International Civil Aviation Organization

MIDANPIRG RANP/NANP Task Force

Fourth Meeting (RANP/NANP TF/4)
(Virtual, 27-28 April 2026)

Agenda Item 2: New ANP Volume III Template

MID ANP VOLUME III – JUNE 2026

(Presented by the Secretariat)

SUMMARY

This paper presents a new version of the MID ANP Volume III developed based on the new ANP Vol III Template.

Action by the meeting is at paragraph 3.

1. INTRODUCTION

1.1 The meeting may wish to recall that the RANP/NANP TF/3 reviewed the new Air Navigation Plan Template and recognized the paradigm shift between the new Template and the current Template approved by the ICAO Council in 2014; and agreed that the new Template provides a strategic framework for the planning and implementation of air navigation systems and services; and supports the application of Performance-Based Approach (PBA) to enable cost-effective, benefit-driven modernization of the air navigation system, in line with the Global Air Navigation Plan (GANP).

2. DISCUSSIONS

2.1 The RANP/NANP TF/3 meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 3/1: NEW MID AIR NAVIGATION PLAN VOL III

That,

*a) the new ANP Volume III Template at **Appendix 2A** be used for the development of the new version of the MID ANP Volume III;*

*b) States provide the ICAO MID Office with their comments and inputs related to the new ANP Volume III Template and Regional Priorities and Performance Objectives, by **25 April 2026**, in order to allow the RANP-NANP TF/4 meeting to finalize the MID ANP Volume III that will be presented to MIDANPIRG/23 for endorsement*

c) the MID Air Navigation Strategy (ICAO MID DOC 002) is no longer in force and superseded by the new MID Air Navigation Plan Volume III (Edition June 2026).

2.2 The new MID ANP Volume III – June 2026 is at **Appendix A**.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) review the MID ANP Volume III – June 2026 at **Appendix A**;

b) provide comments and inputs in particular related to the Global Pririties in Part II para. 1.3; the Regional Priorities at Part II para. 2.2 and the Regional Performance Objectives under Part II para. 2.4 and Table ANS PF1; and

c) agree to submit the new MID ANP Volume III – June 2026 to MIDANPIRG/23 for endorsement.

MID AIR NAVIGATION PLAN

VOLUME III

(June 2026)

MID AIR NAVIGATION PLAN

VOLUME III

RECORD OF AMENDMENTS

Originator	Brief Description	Affected Pages	Date Approved by MIDANPIRG

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MID ANP, VOLUME III

PART 0 – INTRODUCTION

1. INTRODUCTION

1.1 The background to the publication of ANPs in three volumes is explained in the Introduction of Volume I. The procedure for amendment of Volume III is also described in Volume I.

1.2 Aviation is a powerful socio-economic enabler, yet it faces a range of challenges. Global air traffic—encompassing the movement of people and goods—is registering a continuous growth for the next 15 years. At the same time, emerging technologies, new business models, and evolving roles of humans in the system present both challenges and opportunities that require an urgent transformation of the global air navigation system, ensuring that aviation continues to contribute to global prosperity and connectivity.

1.3 The evolution of the air navigation system is a continuous process with no definitive end point. Continuous performance-based improvements are necessary to ensure that the system evolves in response to global, regional and local demands in a timely and orderly manner.

1.4 Modernizing and developing air navigation infrastructure is vital to enable new services and optimize existing ones. Accommodating growing demand and meeting the requirements of the new aviation era calls for strong political commitment and sustained investment.

1.5 The Global Air Navigation Plan (GANP) aims for a seamless and high-quality provision of air navigation services worldwide through the establishment of regional and national performance objectives aligned with global performance ambitions. To achieve this, States and regions must assess their operational environments and select the most appropriate modernization options based on operational requirements and expected performance gains. This ensures the efficient use of resources while addressing the needs of the aviation community.

1.6 In addition to the core principles of safety, security, economic viability, and environmental sustainability, the air navigation system must meet a range of performance expectations from both society and the aviation community.

1.7 Achieving the required level of performance from the air navigation system will demand strong commitments and tough choices. The system must be shaped in light of anticipated opportunities and challenges, ensuring it can deliver on future performance ambitions.

1.8 Enhancing operational efficiency across all phases of flight—including surface movements—can significantly reduce delays, fuel consumption, CO_2 emissions, and overall environmental impact.

1.9 As new types of aircraft and operations emerge, air navigation services will need to be increasingly flexible and adaptable. They must accommodate diverse and complex air traffic operations while maintaining or enhancing flight safety and efficiency.

1.10 Collaborative decision-making is essential for cost-effective modernization. Engaging all stakeholders—including air navigation service providers, regulators, operators, and industry partners—ensures that modernization is driven by common goals and informed by operational and performance needs.

1.11 Derived from the global strategic level, the global technical level of the Global Air Navigation Plan (GANP) is designed to support technical managers in planning the implementation of basic services and new operational improvements in a scalable and cost-effective manner and according to specific operational and performance needs, while ensuring interoperability of systems and harmonization of procedures. The GANP establishes, under the “Global Technical layer” three (3) technical frameworks to guide States in modernizing their air navigation systems:

- the Basic Building Blocks (BBBs), which define the essential air navigation services required by all States;
- the Aviation System Block Upgrades (ASBUs) framework, which offers modular, scalable improvements based on operational needs; and
- the Performance Framework (PF), which encompasses the key performance areas (KPAs), and key performance indicators (KPIs).

1.12 The ASBU and Performance Frameworks offer modular, scalable improvements based on operational needs; and defines key performance areas (KPAs), indicators (KPIs), and planning targets.

1.13 The ANP Volume III leverages these frameworks to support the planning, implementation, and performance monitoring of air navigation systems at the regional and national levels, ensuring alignment with the GANP's global ambitions.

1.14 Volume III should contain dynamic/flexible plan elements providing implementation planning guidance for air navigation systems and their modernization taking into consideration emerging programmes such as the ASBUs and associated technology roadmaps described in the GANP. The ANP Volume III would also include appropriate additional guidance, particularly with regard to implementation, to complement the material contained in the ANP Volumes I and II.

1.15 The information contained in Volume III is, therefore, related to:

- Planning: objectives, priorities, targets and needs planned at regional or sub-regional levels;
- Monitoring and reporting: performance and implementation monitoring of the agreed targets. This information should be used as the basis for reporting purposes (i.e.: global and regional air navigation reports and performance dashboards); and/or
- Guidance: providing regional guidance material for the implementation of specific system/procedures in a harmonized manner.

1.16 The ANP Volume III provides a strategic framework for the planning and implementation of air navigation systems and services within ICAO regions. It supports the application of a performance-based approach to enable cost-effective, benefit-driven modernization of the air navigation system, in line with the Global Air Navigation Plan (GANP). As part of this approach, Planning and Implementation Regional Groups (PIRGs) define regional priorities and performance objectives that are aligned with the key performance areas (KPAs) and key performance indicators (KPIs) of the GANP. These objectives are also linked to operational improvements under the Aviation System Block Upgrades (ASBU) framework, and are intended to be implemented by States based on identified needs at the local and national levels.

1.17 Volume III plays a critical role in bridging the GANP with national air navigation plans and initiatives, thereby facilitating the alignment of global, regional, and national efforts. In doing so, it supports the coordinated and performance-driven evolution of air navigation systems. It also reinforces the structured, modular approach of the ASBU framework, which enables harmonized, scalable enhancements to the global air navigation infrastructure.

1.18 MIDANPIRG is responsible for managing and updating Volume III on a regular basis.

MID ANP, VOLUME III

PART I - GENERAL PLANNING ASPECTS (GEN)

1. PLANNING METHODOLOGY

1.1 States should ensure the availability of reliable and up-to-date statistics and forecasts on departures, arrivals, and overflights. These data are essential for supporting national air navigation planning, performance analysis, and prioritization of operational improvements. Where possible, forecasts should be aligned with ICAO forecasting methodologies and coordinated with national civil aviation strategies.

Principles of the Performance-Based Approach (PBA)

1.2 Planning for the modernization of the air navigation system must begin with a thorough understanding of user system requirements; it should consider traffic density and complexity, and the level of sophistication required for the provision of necessary services, among other elements.

1.3 In accordance with the outcomes of the thirteenth and fourteenth Air Navigation Conferences as well as the Assembly Resolutions related to the implementation of the GANP, PIRGs and States are invited to, respectively, embrace and implement a performance-based approach (PBA) for the planning and implementation of air navigation improvements. Although there are several ways to apply a PBA, a globally harmonized process for performance management is recommended. The goal of this process is to identify optimum solutions based on operational requirements and performance needs so that the expectations of the aviation community are met by enhancing the performance of the air navigation system and optimizing the allocation and use of all available resources.

1.4 A PBA focuses on defining desired outcomes and required performance levels (what to achieve), while a performance management process involves ongoing monitoring, measurement, and improvement of actual performance (managing how it's being achieved). States are encouraged to implement a PBA by establishing a performance management process tailored to their specific needs.

1.5 The PBA is a decision-making method based on three principles: a strong focus on desired or required results; reliance on facts and data; and collaborative, justified decision-making. The successful implementation of this process requires:

a) commitment from all members of the aviation community;
b) agreement on goals and consensus on the desired performance outcomes to be achieved;
c) accountability and organization among members of the aviation community in terms of roles and responsibilities;
d) human resources and knowledge/expertise;
e) data collection, processing, storage and reporting;
f) collaboration and coordination; and
g) appropriate investment.

Performance management process for planning and decision-making

1.6 States are encouraged to apply a performance management process, such as the six-step model described in the ICAO Manual on Global Performance of the Air Navigation System (Doc 9883), or the simplified Plan-Do-Check-Act (PDCA) cycle, as appropriate for their operational and institutional context; and reflect this in their National Air Navigation Plans (NANP).

1.7 The strong focus on desired/required results through adoption of performance objectives and targets requires the following:

- determining the current performance situation;
- defining the most appropriate or desired results; and
- clarifying who is accountable for achieving these results.

1.8 Informed decision making requires decision makers to develop a good understanding of the mechanisms which explain how drivers, constraints, shortcomings, options and opportunities influence the achievement of the required results.

1.9 In the PBA the required results as well as drivers, constraints, shortcomings, options and opportunities are expressed in both quantitative and qualitative terms. This requires fostering a performance measurement culture and necessitates important investments in data collection and management. States should take stock of existing capabilities and identify any gaps.

1.10 To improve performance, organizational commitment to the PBA and collaboration among different stakeholders is important. Organizational commitment implies on-going support from the leadership team to:

- establish a clear vision and strategy;
- secure appropriate resources for the project, including internal support for data and information collection, processing, storage and reporting; and securing the necessary budget; and
- establish a clear communication strategy.

1.11 Collaboration with external stakeholders and involving them early is essential. For each step of the performance management process, the relevant external stakeholders should be identified and the necessary steps to establish collaboration should be taken.

1.12 The planning step of the performance management process is of key importance to the application of a PBA. In this step, States are requested to define the scope and context of the required performance improvements to the national air navigation system as well as the nature of the expected performance improvements. Scope definition is important to avoid misunderstandings, in particular about the performance (improvement) which can be expected within the given scope. By defining the scope of the performance management activity, the limits of responsibility and accountability are also defined. Geographically, the scope could be an Aerodrome, FIR, TMA, CTA, etc., but the scope definition could include additional details such as type of traffic (international, overflight, IFR, VFR), etc.

1.13 It is important to know the air navigation system, its strengths, weaknesses, opportunities and threats as well as how it is performing in order to set objectives. The SWOT analysis plays a key role in identifying and addressing factors that can prevent the implementation of operational improvements. These factors can be either endogenic (within the control of the Organization) or exogenic (out of the control of the Organization). The SWOT analysis should be conducted at national level and if necessary, at local level, such as airport, TMA, etc., with a clearly identified scope and KPA (the eleven Key Performance Areas (KPAs) as identified in the Global Air Traffic Management Operational Concept (Doc 9854) that are part of the GANP global performance framework facilitates the definition of objectives). The potential solutions required to achieve the performance objectives should also be identified.

1.14 The principle of “reliance on facts and data for decision-making” implies that objectives should be specific, measurable, achievable, relevant and time-bound (SMART). The current/past performance (Performance Baseline), expected future performance, as well as actual progress in achieving performance objectives should be expressed by means of Key Performance Indicators (KPIs). In the GANP performance framework, a list of KPIs is linked to relevant objectives and is used to set targets through objective quantification. Performance measurement is therefore done through the collection of data for the supporting metrics. Data collection should be as detailed as possible, as the availability of granular data greatly enhances the effectiveness of the PBA.

1.15 Once a set of potential solutions has been identified, a cost-benefits analysis, environmental impact assessment, safety assessment and human factor assessment should be performed to identify the optimum solution. This is the part of the process where decision-makers should evaluate available options to mitigate identified gaps and leverage potential opportunities. The list should then be analyzed in a performance-oriented manner to assess/quantify the impact of drivers, constraints, impediments, etc., on the objectives under consideration. The solution may be an ASBU or a non-ASBU solution. Depending on the nature of the project, the output of this process is either a single preferred solution or a roadmap of selected solutions. In any case, decision-makers need to gain a good understanding of the strategic fit, the benefits, cost and feasibility of each option for operational improvement.

1.16 States should consider the operational improvements (ASBU elements) within the ASBU framework as potential solutions to improve performance relative to selected objectives and KPIs within the operational environment under analysis. In order to help States with this task, ICAO has developed the Air Navigation System Performance Analysis (AN-SPA) tool, available for free at: Log in - ICAO GANP Portal. The GANP Portal contains also a "Performance Dashboard" Tab under "Performance Framework", which is showing for the Capacity, Efficiency and Safety KPAs, what are the KPIs that could be used for the measurement of performance associated to these KPAs and for each KPA/KPI what are the ASBU Elements that could be implemented to improve performance.

1.17 Once the optimum solution(s) has/have been identified, it is time to begin the execution phase of the performance management process. The changes and improvements that have been identified as the optimum solution for the problem during the previous steps are organized into plans, implemented and begin delivering services to achieve the expected performance. During this execution phase, it is important to keep track of the project deployments (time, budget, etc.).

1.18 Once the project (solution(s)) is implemented, it is time to assess the benefits from the implementation. This means measuring the performance of the operational environment under analysis once the solution(s) have been deployed. This begins with data collection to populate the supporting metrics required to calculate the relevant performance indicators. The indicators are then compared with the targets defined during the planning phase to draw conclusions on the speed of progress in achieving the objectives. This step also includes monitoring progress of the implementation projects, particularly in those cases where the implementation of solutions takes several years, as well as checking periodically whether all assumptions are still valid and the planned performance of the solutions is still meeting the (perhaps changed) requirements.

1.19 As part of the process to assess the achievements, States should calculate/estimate the benefits accrued from the implementation of the selected solutions/projects.

2. AIR NAVIGATION PLANNING, REPORTING AND MONITORING

2.1 States should annually report progress and effectiveness against the priorities set out in their National and Regional Air Navigation Plans using a standardized reporting format provided by ICAO (ref. Section 3 "STATES RESPONSIBILITIES AND NATIONAL PLANNING**"**).

2.2 Effective performance monitoring requires a clearly defined measurement strategy. Activities such as data collection, processing, storage, and reporting in support of identified performance metrics at the regional, national, and local levels are fundamental to the success of performance-based approaches.

2.3 The performance framework for air navigation planning and implementation requires that reporting, monitoring, analysis, and review activities be conducted on an annual, cyclical basis.

2.4 To ensure effective implementation of the performance-based approach, States are encouraged to follow a structured, step-by-step methodology when establishing a robust performance management process. This is particularly important when applying quantitative Key Performance Indicators (KPIs) to measure and track performance over time. States should begin by identifying available data sources to establish a baseline for each selected KPI (i.e., the current measured value), followed by regular updates to monitor progress. KPI targets could be defined in a phased manner—such as Target 1 by Timeline 1, Target 2 by Timeline 2—to reflect incremental improvements and account for evolving operational and institutional capabilities. In situations where the necessary data, tools, or systems are not yet in place to support quantitative performance measurement, States should undertake a qualitative assessment of KPIs. These qualitative measurements can still support performance planning and reporting, and provide a foundation for future quantitative assessments as national capabilities mature. Both qualitative and quantitative results should be documented and reported using the recommended templates, ensuring transparency and consistency across reporting cycles.

2.5 The results of reporting and monitoring will be analyzed by the MIDANPIRG, States, and the ICAO Secretariat to guide air navigation improvements, implement corrective actions, and, where necessary, review agreed objectives, priorities, and targets. ICAO will also use these results to prepare the annual Global Air Navigation Report.

2.6 The report will enable the international civil aviation community to compare progress across ICAO regions in establishing air navigation infrastructure and implementing performance-based procedures.

2.7 The report will also provide the ICAO Council with detailed annual insights on global service quality and highlight performance areas requiring further attention. These findings will support future adjustments to the GANP.

MID ANP, VOLUME III

PART II – ANS PERFORMANCE FRAMEWORK

1. PERFORMANCE AMBITIONS AND GLOBAL PRIORITIES

1.1 The ICAO vision focuses on safe and sustainable air transport, which stands for environmental protection as well as all the other essential factors, such as affordability and security, that ensure the viability of air transport in the long term. Three Aspirations, drawn from the ICAO LTAG, GASP and GANP, crystallize this vision:

- The long term global aspirational goal of Net-zero carbon emissions by 2050 for international civil aviation operations;
- Achieve Zero fatalities in international aviation from accidents and acts of unlawful interference; and
- Serve as an integral part of a thriving, connected, accessible, inclusive and affordable transport system for people and goods, contributing to socio-economic development, while ensuring no Country is Left Behind.

1.2 The ICAO vision and mission are supported by six (6) strategic goals:

- Environmental Protection: Foster environmental sustainable practices in civil aviation activities and facilitate the cleaner energy transition.
- Aviation safety, capacity and efficiency: Enhance global civil aviation safety while increasing capacity for growing numbers and types of operations and improving efficiency of the global civil aviation system.
- Aviation security: Enhance global civil aviation security, including border and cyber security.
- Air Transport Facilitation and Economic Development: Foster the development of a globally sustainable, sound and economically viable civil aviation system, including for the transport of passengers and goods.
- Rule of law for international civil aviation: Strengthen the common legal and regulatory framework governing international civil aviation.
- No Country Left Behind: Foster the development of international civil aviation in all States through the concerted efforts of the global aviation sector stakeholders and partners to facilitate the enhanced, comprehensive and efficient implementation of the provisions governing air transport.

1.3 In support of the global ICAO aspirations and strategic goals, States and global air navigation community should endeavor to:

1) further increase safety levels as traffic becomes more complex to manage;
2) further improve ATM operations efficiency to avoid any negative impact on environment;
3) scale air navigation capacity to safely and efficiently accommodate growing air traffic;
4) enhance the efficiency of air navigation services by optimizing flight trajectories, reducing delays and minimizing fuel burn;
5) enhance the capacity and efficiency of airport infrastructure and operations to safely accommodate future growth in air traffic;
6) ensure that data flows effectively and securely across trusted users; and
7) address evolving security and defense needs, providing flexibility within a civil-military ATM environment.

To achieve optimal performance, improvements should also be made in the following areas:

8) predictability: ensure that flights follow expected patterns and schedules;
9) punctuality: relates to on-time departures and arrivals; and
10) cost-efficiency: refers to optimum resource allocation, productivity, and effective use of technologies and rationalization (e.g. infrastructure).

2. REGIONAL PRIORITIES AND PERFORMANCE OBJECTIVES

Regional Priorities:

2.1 Based on regional performance and operational needs, differences, constraints and opportunities, MIDANPIRG is responsible for defining Regional Priorities, aligned with the GANP and supporting the global performance ambitions and priorities.

2.2 The MID Region priorities are (to be determined/updated by each PIRG, the following is just a **sample**):

1) Performance-Based Navigation (PBN) implementation
2) Continuous Descent Operations (CDO) and Continuous Climb Operations (CCO)
3) Improve safety of aerodrome operations
4) Enhance efficiency and punctuality of aerodrome operations
5) Scale Aerodrome/RWY capacity to safely and efficiently accommodate growing air traffic
6) Prevent loss of separation and mid-air collisions
7) Enhance Airspace Management
8) Enhance civil-military cooperation and flexible use of airspace
9) Integrated traffic flow and demand management
10) Enhance the interoperability and efficiency of ATM systems by enabling the seamless, automated, and secure exchange of flight data between ATS units (FICE)
11) Advance Collaborative Decision-Making (CDM)
12) Modernize CNS infrastructure and ensure resilience
13) Enable seamless and interoperable global operations
14) Enable digital meteorological information exchange
15) Foster the transition from AIS to AIM
16) Support System-Wide Information Management (SWIM) implementation
17) Support Advance Air Mobility (AAM) Integration

Regional Performance Objectives:

2.3 To support the achievement of the Regional Priorities, MIDANPIRG is responsible for defining Regional Performance Objectives, linked to the GANP KPA and Focus area, to the operating environment: (Airports, TMAs and En-route); to the ASBU elements (possible solutions) and GANP KPIs.

2.4 The MID Region Performance Objectives are listed in the **Table ANS PF1**. The Table format is available as a downloadable Excel template on the MIDANPIRG webpage.

Note: The following is just a Sample. The **Table ANS PF1** could be maintained as a Regional Database, in that case a hyperlink should be included here. Furthermore, the Regional Priorities (RPs) and Regional Performance Objectives (RPOs) are not necessarily applicable for all States of the Region (but for the majority), and they are not exhaustive, i.e. some States may identify additional priorities and performance objectives; yet, they need to be considered by States in their identification process of local/national priorities and performance objectives.

Table MID Region ANS PF1: Regional Performance Objectives

Column

(1) Operating Environment
(2) KPA/ Focus Area (as defined in the GANP)
(3) Nr. of the Regional Performance Objective (preferably linked to one of the Regional Priorities)
(4) Text of the Regional Performance Objective
(5) Possible Solutions (ASBU elements)
(6) Performance Benefits
(7) KPI(s) based on the ICAO list of KPIs
(8) Qualitative assessment of the impact on the KPI(s)
(9) Remarks (additional comment, including Timeline for implementation, as appropriate)

Table ANS PF1: Regional Performance Objectives

Operating environment	KPA/ Focus Area	Regional Performance Objective Nr.	Regional Performance Objective RPO text	Possible Solutions/ (ASBU)	Performance Benefits	KPI	KPI Impact	Remarks
1	2	3	4	5	6	7	8	9
TMA	Efficiency/ Vertical flight efficiency		Reduce fuel burn by not requiring power during descent	APTA B0/4 (CDO Basic) APTA B1/4 (CDO advanced)	1-Reduction of fuel burn; 2-Reduction in noise footprint; 3-Reduce descent inefficiency attributable to altitude constraints imposed by ATM	KPI 19: Level-off during descent	KPI 19 ++	
TMA	Efficiency/ Vertical flight efficiency		Reduce fuel burn by not requiring level-offs during climb	APTA B0/5 (CCO Basic) APTA B1/5 (CCO advanced)	1-Reduction of fuel burn; 2-Reduce permanent (airspace and departure procedure design) and semi-permanent (ATFCM measures) altitude constraints (level capping) along the climb portion of traffic flows, in terminal and en-route	KPI 17: Level-off during cl	KPI 17 ++	
En-route	Safety/ Safety Net (mid-air collision)		Improve mid-air collision avoidance (safety net)	ACAS B1/1	Improve situational aw ness flight crew	20: Number of air t accident KPI 2 mber of airprox/TCAS alerts/loss of seperation/ near midair collisions/midair collisions (MAC)	KPI 20 ++; KPI 23 ++	Mandatory
Airport and TMA	Efficiency/ Efficiency of airport operations		Enhance operational efficiency of airports through information sharing and cooperation betwee stakeholders	ACDM B0/1 ACDM B0/2	Collab ive decision-making by format sharing can highly te coordination of common operational solutions in order to improve access and equity to ATM resources. The integration of aerodromes with the ATM network is naturally contributing to more accurate and efficient tactical and			
En-route	Efficiency/ Flight time & distance		Overcome route selection inefficiencies associated with route	FRTO B0/1 FRTO B0/2	Reduce fuel burn by reducing flight time & distance through direct routing	KPI04: Filed flight plan en-route extension	KPI 04 ++	

2.5 MIDANPIRG may agree also on timelines for the implementation of specific Performance Objectives. This could be reflected in the Remarks Column of the **MID Region Table ANS PF1.**

3. STATES RESPONSIBILITIES AND NATIONAL PLANNING

National Planning

3.1 While ICAO provides the strategic framework for air navigation planning at the global and regional levels, the responsibility for planning and implementation at the national level lies with individual States. Each State should develop a National Air Navigation Plan (NANP) tailored to its specific needs, in coordination with regional and global stakeholders. This ensures the integration and harmonization of solutions across all levels of the air navigation system.

3.2 States should establish and maintain NANPs that align with the Global Air Navigation Plan (GANP) and the applicable Regional Air Navigation Plans. These plans form the foundation for implementing global and regional objectives in a manner that reflects local priorities, operational requirements, and performance ambitions.

3.3 As a fundamental obligation under the Convention on International Civil Aviation (Doc 7300), States shall ensure the provision of essential air navigation services, as outlined in the Basic Building Blocks (BBBs) framework. However, these obligations are not limited to the BBBs. They also encompass all Standards and Recommended Practices (SARPs) established under the Convention, as well as the requirements set forth in Air Navigation Plan (ANP) Volumes I and II. Together, these frameworks constitute the foundation of a robust air navigation system, enabling the safe and orderly conduct of international civil aviation and providing the baseline for future advancements.

3.4 Beyond meeting these essential requirements, States should pursue the progressive modernization of their air navigation systems, guided by local operational needs and aligned with regional priorities. This modernization should be detailed in the National Air Navigation Plan (NANP) and coordinated with other national aviation plans—such as those related to safety, environment, security, and facilitation—within a broader, integrated National Civil Aviation Master Plan (CAMP). Such a master plan provides a strategic vision for the future development of the entire civil aviation sector—addressing policy, legislation, infrastructure, technology, human resources, and institutional development. The National CAMP should also recognize the importance of air transport as a driver of national economic development. It should be also linked to the State's overarching national development plan, enabling access to public and private investment and fostering public-private partnerships to support implementation.

3.5 A well-defined relationship between the NANP, the GANP, the RANP, the national CAMP, and broader national development strategies enables effective prioritization and optimal resource allocation across sectors. This integrated approach strengthens coherence, avoids duplication, and ensures that aviation development is aligned with national economic and infrastructure goals.

3.6 The NANP serves as a strategic roadmap for the evolution of a State's air navigation system. It outlines specific performance objectives, timelines, and investment priorities. It enables national stakeholders—including regulators, air navigation service providers (ANSPs), and airport operators—to prioritize initiatives with the highest operational, economic, and environmental returns. Moreover, the NANP supports strategic decision-making by identifying key areas for improvement, setting measurable targets, and ensuring resources are allocated where they will have the greatest impact. It plays a critical role in justifying investments, attracting funding, and engaging with international partners, while promoting coordination among national institutions to support high-impact, non-duplicative projects. In this sense, the NANP is not only a technical planning document but a strategic enabler—a tool to influence decision-making, align stakeholders, and enhance a State's international credibility. For long-term success and global interoperability, the NANP must remain aligned with ICAO's GANP and relevant RANP, ensuring that the national air navigation system remains scalable, resilient, and fully integrated into the global aviation ecosystem.

3.7 For the national air navigation planning, States should implement a PBA and performance management process as described in Part I of this Volume (General Planning Aspects), to identify their national priorities and performance objectives, based on local performance and operational needs and taking into consideration global and regional requirements.

Requirements for Performance Monitoring and Reporting

3.8 States are required to monitor the performance of their air navigation systems on a continuous basis and to submit an annual report on the progress achieved to the ICAO MID Regional Office and the MIDANPIRG. This requirement supports the implementation of a performance-based approach (PBA) and ensures that national efforts are aligned with regional and global air navigation priorities, objectives, and targets.

3.9 The report should include the results of the application of performance management process and identification of relevant and timely operational improvements including the identified Aviation System Block Upgrade (ASBU) elements that have been implemented/planned for implementation.

Reporting on ASBU implementation status

3.10 States should report, at least on annual basis, the status of implementation of the different ASBU elements (block 0, 1 and 2); this will be reflected on the Regional/Global ICAO ASBU Implementation Dashboard [insert link (TBD)] and in the Annual MID Region Air Navigation Report, as appropriate. The reports by States are reviewed and validated by the MID Regional Office and displayed on the Dashboard. For each ASBU element the status of implementation will be shown as follows:

- **N/A**: Not Applicable;
- **N/P**: Not identified as a Priority;
- **F/I**: Fully Implemented;
- **N/I**: Not Implemented;
- **P/O**: Planned/Ongoing: (Identified as a priority and implementation is planned or ongoing);
- **Start date**: date implementation started or will start (as appropriate) in MM/YY format;
- **End date**: date implementation will be completed in MM/YY format; and
- **M/D**: Missing Data (no report received from State).

3.11 The Dashboard includes two (2) levels of granularity:

- the ASBU elements related to State/ANSP; and
- the ASBU elements related to Airport/TMA.

3.12 The Dashboard provides different kind of filtering, by State, Aerodrome, Group of States/Sub-Region, Region, ASBU Element, Thread, Block, etc.

3.13 MIDANPIRG subsidiary bodies may need to go into more detailed technical level related to the implementation of some ASBU elements (enablers, interdependencies, etc.) and collect associated data in specific format/Tables (to be added, if necessary, as **Appendices** to the ANP, Volume III) to ensure harmonized implementation.

Reporting on the implementation of performance objectives

3.14 States should report, on annual basis, on the implementation of their performance objectives to ensure transparency, accountability, and alignment with regional and global air navigation goals. Reporting on performance objectives enables the identification of progress made, challenges encountered, and areas requiring further support or adjustment. It also facilitates evidence-based decision-making by ICAO Regional Offices and PIRGs, allowing them to assess the effectiveness of implementation efforts, monitor regional performance trends, and refine priorities as necessary. Furthermore, consistent reporting contributes to the global performance monitoring framework and supports the development of ICAO's Global Air Navigation Report, providing the international community with a comprehensive view of progress toward the global vision for a harmonized and performance-based air navigation system.

3.15 States should report on the implementation of Performance Objectives using the Template at **Table MID Region ANS PF2**:

Table MID Region ANS PF2: Reporting on Performance Objectives and Operational Improvements implemented by States

Column

(1) Operating Environment/Operations: Aerodrome, TMA, En-route (provide more specific details e.g. Aerodrome name or ACC Sector, etc.; and the concerned type(s) of operation)
(2) KPA (from the ICAO defined 11 Key Performance Areas (KPAs)) and Focus Area from the GANP Portal
(3) Performance Objectives (Ambitions/Expectations)
(4) KPIs based on the ICAO list of KPIs and associated variant
(5) The KPI Baseline (measurement of the current performance, if available)
(6) The KPI Target (measurement of the target performance, if available (at least qualitative measurement))
(7) Selected ASBU element(s) /Enabler(s) and/or Non ASBU solution(s) for each operational improvement
(8) Target Implementation date
(9) Remarks/Progress (this column could contain additional information about the data source(s), progress achieved, etc.)

Note: The following is just a Sample

Operating Environment/ Operations	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/ Progress
1	2	3	4	5	6	7	8	9
Aerodrome XXXX (Departure)	Predictability (Punctuality)	Maximize departure punctuality	**KPI 01** (Departure punctuality) **Variant X**	TBD for the concerned Aerodrome	TBD for the concerned Aerodrome	TBD by each State/Airport Operator	TBD for the concerned Aerodrome	
Aerodrome XXXX (Taxi-out)	Efficiency (Flight time/ distance)	Minimize Taxi-out time	**KPI 02** (Taxi-out additional time) **Variant X**	TBD for the concerned Aerodrome	TBD for the concerned Aerodrome	TBD by each State/Airport Operator	TBD for the concerned Aerodrome	
Aerodrome XXXX (Arrival, Departure)	Capacity (Capacity, throughput & utilization)	Increase airport peak arrival capacity	**KPI 09** (Airport peak capacity) **Variant X**	TBD for the concerned Aerodrome	TBD for the concerned Aerodrome	TBD by each State/Airport Operator	TBD for the concerned Aerodrome	
Aerodrome XXXX (Taxi-in)	Efficiency (Flight time/ distance)	Minimize Taxi-in time	**KPI 13** (Taxi-in additional time) **Variant X**	TBD for the concerned Aerodrome	TBD for the concerned Aerodrome	TBD by each State/Airport Operator	TBD for the concerned Aerodrome	
Aerodrome XXXX (Arrival)	Predictability (Punctuality)	Maximize Arrival punctuality	**KPI 14** (Arrival punctuality) **Variant X**	TBD for the concerned Aerodrome	TBD for the concerned Aerodrome	TBD by each State/Airport Operator	TBD for the concerned Aerodrome	
Aerodrome XXXX	Safety	Minimize Number of RWY Incursions Incidents & Accidents	**KPI 21** (Nr. of RWY Incursions)	TBD for the concerned Aerodrome	TBD for the concerned Aerodrome	TBD by each State/Airport Operator	TBD for the concerned Aerodrome	
Aerodrome XXXX	Safety	Minimize Number of RWY Excursions Incidents & Accidents	**KPI 22** (Nr. of RWY Excursions)	TBD for the concerned Aerodrome	TBD for the concerned Aerodrome	TBD by each State/Airport Operator	TBD for the concerned Aerodrome	
TMA/Aerodrome (XXXX) (Arrival)	Efficiency (Vertical efficiency)	Reduce fuel burn by not requiring application or power during descent	**KPI 19** (Level-off during descent) **Variant X**	TBD for the concerned TMA/Aerodrome	TBD for the concerned TMA/Aerodrome	TBD for the concerned TMA/Aerodrome	TBD for the concerned TMA/Aerodrome	
TMA/Aerodrome (XXXX) (Departure)	Efficiency (Vertical efficiency)	Reduce fuel burn by not requiring level-offs during climb	**KPI 17** (Level-off during climb) **Variant X**	TBD for the concerned TMA/Aerodrome	TBD for the concerned TMA/Aerodrome	TBD for the concerned TMA/Aerodrome	TBD for the concerned TMA/Aerodrome	

Operating Environment/ Operations	KPA & Focus Area	Performance Objective	KPI/ Variant	KPI Baseline	KPI Target	Operational Improvements (ASBU Elements/Enablers & Non ASBU)	Target Date	Remarks/ Progress
1	2	3	4	5	6	7	8	9
En-route (ACC Sectors)	Capacity (Capacity, throughput & utilization)	Enhance capacity of ACC Sectors	**KPI 06** (En-route Airspace capacity) **Variant X**	TBD for each ACC Sector	TBD for each ACC Sector	TBD for each ACC	TBD for each ACC	
State (AD, TMA, En-route) (Taxi-in, Taxi-out, Departure, Arrival, En-route)	Safety	Minimize Number of Aircraft Accidents	**KPI 20** (Number of Aircraft Accidents) **Variant X**	TBD for each State	TBD for each State	TBD for each State	TBD for each State	
State/FIR (En-route)	Safety	Minimize Number of Airprox/TCAS Alert/Loss of separation/Near mid Air Collisions/ Mid Air Collisions	**KPI 23** (Number of Airprox/TCAS Alert/Loss of separation/Near mid Air Collisions/Mid Air Collisions) **Variants X, Y, Z**	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR	
State/FIR (En-route)	Efficiency (Flight time/ distance)	Overcome route selection inefficiencies associated with route network design	**KPI 04** (Filed flight plan en-route extension) **Variant X**	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR	
State/FIR (En-route)	Efficiency (Flight time/ distance)	Ensure that the right airspace is available at the right time for the mission	**KPI 04** (Filed flight plan en-route extension) **Variant X** **KPI 05** (Actual en-route extension) **Variant X**	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR	TBD for each State/FIR	

Measurement of and Reporting on Air Navigation System Performance Using ICAO KPIs

3.16 The performance-based approach to air navigation planning relies on the systematic measurement and monitoring of operational improvements using Key Performance Indicators (KPIs), in particualr those defined by ICAO. These KPIs support the evaluation of progress towards the Global Air Navigation Plan (GANP) objectives and assist stakeholders in identifying areas requiring attention or enhancement.

3.17 ICAO has developed a comprehensive framework of performance indicators categorized under the eleven ICAO Key Performance Areas (KPAs), such as safety, capacity, efficiency, and environmental sustainability. While this provides a global structure for performance measurement, States are encouraged to prioritize and limit the number of KPIs selected to those that are most relevant to their local and national operational contexts, considering the regional context. Resources must be prioritised and it is not necessary to track all KPIs to be effective.

3.18 The purpose of this focused approach is to:

- ensure efficient use of resources and reduce the reporting burden;
- enhance decision-making by focusing on indicators that support actionable insights;
- align performance monitoring with the strategic goals of the State or region; and
- enable more timely and effective management responses to performance gaps.

3.19 It is rare that improvements in operations' efficiency affect one KPI independently from the others. For example, an improvement in capacity may allow for more flexibility in the system while making the system more predictable and operate at a reduced cost. Furthermore, some of the affected indicators such as flexibility and predictability are difficult to quantify and monetise. There area also cases when efforts to maximise utilisation of existing capacity, may come at the expense of flight efficiency and predictability. Given limited resources, States should focus on the causal indicators that are feasible to quantify as priority indicators for implementation in a performance-based system.

3.20 In assessing the value of investing in the data, tools and personnel to track a particular KPI, States/stakeholders should consider the following criteria:

- What is the specific purpose and audience of the KPI?
- Does the KPI lead to informed decision making?
- Does the KPI add value distinct from other KPIs? Can it be shown that management and stakeholders will find inefficiencies from this KPI that would not have been found from existing KPIs?
- Can the KPI be monetised? Monetisation can be used in the cost/benefit process for program acquisition and to communicate priorities to stakeholders.

3.21 To support this, States should:

- select KPIs that best reflect their air navigation system's priorities and challenges;
- ensure that chosen indicators have available, reliable data sources; and
- use the results to inform continuous improvement, investment planning, and operational enhancements.

3.22 This targeted and context-driven use of KPIs helps maintain a sustainable performance management system while contributing to the global objectives of interoperability, safety, efficiency, and environmental responsibility in air navigation.

3.23 To support meaningful analysis and facilitate performance-based decision-making, KPIs should be grouped both by Key Performance Area (KPA)—such as safety, capacity, efficiency, etc.,—and by the

relevant operating environment or level of granularity. This may include performance measurement at the State or FIR level, as well as within specific operational domains such as terminal manoeuvring area (TMA) or aerodrome. The KPI value, when available, should be provided for the previous year and current year as well as the defined KPI Target to allow comparison and identify progress. Such structured categorization allows stakeholders to better identify trends, assess localized performance issues, and target improvements where they are most needed. It also ensures alignment with ICAO's global framework and supports comparability across regions and operational contexts.

3.24 States should report on the implementation of Performance Objectives using the Template at **Table MID Region ANS PF3-1 and ANS PF3-2** (KPIs measured at the State/ANSP level and KPIs measured at the TMA/Aerodrome level):

Table MID Region ANS PF3-1:

TMA/Aerodrome: [name]					
KPA	**KPI/ Variant**	**KPI Value – (Last year)**	**KPI Value – (Current year)**	**KPI Target**	**Remarks**
Safety	**KPI 21** (RWY Incursions)	Number of runway incursions	Number of runway incursions	Number of runway incursions	
Safety	**KPI 22** (RWY Excursions)	Number of runway excursions	Number of runway excursions	Number of runway excursions	
Efficiency/ Environment	**KPI 02** (Taxi-out additional time) **Variant X**	Excess taxi-out time in Minutes/flight	Excess taxi-out time in Minutes/flight	Excess taxi-out time in Minutes/flight	
Efficiency/ Environment	**KPI 13** (Taxi-in additional time) **Variant X**	Excess taxi-in time in Minutes/flight	Excess taxi-in time in Minutes/flight	Excess taxi-in time in Minutes/flight	
Efficiency/ Environment	**KPI 17** (Level-off during climb) **Variant X**	NM/flight and minutes/flight	NM/flight and minutes/flight	NM/flight and minutes/flight	
Efficiency/ Environment	**KPI 19** (Level-off during descent) **Variant X**	NM/flight and minutes/flight	NM/flight and minutes/flight	NM/flight and minutes/flight	
Predictability	**KPI 01** (Departure punctuality) **Variant X**	% of flights	% of flights	% of flights	
Predictability	**KPI 14** (Arrival punctuality) **Variant X**	% of flights	% of flights	% of flights	
Capacity	**KPI 09** (Airport peak capacity)	Number of arrivals / departures per hour	Number of arrivals / departures per hour	Number of arrivals / departures per hour	
TMA/Aerodrome: [name]					
KPA	**KPI/ Variant**	**KPI Value – (Last year)**	**KPI Value – (Current year)**	**KPI Target**	**Remarks**

Table MID Region ANS PF3-2*:*

	State/FIR: [name]				
KPA	**KPI/ Variant**	**KPI Value – (Last year)**	**KPI Value – (Current year)**	**KPI Target**	**Remarks**
Safety	**KPI 20** (Number of Aircraft Accidents) **Variant X**	Number of accidents - Last year	Number of accidents - Current year	Number of accidents - Current year	
Safety	**KPI 23** (Number of Airprox/TCAS Alert/Loss of separation/Near mid Air Collisions/Mid Air Collisions) **Variant X**	Number of airprox/TCAS alert/loss of separation/near midair collisions/midair collisions (MAC)	Number of airprox/TCAS alert/loss of separation/near midair collisions/midair collisions (MAC)	Number of airprox/TCAS alert/loss of separation/near midair collisions/midair collisions (MAC)	
Capacity	**KPI 06** (En-route airspace capacity)	Nr. of Movements/ per hour	Nr. of Movements/ per hour	Nr. of Movements/ per hour	
Efficiency/ Environment	**KPI 04** (Filed flight plan en-route extension) **Variant X**	% excess distance	% excess distance	% excess distance	

3.25 In addition to tracking performance through KPIs, States should also report on the tangible benefits accrued from the implementation of operational improvements. This includes outcomes such as reduced flight distances and total CO_2 emissions avoided. Such data provides clear evidence of the value of modernized air navigation systems, especially in supporting global and national environmental and climate goals. Highlighting these achievements, in the Annual MID Region Air Navigation Report (as appropriate), strengthens the case for continued investment in ATM modernization and demonstrates aviation's contribution to environmental sustainability.

APPENDICES