International Civil Aviation Organization

MIDANPIRG Airspace Management Working Group

Third Meeting (ASM WG/3)
(Virtual, 21 – 22 January 2026)

Agenda Item 2: ASM Developments

FFI-CE ROADMAP

(Presented by the Secretariat)

SUMMARY

This paper presents the progress of development of MID region Flight and Flow-Information for a Collaborative Environment (FF-ICE) roadmap.

Action by the meeting is at paragraph 3.

REFERENCES

- ATM SG/11 Meeting (Abu Dhabi, UAE, 19 - 23 October 2025)
- ICAO 14th Air Navigation Conference (Montreal, 26 August - 6 September 2024)
- Outcomes of the ICAO APAC MID FF-ICE Seminar (Dubai, UAE, 23 - 26 February 2025)
- MIDANPIRG/22 & RASG-MID/12 Meetings Report (Doha, Qatar, 4 - 8 May 2025)

1. INTRODUCTION

1.1 The meeting may wish to recall ICAO plan related to the implementation of Flight and Flow-Information for a Collaborative Environment (FF-ICE) and cessation of FPL2012, as essential advancement in air traffic management, with envisaged proposed implementation date by 2034.

1.2 The meeting may wish to recall the outcomes of the ICAO 14th Air Navigation Conference, particularly Recommendation 3.2/2 related to the need to establish regional focus groups for coordinating the planning and implementation of FF-ICE service and providing necessary support through the transition period.

1.3 The meeting may wish to recall that the Airspace Management Working Group (ASM WG) was tasked to ensure continues development of airspaces and air traffic management, including the development of regional FF-ICE roadmap

2. DISCUSSION

2.1 The meeting may wish to note that ICAO APAC MID FF-ICE Seminar was successfully conducted in Dubai, during the period 23 – 26 February 2025, hosted by General Civil

Aviation Authority of the United Arab Emirates (GCAA/UAE). 154 participants from APAC and MID States and international organizations attended the Seminar. The outcomes of the seminar are available at **Appendix A**.

2.2 The meeting may wish to recall the working paper presented by Qatar to the MIDANPIRG/22 including a proposal for a the bases of regulatory framework related to FF-ICE implementation, at **Appendix B**, to support States in the development of a harmonized national requirements for the implementation of FF-ICE, in alignment with applicable ICAO provisions, the GANP, FF-ICE ASBU Thread, and the guidance of the ICAO Doc 9965.

2.3 Given the complexities related to systems implementation, the MIDANPIRG/22 meeting agreed that a dedicated multidisciplinary FF-ICE Implementation Task Force, composed of members from AIM, ATM, and CNS SGs, might be established.

2.4 Additionally, the MIDANPIRG/22 meeting tasked the AIM SG, ATM SG, and CNS SGs to include FF-ICE as part of their work programme and agreed that a joint FF-ICE workshop would be organized on the occasion of the ATM SG/11 and CNS SG/14 meetings, planned to be conducted in parallel, with inputs from the AIM SG. The joint FF-ICE workshop should recommend to the MIDANPIRG/23 meeting the best way forward for planning and implementing FF-ICE in the MID Region, taking into consideration the work plans presented and the experiences of APAC and EUR Regions.

2.5 The meeting may wish to note that the MID Region FF-ICE implementation workshop conducted on day 4 of the ATM SG/11 and CNS SG/14 meetings, jointly in plenary session, in order to commonly raise awareness and consider the implementation constraints towards the development of regional transition plan.

2.6 Based on the information provided in ATM SG/11 and CNS SG/14 Workshop, the meeting agreed that the ASM WG develop an initial roadmap including the operational requirements from ATM perspective and share it with the CNS and AIM SGs for their feedback (Virtual meeting to be organized). The consolidated roadmap would be therefore submitted to MIDANPIRG/23 for review and endorsement.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the outcomes of the workshops in **Appendix A**;

b) note the regulatory framework proposed by Qatar in **Appendix B**; and

c) establish Action Group to develop draft roadmap in line with para 2.6 before MIDANPIRG/23 meeting.

Outcomes of the

ICAO APAC/MID ATFM and FF-ICE Seminar 2025

Dubai, UAE, 23 – 26 February 2025

1. The Seminar was hosted by the General Civil Aviation Authority (GCAA) of the United Arab Emirates (UAE) in Dubai from 23 to 26 February 2025 and attended by 154 participants from APAC and MID States and international organizations.
2. The Seminar provided comprehensive background information on the ATFM and FF-ICE, including the requirements and the prerequisites, services and planning phases. In addition, the Seminar provided a forum for sharing experiences, lessons learned and perspectives from the States/ANSPs and airspace users with a highlight on cross-border solutions.
3. The Seminar was apprised of the ongoing work concerning the amendments of the ICAO provisions and guidance material related to ATFM and the cessation of FPL 2012.
4. The Seminar recalled the benefits of trajectory-based operations (TBO) and relationships between its key enablers (ATFM, SWIM, FF-ICE, Data Link).
5. The Seminar noted the importance of optimizing the airspace to enhance efficiency and increase capacity through the implementation of more efficient longitudinal separation, enhanced civil-military cooperation and flexible use of airspace, free route airspace, to meet growing air traffic demand.
6. The Seminar acknowledged that the level of preparedness to implement ATFM and FF-ICE would differ across various States and ICAO Regions. The Seminar stressed the importance of a well-prepared and coordinated implementation of these initiatives in order to achieve more substantial and immediate benefits on regional and global levels.
7. There is a strong need to expand the training and knowledge sharing among all stakeholders to support the planning and implementation of ATFM and FF-ICE.
8. The Seminar reminded of the critical importance of engaging all stakeholders at an early stage in planning the implementation of ATFM and FF-ICE.
9. The Seminar recalled the requirement of the PANS-ATM concerning the use of information services for the implementation of FF-ICE.
10. The Seminar recalled the importance of States taking necessary measures to support and foster the implementation of ATFM at the national level, which is essential for any sub-regional and regional solutions. It was highlighted that promulgating necessary ATFM civil aviation regulations and the development of a National ATFM Concept of Operations, among others, are key elements for the establishment of the ATFM Service.
11. The Seminar noted that the main enabler for effective ATFM service is strategic and operational capacity determination, accordingly, States must take necessary measures to determine these capacities.
12. The Seminar noted that the majority of the States indicated that the target date for the cessation of the ICAO 2012 Flight Plan could be met between 2032 – 2034.
13. Active participation and contributions in regional ATFM and FF-ICE meetings are essential to ensure harmonized procedures.
14. The Seminar observed that there is a need to establish a regional target date to terminate the mixed-mode operations.

15. The Seminar noted the necessity for a broader work programme to enhance the planning and synchronization of the development and execution of all pertinent TBO enablers, particularly the implementation of FF-ICE and ATFM.
16. The Seminar noted that the APAC FF-ICE Ad Hoc Group and MID ASM Working Group would draft the FF-ICE regional transition plan, for their respective region, for further review by the ATM SGs and endorsement by APANPIRG and MIDANPIRG.
17. The Seminar noted the benefits of integrating A-CDM into ATFM implementation.
18. ATFM post-operations analysis to be conducted as appropriate and data are shared to identify bottlenecks and areas for improvement.
19. The Seminar received with appreciation an offer from CANSO to further support the training and knowledge sharing on ATFM implementation.
20. Participants appreciated the value of joint events and invited ICAO to organize more joint events to support inter-regional cooperation and harmonization.

PROPOSED

FF-ICE REGULATORY REQUIREMENTS GUIDANCE & TEMPLATE

The proposed FF-ICE regulatory requirements guidance including 11 articles covering scope, definitions, responsibilities, technical requirements, oversight, and transitional arrangements.

Contents

ARTICLE 1 – OBJECTIVE

1. Purpose: This regulation establishes the requirements and framework for the implementation of Flight and Flow Information for a Collaborative Environment (FF-ICE) within [State], in order to enhance collaborative flight planning, trajectory-based operations, and air traffic flow management. It aims to improve the efficiency and performance of Air Traffic Management (ATM) by enabling the sharing of comprehensive flight information among all stakeholders from the planning phase through completion of flight, consistent with ICAO's Global ATM Operational Concept (Doc 9854) and Global Air Navigation Plan (GANP, Doc 9750).

2. ICAO Alignment: The implementation of FF-ICE under this regulation shall be in accordance with ICAO provisions and guidance. FF-ICE is recognized as a cornerstone of a performance-based air navigation system, defining information requirements for flight planning, flow management, and trajectory management. This regulation therefore aligns with ICAO's Manual on Flight and Flow Information for a Collaborative Environment (Doc 9965) and relevant Standards and Recommended Practices (SARPs) in ICAO Annexes (including Annex 15 – Aeronautical Information Services) to ensure global standardization and interoperability.

3. Collaborative Environment: In pursuing these objectives, the regulation promotes a collaborative decision-making environment where flight information (including 4D trajectory, flight performance data, and flow constraints) is globally standardized and shareable. All ATM community members – Air Navigation Service Providers (ANSPs), aircraft operators, airport operators, and other stakeholders – shall have access to the appropriate flight data needed for strategic, pre-tactical, and tactical decision-making. This collaborative approach is intended to foster greater coordination, enhanced situational awareness, and the achievement of global performance targets in air navigation.

ARTICLE 2 – SCOPE

1. Applicability:

This regulation applies to all flights and flight plan information exchanges under the jurisdiction of [State]'s civil aviation authority, including international and domestic flights for which flight plans are filed or managed within [State]'s Flight Information Region (FIR). It covers all stakeholders involved in the submission, processing, and use of flight plan data and flow management data, specifically:

- Airspace Users: All aircraft operators (civil, military operating as General Air Traffic, and other flight plan originators) filing flight plans for operations in the [State] FIR or as required by [State]'s Aeronautical Information Publication (AIP).
- Air Navigation Service Providers (ANSPs): The ANSP(s) responsible for Air Traffic Management within [State], including Air Traffic Control centers and Flow Management units, for processing and sharing flight information.
- Aeronautical Information Services (AIS)/Aeronautical Information Management (AIM) Units: Entities responsible for managing and distributing aeronautical information, to the extent they facilitate or interface with FF-ICE data (e.g., via System Wide Information Management services). SWIM
- Other Participants: Any other authorized stakeholders that receive or use flight data for operational purposes (e.g., airport operators, network managers, meteorological or aeronautical information service providers) as designated by the [Authority].

2. Phases of Flight:

The provisions of this regulation address the flight information lifecycle from the strategic planning phase through pre-departure, and up to flight execution and post-operation as applicable. Initially, emphasis is on the pre-departure phase (FF-ICE Release 1 capabilities), with the framework adaptable to later phases of FF-ICE (during flight and post-flight information sharing) when those are implemented globally. The regulation is intended to accommodate future expansions of FF-ICE scope (such as trajectory updates during flight and real-time flow management data exchanges) without requiring fundamental changes to the legal framework.

3. Existing Provisions:

This regulation complements and, where necessary, supersedes existing national provisions related to flight plan filing and air traffic flow management. Legacy practices. Beyond that transition, all relevant flight plan and flow information exchanges shall conform to the FF-ICE requirements set forth herein. Any differences between these requirements and applicable ICAO SARPs (Standards and Recommended Practices) or PANS shall be identified and notified by [State] in accordance with Article 38 of the Chicago Convention, if applicable.

ARTICLE 3 – DEFINITIONS

For the purpose of this regulation, the following terms shall have the meanings defined below. Where possible, these align with ICAO definitions in Doc 9965 and related guidance:

• **Flight and Flow Information for a Collaborative Environment (FF-ICE):** A concept and set of provisions for the sharing of flight information and related ATM data in a collaborative manner among stakeholders. FF-ICE encompasses globally standardized information elements and services that support flight planning, trajectory negotiation, and flow management across all phases of flight. (Note: In this regulation, "FF-ICE" generally refers to the initial implementation (Release 1) for flight planning/pre-departure unless otherwise specified.)

• **FF-ICE Services:** Distinct services defined under FF-ICE for exchanging flight information. FF-ICE Release 1 services include, but are not limited to: the Filing Service (submission of flight plans and revisions), Flight Data Request Service (query and retrieval of flight information), Planning Service (collaborative trajectory planning and negotiation), Trial Service (validation of flight plan feasibility without filing), Data Publication Service (distribution of flight plan data and updates to authorized users), and Notification Service (sharing of departure, arrival, or other event notifications) . These services are described in ICAO Doc 9965 and may be updated or expanded in future FF-ICE releases.

• **Flight Information Exchange Model (FIXM):** The global standard data format and schema for representing and exchanging flight information under FF-ICE. FIXM is an extensible markup language (XML) based model (with potential JSON or other encodings) that defines all required data elements (e.g., 4D trajectory, performance data, flight identifiers) for FF-ICE messages. FIXM version [X] refers to the specific edition of this model in use (e.g., FIXM 4.2 or later as specified by the [Authority]). Implementations must support the current ICAO-endorsed FIXM version and be backward-compatible as needed to ensure seamless data sharing.

• **System Wide Information Management (SWIM):** An interoperable environment for information management in ATM, enabling the sharing of ATM information (including flight and flow data) via standardized services, interfaces, and data formats. In the context of FF-ICE, SWIM provides the underlying network and services through which FF-ICE services (flight plan filing, data requests, etc.)

are implemented. SWIM principles include the use of internet-protocol networking, service-oriented architecture, and data exchange models like FIXM (Flight Information Exchange Model), AIXM (Aeronautical Information Exchange Model), and WXXM (Weather Information Exchange Model) for relevant data domains.

• **Global Unique Flight Identifier (GUFI):** A unique alphanumeric identifier assigned to each flight instance in the FF-ICE environment. The GUFI enables unambiguous tracking and correlation of flight data across different systems and services globally, avoiding confusion from callsign or flight number changes. It is a required data element in FF-ICE flight information exchanges for consistency across FIR boundaries.

• **Competent Authority:** The national authority responsible for civil aviation oversight and regulation in [State], typically the [State Civil Aviation Authority or appropriate designation]. This authority (hereafter referred to as "the Authority") is empowered to oversee the implementation of this regulation, ensure compliance, and grant approvals or exemptions as specified.

• **Air Navigation Service Provider (ANSP):** The entity (or entities) authorized by [State] to provide Air Traffic Management and related services (such as Air Traffic Control, Flight Information Services, Air Traffic Flow Management) within the designated airspace. The ANSP in [State] is the primary implementer of the technical and operational aspects of FF-ICE as required by this regulation.

• **Airspace User / Aircraft Operator:** Any entity responsible for operating an aircraft that requires the filing of a flight plan. This includes commercial airlines, air cargo operators, general aviation, and military units when operating as General Air Traffic in civil controlled airspace. Airspace users are responsible for submitting flight plan information in accordance with FF-ICE requirements.

(Other technical terms or acronyms used in this regulation (such as ATM, AIM, AFTN, AMHS, FIR, etc.) shall have the meaning commonly assigned to them in ICAO standards or [State]'s aviation regulations.)

ARTICLE 4 – GENERAL REQUIREMENTS

1. Global Interoperability: [State]'s implementation of FF-ICE shall be interoperable with the global ATM system. Flight information exchanges must use globally standardized data definitions and formats to ensure that flight data can be understood and processed by other States' systems and by regional or global ATM networks. In particular, definitions of data elements shall be those globally standardized under ICAO's framework. The exchange mechanisms must allow the sharing of appropriate flight data across a wide set of participants, thereby facilitating collaborative decision-making and a common situational awareness among the ATM community.

2. Conformance to ICAO Related SARPS and FF-ICE Concept and Procedures: The design, operation, and maintenance of FF-ICE systems and procedures in [State] shall conform to applicable ICAO Standards and Recommended Practices. This includes (but is not limited to) relevant provisions in:

- Annex 11 – Air Traffic Services (as relates to flight plan requirements and ATS coordination),
- Annex 15 – Aeronautical Information Services (particularly data quality requirements, digital data exchange, and System Wide Information Management principles for aeronautical data),

- PANS-ATM (Doc 4444) provisions on flight plan submission, until such provisions are superseded by FF-ICE-specific procedures,
- PANS-AIM (Doc 10066) or other relevant procedural documents addressing information management and SWIM, and
- Guidance material such as Doc 9965 (FF-ICE Manual) and regional Air Navigation Plans.

The Global Air Navigation Plan (GANP, Doc 9750) and its Aviation System Block Upgrades (ASBU) strategy serve as the strategic context; accordingly, [State]'s implementation is intended to satisfy the applicable ASBU elements for FF-ICE (identified in the FICE thread of the GANP).

3. Performance-Based Approach: The implementation shall support a performance-based approach to air navigation. This means systems should be designed not only to meet minimum specifications but also to achieve performance objectives such as increased airspace capacity, improved flight efficiency, and enhanced predictability. Stakeholders should regularly review key performance indicators (e.g., delays, route efficiencies, throughput improvements attributable to improved information sharing) to ensure that FF-ICE is delivering the intended benefits in line with global and regional performance targets.

4. Infrastructure and Environment: The operation of FF-ICE in [State] shall be conducted in an appropriate technological environment. The ANSP is responsible for providing or procuring the necessary communication network and information management infrastructure (e.g., SWIM-compliant messaging systems, secure internet connections, message brokers, etc.) to transport and distribute FF-ICE data. This infrastructure should have the capacity and reliability to handle the increased volume and richness of flight data that FF-ICE entails (such as trajectory details, frequent updates, and multiple stakeholder access), ensuring timely and robust information exchange.

5. Regional Coordination: Recognizing that FF-ICE implementation is most effective when harmonized regionally, [State] shall coordinate its FF-ICE plans with neighboring States and through ICAO regional planning groups (e.g., [relevant PIRG/Regional group]) to facilitate a smooth transition. This includes participating in regional task forces, workshops, or trials for FF-ICE, sharing best practices, and agreeing on interface control documents or service level agreements for cross-border data exchange. Inter-state agreements may be established as needed to govern the exchange of flight data across FIR boundaries using FF-ICE, ensuring that data originating in [State] can be seamlessly used by adjacent FIRs and vice versa.

ARTICLE 5 – RESPONSIBILITIES

5.1 – State Oversight and Authority Responsibilities:

1. Regulatory Oversight: The [Civil Aviation Authority] ("the Authority") is responsible for overseeing the implementation of FF-ICE as per this regulation. The Authority shall issue any necessary guidance material, directives, or supplementary procedures to ensure clarity in how FF-ICE is to be adopted by the ANSP and airspace users. The Authority will also integrate FF-ICE requirements into its safety oversight programme, ensuring that the transition to the new system maintains or enhances the level of safety.

2. Approval and Certification: The Authority shall approve the ANSP's FF-ICE implementation plan and any significant system upgrades, or procedural changes associated with FF-ICE. If required under

national law, the Authority may certify or license specific FF-ICE systems or service components (for example, validating that the ANSP's FF-ICE system meets technical standards, or approving third-party service providers interfacing with the system). The Authority should also ensure that appropriate training and competency requirements are defined for personnel (both regulatory and operational) involved in FF-ICE operations.

3. International Representation: The Authority shall represent [State] in international and ICAO forums regarding FF-ICE. It should actively engage in ICAO panels, working groups, and regional meetings to stay up to date with FF-ICE developments (such as new ICAO SARPs, FIXM version updates, or Release 2/Release 3 progress), and reflect those in national requirements. The Authority will coordinate the filing of any difference to ICAO standards (if any arise from this implementation) and ensure [State]'s AIP is updated accordingly to notify users of the new flight planning requirements.

4. Continuous Improvement: The Authority is responsible for monitoring the effectiveness of FF-ICE implementation and enforcing corrective actions if performance objectives are not met. In consultation with stakeholders, the Authority should periodically review this regulation and related procedures to incorporate lessons learned, new ICAO provisions, or technological advancements (such as improved data exchange techniques or cybersecurity measures).

5.2 – Air Navigation Service Provider (ANSP) Responsibilities:

1. Implementation of FF-ICE Services: The ANSP shall develop, deploy, and maintain the necessary technical systems and operational procedures to provide FF-ICE services as defined in Article 3. At minimum, the ANSP shall implement the Filing Service and Flight Data Request Service (the basic services) on introduction, and subsequently implement the other services (Planning, Trial, Data Publication, Notification) in accordance with the phased implementation plan in Article 10. Each service may be implemented as a SWIM-enabled service accessible to authorized users (e.g., via secure web services or message interfaces). The ANSP must ensure that the legacy flight plan processing (e.g., using the 2012 format via AFTN/AMHS) continues in parallel during the transition, and that both legacy and FF-ICE flight plans are correctly managed to avoid any operational discrepancies during the coexistence period.

2. Data Quality and Standards Compliance: The ANSP shall ensure all flight information handled under FF-ICE meets the data quality requirements set by ICAO. This includes accuracy, resolution, integrity, timeliness, completeness, and traceability of data, as applicable under Annex 15 and PANS-AIM provisions for aeronautical data. The ANSP must use the FIXM standard for all FF-ICE data exchanges and ensure that their systems validate incoming and outgoing messages against the FIXM schema (and any accompanying business rules or validation rules defined by ICAO or regional agreements). Rejection or error messages shall be generated for flight information that does not conform to the required format or contains invalid data, and clear feedback must be provided to the submitting user for correction (e.g., using Trial Service to validate plans before filing).

3. Interoperability and Interface Management: The ANSP is responsible for establishing and maintaining interfaces between the FF-ICE system and other relevant ATM systems, both internal and external. Internally, the FF-ICE data should interface with [State]'s flight data processing systems, Air Traffic Flow Management (ATFM) tools, surveillance tracking systems, etc., so that all ATM functions have access to enhanced information. Externally, the ANSP must connect with adjacent FIRs/ANSPs and any regional network centers (for example, ICAO regional SWIM hubs or a network manager) to exchange flight information. This may involve using standard protocols such as ATS Interfacility Data Communication (AIDC) messages or modern SWIM APIs to share data like boundary estimates, coordination messages, or flight updates. The ANSP should ensure that a flight plan filed once (in FF-ICE format) is made available to all air traffic service units that require it along the route, without the

operator needing to re-file or provide redundant information for different FIRs – in line with the FF-ICE concept of a single shared flight object.

4. Training and Procedures: The ANSP shall develop new procedures and train its operational personnel (air traffic controllers, flow managers, flight data processors, etc.) on the use of FF-ICE tools and information. This includes training on how to interpret and utilize 4D trajectory data, how to conduct collaborative decision-making with flight operators during the planning phase (e.g., responding to trajectory negotiation proposals), and how to handle system alerts or error conditions related to FF-ICE messages. Updated manuals, checklists, and contingency procedures (for example, fallback to legacy flight plan in case of system outage) must be put in place. The ANSP should also conduct simulations or trials to ensure controllers and staff are familiar with the new information flows before full operational use.

5. Continued Service Provision: The ANSP is responsible for the continuous availability and reliability of the FF-ICE services. Service level targets (such as system uptime, response times for flight data requests, and capacity to handle peak filing rates) should be defined and met. In the event of planned outages (system upgrades, maintenance) or unplanned downtime, the ANSP must have contingency arrangements (e.g., reverting to legacy systems or manual coordination) to ensure that flight planning can continue, and safety is not compromised. The ANSP shall promptly notify the Authority and users of any major disruptions in the FF-ICE service and take remedial actions.

5.3 – Airspace User (Aircraft Operator) Responsibilities:

1. Submission of Flight Information: Airspace users, including aircraft operators or their designated agents (such as Flight Operations Centers or dispatch services), shall submit flight plans and associated flight information using the FF-ICE formats and systems designated by the ANSP under this regulation. This means that for flights planned on/after the implementation date, the operator must use the new electronic filing mechanism (e.g., a SWIM-enabled interface or web portal provided by the ANSP) rather than the old paper or AFTN message formats. The flight information provided shall include all required data elements as per the FIXM/FF-ICE schema – for example, complete 4D trajectory intent, aircraft performance parameters, preferred routes or scheduling constraints, and any additional data fields mandated by [State] (such as special status indicators, if applicable). Operators must ensure the data is accurate and timely, updating or canceling flight plans as needed in accordance with the procedures.

2. Use of Unique Identifiers: Operators shall use any unique identifiers or reference codes required by the FF-ICE system. This includes the Global Unique Flight Identifier (GUFI) assigned to the flight. An operator receiving a GUFI for a flight (either by creating one when first filing or by using one assigned by the system) must use that identifier in all subsequent communications or data exchanges about that flight. This ensures consistency in referencing the flight across different systems and stakeholders.

3. Compliance with Procedures: Operators must comply with any new procedures related to collaborative flight planning. For instance, if the ANSP's Planning Service proposes modifications or solutions (such as route adjustments to avoid congestion), the operator should engage in the collaborative decision-making process by responding within the required timeframes and providing necessary information or preferences. If using the Trial Service, operators should make use of the capability to pre-validate flight plans to reduce filing errors. Additionally, operators should follow any slot allocation or flow management measures that are communicated through the FF-ICE Notification or Data Publication services (for example, if a ground delay program is implemented, the relevant delay info will be provided via these services).

4. Equipment and Capability: It is the responsibility of airspace users to equip themselves (or make arrangements) with the necessary capability to interface with the FF-ICE system. This may involve updating flight planning software to support FIXM formats, obtaining digital certificates or network access for SWIM services as required by the ANSP, and training dispatchers or flight operations officers on the new system. Operators are encouraged to participate in any trials or familiarization programmes offered by the ANSP or Authority ahead of the implementation date to ensure readiness.

5. Continued Adherence and Feedback: After implementation, operators shall continue to adhere to FF-ICE requirements for all relevant flights. If any issues or deficiencies are encountered (for example, difficulties in filing or errors in data exchanges), operators should promptly inform the ANSP and cooperate in resolving them. Regular user feedback may be solicited by the Authority or ANSP to improve the system. Operators that fail to use the FF-ICE system properly (or attempt to bypass it without authorization) may be subject to enforcement actions under Article 9.

ARTICLE 6 – TECHNICAL AND OPERATIONAL REQUIREMENTS

1. Data Format and Exchange Standards: All flight plan and flow information exchanges under FF-ICE shall use the Flight Information Exchange Model (FIXM) standard for data representation. The [Authority/ANSP] shall specify the accepted FIXM version(s); initially this will be FIXM [current version]. Messages and data sets must conform to the FIXM XML schema definitions and associated business rules. The system must enforce schema validation for each submitted flight plan or message. In addition, for certain structured fields (e.g., aerodrome identifiers, aircraft type designators, route waypoints), data must comply with relevant ICAO coding standards (e.g., location indicators as per Doc 7910, aircraft types per Doc 8643, etc.).

2. System Wide Information Management (SWIM) Interfaces: The FF-ICE implementation shall be built upon SWIM principles. The ANSP must provide service interfaces (such as web service APIs or message queue endpoints) for the FF-ICE services, accessible to authorized users (airlines, adjacent ANSPs, etc.) over a secure network. The interface specifications (message patterns, access protocols, authentication methods) should follow international SWIM profiles so that external systems can connect with minimal custom adaptation. For example, the Filing Service and Flight Data Request Service could be offered as SOAP or RESTful web services with defined request/response message structures, or through publish/subscribe mechanisms for data like flight plan publications. These services should also be registered in any regional or global SWIM registry to facilitate discovery by stakeholders. Legacy telecommunications networks (AFTN/AMHS) should be bridged to the new system as necessary — for instance, a gateway that converts incoming traditional FPL messages into FF-ICE format or vice versa for distribution to users not yet on SWIM.

3. Unique Flight Identification: The technical system must implement the unique flight identifiers (such as GUFI) in all relevant processes. This ensures that if a flight's data is updated (e.g., a change in departure time or route), all systems (flight data processors, flow tools, airport systems) that reference that flight via the GUFI will automatically relate the updates to the same flight object. Mechanisms should be in place to handle cases like flight plan duplicates or revisions – for example, if an operator files a new plan for a flight already having a GUFI, the system should recognize it as an update rather than a separate flight, according to rules defined in Doc 9965. Coordination with international partners is required to ensure that the GUFI (or any future globally unique identifier) is recognized across FIR boundaries.

4. Data Elements and Extensions: The FF-ICE data model includes a comprehensive set of mandatory and optional data elements (e.g., departure times, 4D waypoints, fuel endurance, etc.). [State] shall adopt the full core dataset as defined by ICAO for FF-ICE Release 1. If [State] requires additional data

elements (for example, a special indicator for security flights, or national routing preferences), these shall be implemented using the FIXM extension mechanism so as not to break compatibility with the core model. Such extensions must be clearly documented and shared with other stakeholders (through regional coordination) to facilitate their use or acceptance by other systems. Conversely, [State]'s system should be capable of accepting FF-ICE messages from foreign operators/ANSPs that contain recognized regional extensions, even if [State] does not use that data, provided it does not compromise processing.

5. Time Synchronization and Reference: All time stamps in FF-ICE exchanges (e.g., estimated off-block time, take-off time, etc.) shall be in Coordinated Universal Time (UTC) and adhere to the format prescribed by ICAO (ISO 8601 date-time format if using XML). The system clocks of the ANSP's FF-ICE infrastructure must be accurately synchronized (for example, via GPS time or a Network Time Protocol NTP service) to avoid discrepancies in time-dependent data like trajectories or flow constraints.

6. Trajectory and Performance Data Use: The system shall be capable of processing 4D trajectory information provided in flight plans. This includes calculating or parsing latitude/longitude waypoints with altitude and time constraints and handling complex route elements (such as speed/level changes, cruise climb details, etc.). The ANSP's tools should use this rich trajectory data for conflict detection, demand-capacity balancing, and optimization. Additionally, performance data (aircraft weights, speed capabilities, etc.) provided under FF-ICE can be used to improve trajectory predictions. The regulation mandates that such data, when provided by operators, be used in accordance with ICAO guidance and local procedures to enhance ATM decision-making (e.g., more accurate calculation of sector loads, better predictions for coordination with meteorological conditions, etc.). The Authority may require the ANSP to demonstrate how these data are utilized effectively as part of safety assessment or efficiency reviews.

7. Legacy System Integration: During the transition and, if needed, beyond, the ANSP must maintain interoperability between the FF-ICE environment and legacy flight plan processing systems. For example, if certain external systems (like military flight plan systems or adjacent FIRs not yet on FF-ICE) continue to use the traditional FPL 2012 messages, the ANSP should implement conversion tools that can translate an FF-ICE flight plan into a standard FPL format (and vice versa) to ensure no loss of information. All converted legacy messages must be carefully constructed so that critical information (such as extensive route information or supplementary data) is not truncated or omitted due to format differences. The ANSP should also continue to support existing coordination messages (such as AIDC or OLDI messages between control centers) until such time as those too are transitioned to FF-ICE or equivalent modern protocols.

8. Validation and Testing: Prior to full operational use, the FF-ICE system and its components shall undergo rigorous testing and validation. This includes:

• **Conformance Testing:** Ensure the system correctly implements the FIXM schema and all message types – test with a wide range of flight plan scenarios (normal, alternate routes, various aircraft types, etc.) including edge cases.

• **Interoperability Testing:** Conduct tests with external partners (e.g., airlines connecting their flight planning software to the ANSP's system, or tests with neighboring ANSPs and the ICAO regional SWIM network) to verify that data exchange works end-to-end and that there are no data mismatches or connectivity issues.

• **Operational Trials:** Carry out shadow operations or parallel runs where flights are filed and managed through FF-ICE in simulation or in parallel to live operations, to gauge performance and identify any operational issues without impacting live traffic.

• **Certification (if applicable):** If [State] requires, an official certification process may be conducted. For instance, similar to the Network Manager's B2B certification in Europe, [State] may require that aircraft operators or flight plan service providers successfully complete a validation process with the ANSP's system before being allowed to use FF-ICE operationally. The ANSP should provide a test platform and support for users to achieve this validation.

The technical requirements set out in this Article shall be updated as necessary by the Authority through amendments or advisory circulars, particularly to remain aligned with global standards (such as newer FIXM releases, or FF-ICE Release 2 requirements when they become available).

ARTICLE 7 – INTEROPERABILITY AND REGIONAL/GLOBAL HARMONIZATION

1. ASBU Alignment: [State]'s FF-ICE implementation shall align with the internationally agreed Aviation System Block Upgrades (ASBU) modules under the GANP for Flight Information Exchange. Specifically, this implementation corresponds to the FF-ICE related ASBU elements: B0-FICE (Ground-Ground Integration), B1-FICE (Pre-Departure Collaborative Flight Planning Applications), B2-FICE (Extended Multi-Center Flight Data Integration), and B3-FICE (Full FF-ICE implementation across all phases). In planning the rollout, [State] should consider the timelines suggested by the GANP for these blocks and coordinate its targets accordingly so as to be in step with global ATM evolution.

2. Adjacent FIR Coordination: The ANSP and Authority must coordinate with adjacent FIRs to ensure that flight plans do not need to be re-filed or manually adjusted when crossing FIR boundaries. This may involve bi- or multilateral agreements on how FF-ICE data is exchanged. For example, if a neighboring FIR is not yet FF-ICE capable, agree on an interim procedure where [State] will send a transformed flight plan in the legacy format to that FIR's ATC unit. Conversely, for neighbors that have implemented FF-ICE, establish connectivity (network links, security agreements) to directly share the flight object information. The goal is seamless gate-to-gate operation for the flight, with consistent information available to every ATC unit along the route.

3. Use of Regional Networks: Where a regional ATM network or centralized facility exists (such as a future ICAO regional SWIM node in the MID region), [State] shall make use of those for broader interoperability. [State]'s FF-ICE system should feed flight data into the regional network to assist in flow management beyond national boundaries and to receive regional constraints or updates. Participation in such networks may also reduce duplication (e.g., filing once to the network covers multiple FIRs). The Authority should ensure that any regional requirements (for example, specific data elements or performance criteria mandated by a regional implementation plan) are incorporated into [State]'s system.

4. Interoperability with Other Domains: FF-ICE will be one part of the wider information management environment, which also includes meteorological information exchange (IWXXM/WXXM), aeronautical information (AIXM), surveillance data sharing, etc. The system implemented under this regulation should be designed to eventually interoperate with these domains as well. For instance, if a trajectory management system uses both flight plan data and real-time weather information, the interfaces and data models should allow combining those. Similarly, if airports are sharing surface trajectory information (perhaps through the Airport Collaborative Decision-Making process or surface management systems), there should be pathways to integrate that with FF-ICE data for end-to-end trajectory optimization. The Authority should encourage an architecture where all these information exchanges use compatible standards and a common SWIM framework.

5. Global Updates and Compatibility: As ICAO and the global community refine FF-ICE (e.g., development of FF-ICE Release 2 for the tactical phase, or new concepts like Trajectory Based

Operations integration), [State] shall strive to update its systems in a timely fashion so as to remain globally compatible. This includes adopting any future globally unique flight object concepts or revisions to message semantics. To avoid fragmentation, any change to the implementation that might affect international partners (like a new data element that neighboring FIRs must handle) should be communicated well in advance through ICAO channels. The Authority should publish in the AIP (or other official publication) the necessary details of [State]'s FF-ICE system for international awareness, such as the effective date of FF-ICE usage, the communication addresses or endpoints for filing, accepted message formats, and any differences from the ICAO baseline.

ARTICLE 8 – CYBERSECURITY AND DATA GOVERNANCE

1. Information Security Management: The ANSP and all participating stakeholders shall implement robust cybersecurity measures to protect FF-ICE related systems and data. FF-ICE being a mission-critical system for ATM, it is essential to ensure confidentiality, integrity, and availability of the information. The ANSP must develop an Information Security Management System (ISMS) or incorporate FF-ICE into existing aviation ISMS frameworks, consistent with ICAO's cybersecurity principles (such as those outlined in the ICAO Aviation Cybersecurity Strategy) and industry standards (e.g., ISO/IEC 27001 for information security). This includes conducting risk assessments for potential cyber threats (e.g. unauthorized access, data corruption, denial-of-service attacks on the flight plan system) and implementing controls such as firewalls, intrusion detection systems, access controls, and network segmentation to mitigate those risks.

2. Access Control and Authentication: Only authorized users and systems shall be permitted to access the FF-ICE services and data. The ANSP must enforce strong authentication mechanisms for any user or system connecting to the FF-ICE interface – for example, the use of digital certificates, secure tokens, or VPN access with multi-factor authentication for external users (like airline dispatch offices). Each connecting entity (whether an airline system, an adjacent ANSP, or an internal workstation) should be identified and granted role-based access permissions. Data access should be limited to what each party legitimately needs (principle of least privilege); for instance, an airline should only be able to access its own flight data (plus relevant ATM constraints), whereas an adjacent ANSP can access flights crossing into their FIR.

3. Encryption and Data Protection: All communications carrying FF-ICE data must be encrypted in transit using strong cryptographic protocols (such as TLS for IP-based communications). This ensures that flight plans or flow management messages cannot be intercepted or read by unauthorized parties. If any FF-ICE data is stored at rest (e.g., in databases or archives), appropriate encryption or security controls should protect it, especially if it contains sensitive operational information. Additionally, the integrity of data must be protected – mechanisms like digital signatures or message authentication codes can be employed so that any tampering of a flight message en route would be detected and rejected.

4. Data Governance and Privacy: Flight plan data generally contains operational information, but it may also include certain personal or sensitive details (for example, pilot contact information in supplementary information, or military mission data). The Authority and ANSP shall ensure that data governance policies are in place for all information handled in FF-ICE. This includes:

• **Data Ownership:** Clarifying that the originator of the flight data (the operator) retains ownership of the data they submit, while allowing the ANSP and other ATM participants to use that data for safety and efficiency purposes under this regulation.

• **Permitted Use:** Ensuring that FF-ICE data is used only for legitimate ATM and aeronautical purposes. Secondary use of the data (for example, for commercial data mining or non-ATM purposes) is prohibited unless explicitly authorized by the data owner and the Authority.

• **Data Retention:** Setting rules for how long flight data will be retained in the system. For instance, the ANSP might keep filed flight plan records for a certain period (e.g., 30 days post-flight for operational analysis, or longer if needed for incident investigations). Beyond the necessary retention period, data should be securely disposed of or archived in accordance with [State]'s data protection laws and ICAO guidelines.

• **Privacy Compliance:** Adhering to any applicable personal data protection laws for information contained in flight plans. While most FF-ICE data is not personal (being about flights), any personal elements (like names, telephone numbers in emergency contacts, etc.) should be safeguarded under privacy regulations. The Authority should ensure that the handling of such data by the ANSP or other parties is compliant with national privacy legislation or policies.

5. Resilience and Recovery: Cybersecurity is not only about prevention but also about resiliency. The ANSP must ensure that the FF-ICE system design is resilient to cyber incidents. This may involve redundant systems, regular backups of flight data, and the ability to revert to a safe state (like using the legacy system) if the FF-ICE system must be shut down or isolated due to a cyber-attack. Incident response plans shall be in place specifically for FF-ICE, detailing how to identify a security breach, contain it, eradicate any threats, recover operations, and report the incident to the Authority and relevant stakeholders. Regular cybersecurity drills or exercises involving the FF-ICE system should be conducted to practice these response plans.

6. Audit and Monitoring: The ANSP shall implement continuous monitoring of the FF-ICE infrastructure for security events. Audit logs should record key events (such as user logins, message submissions, data queries, and any administrative actions). These logs must be protected from alteration and should be reviewed periodically for signs of unauthorized activities. The Authority reserves the right to conduct or require independent security audits of the FF-ICE system. If such an audit finds deficiencies, the ANSP must address them promptly. Significant findings or breaches should be shared with ICAO or regional bodies if they have implications for global interoperability (for example, if a type of attack is observed that could threaten other states' FF-ICE systems, sharing that information will help improve collective security).

ARTICLE 9 – COMPLIANCE, MONITORING AND ENFORCEMENT

1. Compliance Monitoring: The [Authority] shall monitor compliance with the requirements of this regulation through its safety oversight and audit programmes. This includes reviewing the ANSP's implementation (system design, test results, operational readiness) before and after commissioning, and verifying that airspace users are adhering to the new flight plan filing procedures. The Authority may inspect relevant documentation, require demonstration of system capabilities, and observe operations to ensure that all provisions (technical, operational, security) are properly in effect.

2. Incident Reporting: Any significant issues in the implementation or operation of FF-ICE that could affect service provision or safety must be reported to the Authority. For example, if the ANSP experiences a major system failure affecting flight plan processing or if an operator repeatedly encounters errors filing flight plans, these should be logged and reported. Based on such reports, the Authority can determine if further investigation or remedial action is needed. Additionally, the regulation encourages a just culture environment for reporting – meaning that unintentional errors or difficulties in using the new system should be reported by operators or controllers without fear of

unnecessary punishment, so that the system can be improved. However, gross negligence or willful non-compliance is not protected.

3. Enforcement Actions – **ANSP:** If the ANSP fails to fulfill its obligations (for instance, significant delays in implementation without valid justification, not meeting data quality requirements, or inadequate cybersecurity protections), the Authority is empowered to take enforcement measures. These may include directives to take corrective action by a set deadline, imposition of additional oversight (e.g., Authority representatives on-site to monitor implementation), or financial penalties as permitted under [State]'s aviation laws or the terms of the ANSP's certification. In extreme cases, if non-compliance severely jeopardizes safety or international obligations, the Authority could limit or suspend certain services of the ANSP until compliance is restored (recognizing this is a last resort given the impact on operations).

4. Enforcement Actions – Airspace Users: From the effective date of FF-ICE implementation (after any transition period in Article 10), it is expected that all flight plan filings be via the FF-ICE system. If an airspace user (airline or other operator) persistently fails to use the required system or format (e.g., continuing to file old-format plans without authorization, or submitting incomplete/incorrect FF-ICE data that does not meet requirements), the Authority or ANSP may take escalating actions. Initially, this could be warnings or targeted outreach to ensure the operator understands the requirements. If non-compliance continues, the ANSP may refuse to accept flight plans from that operator that are not compliant, meaning the flight would effectively not be authorized to operate in [State]'s airspace until a proper flight plan is filed. Additionally, administrative penalties or fines may be imposed on operators for violations of civil aviation regulations (consistent with [State]'s enforcement provisions). The Authority will ensure that any such actions are coordinated and communicated clearly to avoid unintended disruptions (for example, coordinating with an operator's State of Registry or issuing NOTAMs if needed to alert foreign operators).

5. Performance Reviews: As part of compliance monitoring, the Authority will also review whether the intended benefits of FF-ICE are being achieved. This ties into compliance in a broader sense – e.g., if some stakeholders are not using the system to its full capability (such as airlines not providing optional data that could improve ATM), the Authority may encourage or eventually mandate fuller compliance (like requiring certain data fields that were optional if it proves critical for ATM outcomes). Regular reports on metrics (e.g., the percentage of flights filed through FF-ICE, number of collaborative decisions made, reduction in last-minute flight plan changes, etc.) should be produced. These reviews ensure that compliance is not just procedural but also functional, leading to the desired enhancements in ATM. If the outcomes are lacking, the Authority might adjust the regulation or guidance accordingly (for example, tighten requirements or provide additional training).

ARTICLE 10 – IMPLEMENTATION TIMELINE AND TRANSITIONAL PROVISIONS

1. Phased Implementation Plan: The implementation of FF-ICE in [State] shall be carried out in phases to allow a smooth transition from current operations. The phases are aligned with the FF-ICE release roadmap and ASBU blocks:

• Phase 1 – FF-ICE Release 1 (Pre-departure phase): Introduction of FF-ICE for flight planning prior to departure. This phase will include the deployment of the basic services (Filing Service and Flight Data Request Service) and at least initial versions of the Trial and Data Publication services. Phase 1 shall be completed by [Date], by which time all new flight plans for flights in [State] should be filed via FF-ICE (with legacy support as backup). This phase corresponds to achieving ASBU B1-FICE objectives, enabling collaborative pre-departure coordination.

• Phase 2 – Extended FF-ICE Services (Multi-center integration): Expansion of FF-ICE capabilities to cover more complex scenarios, such as multi-center coordination of flight plans, cross-border trajectory negotiation, and advanced flow management using shared data. In this phase, the Planning Service and Notification Service should become fully operational, and coordination between [State] and adjacent FIRs via FF-ICE will be active. Phase 2 is expected by [Date], aligning with ASBU B2-FICE, wherein multiple ATS units exchange flight information seamlessly and possibly the early use of FF-ICE during the flight (execution phase updates) on a limited scale.

• Phase 3 – Full FF-ICE Implementation (All phases of flight): This final phase entails the use of FF-ICE for gate-to-gate management of flights, including in-flight trajectory updates and post-departure flow management. It assumes the development of FF-ICE Release 2 (for the en-route phase) and Release 3 (for post-flight or further integration) by ICAO. In Phase 3, the integration between air and ground becomes operational – e.g., linking with aircraft's onboard systems for trajectory synchronization if applicable. Tentatively by [Date] (not later than 2030/2031), [State] should reach this phase, in line with ASBU B3-FICE (Full FF-ICE) which ICAO envisions for the late 2020s or early 2030s. The exact timeline for Phase 3 may be adjusted based on global readiness and standards availability, but advance planning for necessary investments should be done in Phase 1 and 2.

2. Transition Period and Dual Operations: To minimize operational disruption, there will be an overlap period during which both the current flight plan process and the new FF-ICE system run in parallel. The transition period shall commence with the initial operational capability of Phase 1 and last for at least [X] months (or until a certain confidence level and usage threshold is met) but not exceeding [Y] years beyond the Phase 1 completion date. During this time:

• Operators may file flight plans either via the new FF-ICE system or using the legacy format/procedures, and the ANSP must accommodate both. However, operators are strongly encouraged to use FF-ICE, and after [some milestone or date], may be required on certain busy routes or for certain airspace.

• The ANSP will ensure that any flight plan filed in the legacy format is translated into the FF-ICE system to permit the advantages of FF-ICE (e.g., sharing with stakeholders, 4D trajectory processing). Conversely, if an FF-ICE flight plan is filed but needs to be delivered to a legacy system (like to a neighboring center not on FF-ICE), the ANSP handles that conversion.

• Adequate notice (via AIP Supplements or Aeronautical Information Circulars) will be given to all users about the start of FF-ICE operations and the expected end of the transition period when legacy filing will no longer be accepted. The target end-date for accepting legacy (FPL 2012) flight plans is [Date], after which all flight plans must be via FF-ICE unless exempted.

3. Temporary Exemptions: The Authority may grant temporary exemptions to certain operators or flights from the FF-ICE filing requirement, on a case-by-case basis, if justified by operational necessity or technical limitations. For example, State aircraft (military or other exempt flights) or general aviation operators without immediate access to the necessary technology might be allowed to continue using legacy filing for a limited time. Any such exemptions should have a clear expiration (e.g., not more than one year beyond the transition period) and may include conditions (like requiring the operator to coordinate by telephone or provide additional information to the ANSP). The Authority will document any exemptions and include them in the State's differences (if they affect international services) or publish them for transparency. The ultimate goal is that all regular operations transition to FF-ICE, so exemptions will be progressively withdrawn.

4. Progress Monitoring and Reporting: During each phase of implementation, the ANSP shall report progress to the Authority at regular intervals (e.g., quarterly or as determined). These progress reports should include statistics like the percentage of flight plans filed via FF-ICE vs. legacy, system

performance data, any issues encountered, and feedback from users. The Authority will use these reports to determine if the next phase can proceed as scheduled. If significant issues arise, the Authority may decide to extend a phase or transition period to maintain safety and continuity. Furthermore, [State] will report its implementation status to ICAO (through regional implementation meetings or ICAO's monitoring tools) – for instance, confirming Phase 1 achievement (B1-FICE) and readiness for Phase 2 – so that regional coordination can occur (other States can adjust if needed, and any needed support can be identified).

5. Revision of Dates: The timeline stipulated in this Article is based on current expectations and ICAO's global plan. The [Minister/Authority] is empowered to revise the phase completion dates or transition end date via an official order or amendment to this regulation, if necessitated by new developments (for example, if ICAO significantly changes the target dates for FF-ICE in the GANP, or if technical challenges require more time). All stakeholders shall be consulted as practicable before adjusting timelines. Any revision will be promulgated with sufficient lead time.

6. Legacy System Decommissioning: After the successful completion of the transition period and once legacy flight plan acceptance is discontinued, the ANSP shall decommission or repurpose the legacy flight data processing systems in an orderly manner. Historical data should be archived, and any functions not replaced by FF-ICE (if any) must be addressed. The aim is to avoid maintaining dual systems in the long term due to cost and potential inconsistency. However, certain legacy capabilities may be retained as contingency backups if they can serve as a fallback (for example, an offline flight plan filing via AFTN as an emergency method if the FF-ICE network is completely unavailable). Such contingency use would be outside normal operations and only under the direction of the Authority.

ARTICLE 11 – FINAL PROVISIONS

1. Entry into Force: This regulation [and its annexes] shall enter into force on [effective date]. The [Authority] shall ensure publication of the key dates and requirements in the Aeronautical Information Publication (AIP) at least [number] days prior to the commencement of Phase 1 to inform all international and domestic stakeholders.

2. Amendments: Any amendments to this regulation (for example, to update references to ICAO documents, incorporate FF-ICE Release 2 provisions, or adjust to new standards) shall be promulgated by the [Authority] in accordance with [State]'s rule-making procedures. Stakeholders will be given the opportunity to comment on significant changes, especially those affecting systems and costs.

3. Relationship with Other Regulations: This regulation shall be considered a specific provision related to ATM and AIS under [State]'s civil aviation law. In case of any conflict between this regulation and any existing national regulation on flight plans or ATFM, the provisions of this regulation shall prevail for matters concerning FF-ICE implementation. The [Authority] shall update or harmonize other regulatory documents (such as ATC operational manuals, AIP sections on flight plan requirements, etc.) to ensure consistency.

4. Compliance with Chicago Convention: This regulation is intended to assist [State] in meeting its obligations under the Convention on International Civil Aviation for the provision of Air Navigation Services and Facilitation of International Air Navigation. It is drafted in alignment with ICAO SARPs and global plans; therefore, implementation of this regulation will contribute to a globally interoperable system. [State] will notify ICAO of its FF-ICE implementation as required (through amendments to its eANPs or other channels) to enhance global awareness and coordination.

5. Review: The [Authority] shall review the effectiveness and adequacy of this regulation within [X years] of full implementation of Phase 1, and periodically thereafter (e.g., every [Y] years or upon major ICAO updates). This is to ensure the regulatory framework remains robust and up to date with technological and procedural evolutions in FF-ICE and related ATM enhancements.

- END -