messages, the Filing Service would replace the current FPL message format, enabling operators to submit flight plans in FIXM¹ format. The Flight Data Request Service would replace RQP and RQS messages, allowing stakeholders to query flight plan data and status. The Notification Service would replace the dissemination of DEP and ARR messages used to notify relevant stakeholders about departure and arrival events. States/Administrations in APAC should thus work towards implementing the Notification Service in addition to the two mandatory services to ensure readiness for the sunset of FPL2012.

Flight Plan Submission and Dissemination

2.5 The workshop noted that in a mixed mode environment, eAUs² would be responsible for submitting the correct flight plan format (eFPL³ or FPL2012) to appropriate ASPs based on their FF-ICE capabilities. The framework would recommend that eAUs submit eFPLs directly to respective eASPs⁴. The actual routing of these flight plans would depend on the SWIM architecture and connections that eAUs and eASPs decide to implement. The workshop noted that non-scheduled flights, particularly general aviation flights, may require additional support and flexibility from eASPs in handling the submission of flight plan.

¹ FIXM (Flight Information Exchange Model) is the globally standardized format for exchanging flight and flow information in FF-ICE; for more information visit www.FIXM.aero.

² eAU refers to an Airspace User that is capable of using the mandatory FF-ICE services

³ eFPL refers to a Filed flight plan exchanged using FF-ICE services

⁴ eASP refers to an ATM Service Provider that is capable of providing the mandatory FF-ICE services

Translation Services

2.6 The workshop noted that individual departure ASPs should have the flexibility to decide whether to provide translation services to convert eFPL to FPL2012 for downstream dissemination to aASPs. The framework would emphasise the importance of clear communication between eASPs and eAUs regarding submission requirements, with eASPs specifying whether they require eFPLs only or both eFPLs and FPL2012 formats.

Filing Status under Filing Service

2.7 The workshop noted the challenges in harmonising filing status responses from eASPs across the region due to different operational requirements in each State/Administration. The framework would thus focus on harmonising the expected actions from eAUs based on filing statuses, rather than standardising the responses from eASPs. The workshop also noted the importance of clear explanations within the filing status responses to enable eAUs to understand and address any identified restrictions or constraints. Notwithstanding the above, there was support for harmonising responses for certain critical scenarios, to be agreed through further discussions. The framework would reflect these decisions accordingly.

Implementation Timeline

2.8 The workshop agreed on a phased approach to FF-ICE/R1 implementation with the following timeline for APAC region:

- a) 2030: Commencement of technical tests and trials involving eAUs and cross-border interactions between eASP;
- b) 2031: Begin operational tests to identify and resolve issues; and
- c) 2032: Full operationalization of three FF-ICE/R1 services (filing, flight data request and notification services).

Implementation Monitoring

2.9 The workshop noted the importance of eAUs being able to identify which eASPs would accept eFPL submissions and hence the benefit of tracking FF-ICE/R1 implementation status. As a start, the framework would propose an implementation reporting template for annual submission by States/Administrations to facilitate the tracking of implementation progress in APAC.

Next Steps

2.10 The FF-ICE Ad-hoc Group would continue to develop the regional implementation framework, incorporating details discussed and agreed at the second workshop regarding harmonisation requirements and operational considerations for FF-ICE/R1 implementation. The framework is targeted for endorsement at the ATM/SG/14 in 2026.

2.11 The third workshop of the FF-ICE Ad-hoc Group has been planned to be conducted at ICAO Asia/Pacific Regional Office in Q4/2025. The workshop would focus on reviewing and discussing the draft framework content.

2.12 Following the endorsement of the regional implementation framework, the Ad-hoc Group could be dissolved and replaced with an APAC FF-ICE/R1 Implementation Task Force to support FF-ICE/R1 implementation efforts in the region.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss and agree to **Conclusion ATM/SG/13-X: Adoption of APAC FF-ICE Ad-hoc Group Terms of Reference**;
- c) encourage States/Administrations to participate in the APAC FF-ICE Ad-hoc Group to discuss and review the draft implementation framework; and
- d) discuss any relevant matters as appropriate.

Conclusion ATM/SG/13-X: Adoption of APAC FF-ICE Ad-hoc Group Terms of Reference			
What: That, the APAC FF-ICE Ad-hoc Group Terms of Reference at Appendix X to the Report be adopted.		Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical	
Why: To support the Ad-hoc Group in meeting its established objectives.		Follow-up:	<input type="checkbox"/> Required from States
When: 29-Aug-25		Status:	Draft to be adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:			

Terms of Reference

Asia/Pacific Flight and Flow Information for a Collaborative Environment Ad-hoc Group

1. Objectives

- 1.1. The objectives of the Asia/Pacific (APAC) Flight and Flow Information for a Collaborative Environment (FF-ICE) Ad-Hoc Group are to:
 - a) Develop the APAC Regional FF-ICE/R1 Operational Requirements, and related operational processes and procedures; and
 - b) Develop the APAC Regional FF-ICE/R1 Implementation Strategy, including timeframes and roadmap.

2. Tasks

- 2.1. To meet these objectives, the APAC FF-ICE Ad-Hoc Group will undertake the following tasks:
 - a) Study successful FF-ICE/R1 development in other regions and States, draw useful lessons, and enhance the understanding of FF-ICE/R1 through sharing use case scenarios and business cases;
 - b) Provide guidance for the regional FF-ICE/R1 implementation, taking into consideration of mixed-mode environment before the regional sunset date of Flight Plan 2012;
 - c) Coordinate and collaborate with other related APANPIRG contributory bodies, such as APAC Air Traffic Flow Management Steering Group (ATFM/SG) and APAC System Wide Information Management Task Force (SWIM TF);
 - d) Review the development of Flight Information Exchange Model (FIXM) revisions and if needed, propose FIXM extension amendments for regional adoption;
 - e) Provide progress update to the Air Traffic Management Sub-Group (ATM/SG) and the Communications, Navigation and Surveillance Sub-Group (CNS SG) of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG);
 - f) Provide recommendation for the inclusion of additional Aviation System Block Upgrade (ASBU) elements in the Asia/Pacific Seamless ANS Plan, as they mature;
 - g) Submit inputs and recommendations to the ICAO ATM Requirements and Performance Panel (ATMRPP), when deemed necessary; and
 - h) Undertake any other tasks related to FF-ICE/R1 implementation that may arise in the future.

3. Memberships

- 3.1. Singapore and Thailand are the Rapporteurs and Secretariat of the APAC FF-ICE Ad-Hoc Group.
- 3.2. The APAC FF-ICE Ad-Hoc Group should consist of experts from:
 - a) Civil Aviation Authorities (CAA);
 - b) Air Navigation Service Providers (ANSP), including personnel involved in processing flight plans, performing Air Traffic Flow Management (ATFM) operations, and implementation of SWIM and FF-ICE;
 - c) Airspace Users (AU), including personnel involved in flight planning and flight dispatch; and

- d) Relevant international and regional organizations.

4. Reporting

- 4.1. The APAC FF-ICE Ad-Hoc Group will report its progress, findings, and recommendations to the ATM/SG and CNS SG of APANPIRG. Regular updates will also be provided to the ATFM/SG and SWIM/TF.

— END —