



FOURTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 26 August to 6 September 2024

Agenda Item 3: Air Navigation System Performance Improvement
3.3: Eighth Edition of the Global Air Navigation Plan (GANP)

UPDATING OF THE GLOBAL AIR NAVIGATION PLAN (GANP)
DEVELOPMENT OF NATIONAL AIR NAVIGATION PLANS (NANP)

(Presented by Saudi Arabia)

EXECUTIVE SUMMARY

As defined under the *Global Air Navigation Plan* (GANP, Doc 9750), the fourth level, under responsibility of the States, focuses on national planning. The development of the national air navigation plan (NANP), in coordination with relevant stakeholders, is a strategic part of the State aviation development plans, and its alignment with regional and global plans is crucial to achieving the global strategic direction for the evolution of the air navigation system being developed in the GANP. The NANP should serve as a reference and master document for the planning and development of air navigation services, deployment of operational improvements, upgrading of infrastructure and facilities, and setting of roadmaps for the evolution of the air navigation system.

This paper presents a proposal for the high-level contents of the NANPs that may be considered in developing a template and associated guidance material, which should be available by the 42nd Session of the ICAO Assembly (A42) (AN-Conf/14-WP/12, 4.3 refers).

1. INTRODUCTION

1.1 As defined under the GANP, the fourth layer is under the responsibility of each State and should focus on national planning and implementation. The development of the NANP should be conducted in coordination with stakeholders with a formal process to gather inputs from all affected users, service providers, and operators. It is considered a strategic part of a State aviation development plans, its alignment with regional air navigation plans (RANPs) and ICAO global plans for air navigation (GANP), safety (*Global Aviation Safety Plan* (GASP, Doc 10004)), and security (*Global Aviation Security Plan* (GASeP, Doc 10118)) is crucial to achieve the main objectives of regional and global harmonization.

1.2 The NANP serves as a reference and master document for the planning and development of air navigation services, deployment of operational improvements, upgrading of infrastructure and facilities, and setting of roadmaps for the evolution of air navigation systems and services.

1.3 To support Member States in the development of NANPs, ICAO recommends the use of the performance-based approach (PBA) and the six steps of the performance management process described in the *Manual on Global Performance of the Air Navigation System* (Doc 9883). At the regional level,

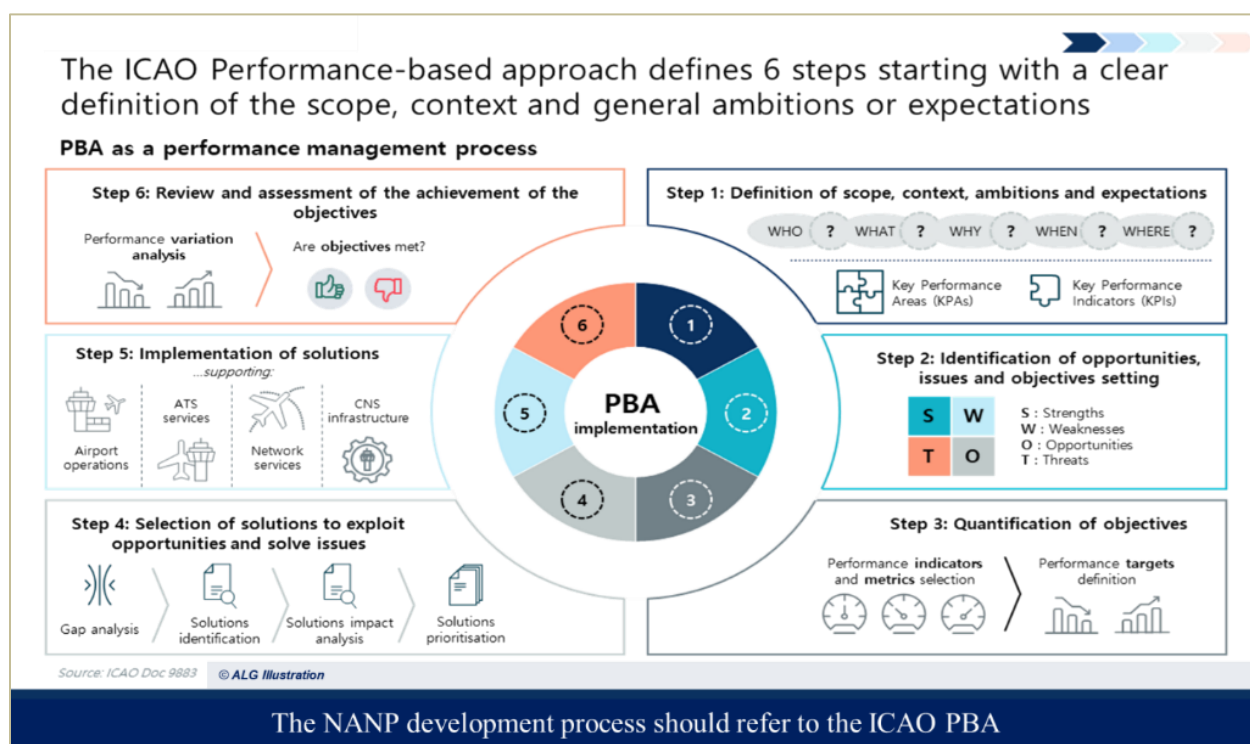
certain planning and implementation regional groups (PIRGs)¹ have adopted conclusions and decisions to support their accredited States in the development, assessment, and maintenance of their NANPs.

1.4 As described by the ICAO Secretariat, the eighth edition of the GANP will focus on aligning the strategy with the global priority areas set by the ICAO Assembly at its 41st Session (A41), which include the recovery and sustainability of air transport, the reduction of CO₂ emissions and the resilience of the aviation system, while maintaining safety. These priorities will be reflected on the global technical level. With respect to the national level of the GANP, ICAO is working on the development of a template and associated guidance material for the NANPs, which should be available by A42 (AN-Conf/14-WP/12, 4.3 refers).

2. METHODOLOGY FOR DEFINING THE NANP CONTENTS

2.1 ICAO introduced PBA as part of the GANP to prioritize future developments by States as part of the Aviation System Block Upgrades (ASBUs). ICAO has also published Doc 9883 to support States in adopting PBA, detailing the benefits of this approach and providing information on performance measurement and monitoring to meet the objectives and targets.

2.2 The ICAO PBA defines a closed-loop process with six steps, starting with the definition of scope, context, ambitions, and expectations and ending with the assessment of achievements considering targeted objectives. The following figure illustrates the ICAO PBA.



2.3 While ICAO PBA is focusing on performance management for air traffic management (ATM) operational improvements, there is no detailed methodology to guide implementation, identify ways

¹ As an example, MIDANPIRG/20 meeting adopted conclusion i.e., MIDANPIRG CONCLUSION 20/9 on the development of NANP where the PBA is adopted as main framework for the development of ANS modernization plans. The MIDANPIRG has also adopted a decision establishing RANP/NANP Task force (TF) to ensure regional harmonization and to provide guidance to MID States in the development, assessment, and maintenance of their NANPs.

and means for stakeholders' engagement, and effectively introduce the performance framework related to the basic building block (BBB) framework and ASBU threads and elements.

2.4 The lessons learned and experience gained by ICAO States in deploying operational improvements are valuable sources of information for identifying the best-fit solutions for planning and implementation methodology. Therefore, the conference should invite all participants to share their experience in implementing ASBU threads and elements, which will allow ICAO to identify and define concrete and easy step-by-step methodology that can support States in the development, assessment, and maintenance of their NANPs.

2.5 To this end, a proposal for process-based methodology concerning the ICAO PBA steps is given in Appendix A to this paper. This proposal includes a clustering of tasks and activities to ease the understating and simplify the application and may be considered by ICAO as an initial input for developing an "adapted ICAO PBA" under the development of guidance material for the development of NANPs.

2.6 Regarding performance measurements and monitoring, ICAO can lead a collaborative approach to identify the best practical methods for calculating and tracking the key performance indicators (KPIs) listed in the GANP and provide guidance on stakeholders' engagement with typical samples related to the calculation and post-operations analysis of performance.

2.7 The ASBUs focus on four performance improvement areas: airport operations, global interoperable systems and data, optimum capacity and flexible flights, and efficient flight paths. Workstreams are organized into "threads" and "elements" under three headings that together will, over time, deliver the targeted performance improvements. The ASBU threads are organized under the following three functional categories information, operational, and technology. Therefore, the NANP structure should consider the ASBU functional categories and operational improvements using ICAO PBA as discussed above.

2.8 The development of a common and standardized template for the structure of the NANP is one of the essential guidance materials to be developed by ICAO. It will unify the planning and development of NANP between States at regional and global levels.

2.9 As the NANP is a master document for the modernization of air navigation services (ANS) aiming to meet national needs and align with GANP and regional ANP, it needs to be divided into six parts, as shown in Appendix B to this paper.

3. CONCLUSION

3.1 The development of NANP requires leadership (robust governance), close engagement of stakeholders, and resources. It should be aligned with the GANP and RANP. To effectively support States, ICAO should follow a process-oriented methodology and define practical guidance and typical use cases based on the experience gained by States in the deployment of operational improvements.

3.2 The adoption of an "adapted ICAO PBA" and a common template for NANP are considered the main pillars for alignment and harmonization of ANS modernization at regional and global levels.

3.3 The ICAO activities related to the development of NANPs should focus on collecting information on the status of implementing ASBU threads and elements at regional and State levels. This will support information gathering on implemented operational improvements, lessons learned, and an

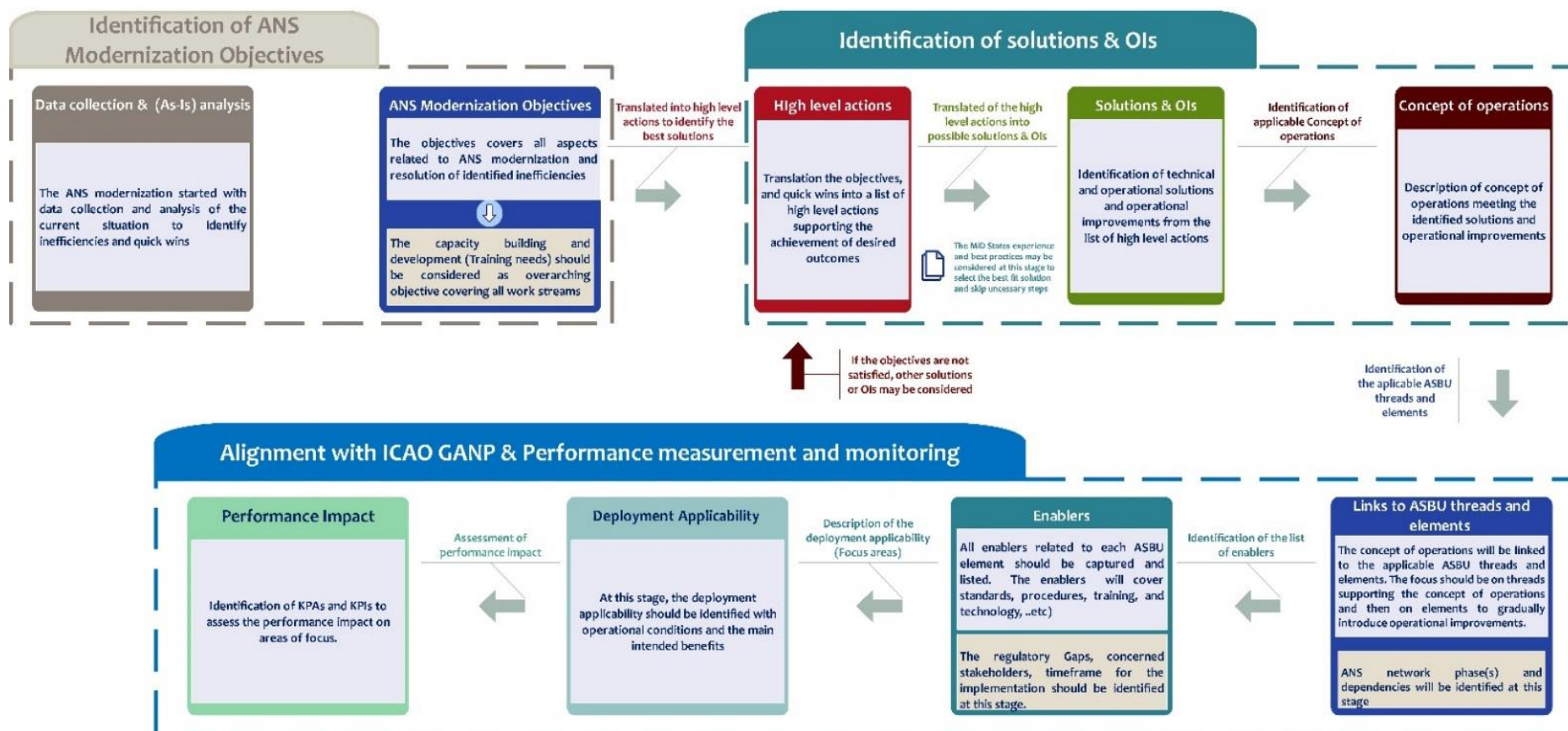
initial identification of typical use cases. It will also guide States in developing NANPs and progressing the implementation of ASBUs at regional and national levels.

3.4 ICAO may consider the process-based methodology and the NANP contents provided in Appendix B to this paper in the development of the template and associated guidance material for NANPs; and the conference may invite Member States that have developed a NANP to share the contents and the lessons learned in the deployment of operational improvements with ICAO and other States.

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APPENDIX A

PROPOSAL FOR METHODOLOGY TO DEFINE OPERATIONAL IMPROVEMENTS UNDER NANP



APPENDIX B

PROPOSAL FOR NATIONAL AIR NAVIGATION PLAN (NANP) CONTENTS

Topic	Summary on the contents
Contents	<i>The table of contents of NANP</i>
Executive summary	<i>Overview of NANP contents with the statement(s) from the director general or president of civil aviation authority having authority to approve the NANP.</i>
Part 1: Description of air navigation system (ANS) in the State a) ANS regulatory framework and safety oversight b) Civil aviation governance and organization c) Overview of ANS network, infrastructure, and services d) Summary of the size and complexity of the civil aviation sector e) Key challenges and areas of improvements f) Ongoing and planned operational improvements	<i>This part provides an overview on ANS organization, regulatory framework, safety oversight and a description of the ANS network, infrastructure, and services of the Middle East (MID) State. The details may be attached as an Appendix to NANP. It also provides key information on the size and complexity of the civil aviation sector, key challenges, and ANS short- and medium-operational improvements</i>
Part 2: ANS modernization strategy, objectives and governance a) ANS modernization strategy b) Digital transformation, innovation, and new entrants c) Performance-based approach for ANS modernization d) NANP objectives, and benefits e) NANP governance, assessment, and maintenance processes	<i>This part defines the ANS modernization strategy to adopt digital transformation and innovation and accommodate new entrants in MID State using a performance-based approach. It also describes the NANP objectives, benefits, governance, assessment, and maintenance. The processes, checklists, and forms to be used for the assessment and maintenance of NANP may be attached as appendices.</i>
Part 3: Alignment with ICAO GANP and MID frameworks a) Overview on ICAO GANP, GASP and GAsEP b) MID ANP and air navigation strategy c) Alignment with GANP and MID frameworks	<i>This part provides an overview of the GANP, GASP, and GAsEP elements applicable to the NANP. It also captures the MID ANP and strategy applicable to the MID State.</i>
Part 4: Main ANS workstreams and areas of focus a) Airport operations and terminal airspace b) Network management and integration c) Airspace management and data services d) Advanced communications, navigation, and surveillance (CNS)/ATM and flight operations e) High- and low-level airspace operations	<i>This part identifies the main ANS modernization work streams which must cover all applicable threads and elements that were identified under Part 3.</i>
Part 5: Deployment plans and roadmaps; for each ASBU element identified under ANS workstreams: a) Identification of the main stakeholders (owner and supporting stakeholders) b) Summary of each ASBU element and concept of operations c) Cost-benefit analysis	<i>This part describes the deployment plans and roadmaps. For Each ASBU element encompasses under the ANS work streams identified under Part 4, the NANP should cover all topics and sub-topics defined. the final objective is to have a development plan with clear roadmap for the implementation.</i>

Topic	Summary on the contents
d) Technical and operational enablers e) Assessment of regulatory framework, standards and specifications f) Performance measurements, monitoring, and reporting g) Stakeholders' engagement h) Required qualifications and training i) Implementation roadmap	
Appendices: a) Governance structure illustration: roles and responsibilities b) Roadmap for regulatory framework updates to support ANS modernization c) Mapping between ASBU threads and elements and identified workstreams d) Performance key performance areas (KPAs) and KPIs adopted and the methods for collecting data and reporting on the performance including forms e) Matrix on required qualifications and training needs f) NANP assessment and maintenance process and checklists	<i>This part contains all information, templates, forms, and checklists defined under NANP. It also contains all complementary information.</i>

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