DIRECTORS GENERAL OF CIVIL AVIATION-MIDDLE EAST REGION

Second Meeting (DGCA-MID/2)
(Jeddah, Saudi Arabia, 20-22 May 2013)

Agenda Item 5: **Air Navigation**

PERFORMANCE BASED APPROACH TO AIR NAVIGATION PLANNING AND
IMPLEMENTATION IN THE MID REGION

(Presented by the Secretariat)

SUMMARY

This paper presents the recent developments related to the air navigation priorities and targets at global level and highlights the need to establish regional and national air navigation priorities and targets in line with the Global Air Navigation Plan (GANP).

As PIRGs are progressing with regional performance improvements through implementation of relevant ASBU Block 0 Modules of the GANP, this paper presents an approach to prioritization and methodology to assist developing regional priorities and targets for air navigation. It presents also the ways and means to report the progress of regional implementation through planned online system referred to as the *Regional Performance Dashboard* (Jan 2014) which will also support an annual *Global Air Navigation Report* (March 2014).

Action by the meeting is at paragraph 3.

1. **INTRODUCTION**

1.1   The Fourth Edition of the *Global Air Navigation Plan* (GANP, Doc 9750) has been released in 2013 and includes the new Aviation Systems Block Upgrades (ASBU) framework.

1.2   States and planning and implementation regional groups (PIRGs) are transitioning to a performance-based approach to support their air navigation infrastructure planning.

2. **DISCUSSIONS**

2.1.　　　　To support a globally harmonized air navigation system, ICAO has developed the fourth edition of the GANP to provide clear guidance on the guiding operational targets and supporting technologies, avionics, procedures, standards and regulatory approvals needed to realize them. The GANP additionally establishes a framework for incremental implementations based on the specific operational profiles and traffic densities of each region and State. This is accomplished through the Aviation System Block Upgrades (ASBUs), a consensus-driven framework which forms the basis of the revised GANP.

2.2.　　　　An analysis of this data should lead to the identification of opportunities for operational performance improvement. Modules from the ASBUs would be evaluated to identify which of those modules best provide the needed operational improvements. Depending on the complexity of the module, additional planning steps may need to be undertaken including financing and training needs. Finally, regional plans would be developed for the deployment of modules by drawing on supporting technology requirements. This is an iterative planning process which may require repeating several steps until a final plan with specific regional targets is in place. This planning methodology requires full involvement of States, service providers, airspace users and other stakeholders, thus ensuring commitment by all for implementation. This approach would facilitate the response to Recommendation 6/1 of the AN-Conf/12 that calls on States and PIRGs to finalize the alignment of regional air navigation plans with the Fourth Edition of the Global Air Navigation Plan by May 2014.

2.3.　　　　A Planning and Implementation Regional Groups (PIRGs) and Regional Aviation Safety Groups (RASGs) Global Coordination Meeting (GCM) was held in Montreal on 19 March 2013 under the Chairmanship of the President of the ICAO Council. The main objective of the meeting was to exchange views on the readiness and ability of the PIRGs and RASGs to set priorities and targets in line with the new versions of the GANP and the Global Aviation Safety Plan (GASP). A secondary objective was to share successful initiatives of each of the PIRGs and RASGs to ensure the best possible synergy. The outcome of the meeting includes:

a) agreement on establishing regional priorities and targets for air navigation by May 2014 consistent with the GANP/ASBU framework;

b) agreement on the need to measure performance improvements to help demonstrate their positive impact on the environment;

c) endorsement of the envisioned regional performance dashboard prototype and envisioned determination of an initial set of indicators and metrics for air navigation;

d) confirmation of the need for a coordination mechanism in each region between the RASG and PIRG to ensure consistency of action and avoid overlap;

e) encouragement of the sharing of successful initiatives among each other;

f) identification of the need for training to determine priorities for the aviation system block upgrades; and

g) agreement on utilizing specific interface groups where required for addressing the harmonization of air navigation plans in adjacent areas of PIRGs.

Regional Performance Dashboard

2.4.　　　　Transparency and sharing of information are fundamental to a safe and efficient global air transportation system. Consistent with this principle, ICAO is presently introducing regional 'Performance Dashboard' homepages for every public website of the ICAO Regional Offices. These dashboards will illustrate the regional implementation status relating to the strategic objectives on Safety, Air Navigation Capacity and Efficiency, and Environmental Protection. They will show targeted performance at the regional level and will, initially, contain graphics and maps with a planned expansion to include the Aviation System Block upgrades (ASBU) Block 0 Modules. This new interactive online system will be in place in January 2014 and will be updated at regular intervals.

Global Air Navigation Report

2.5.　　　　Much like the existing annual Safety Report, the objective of the annual Global Air Navigation Report is to assist PIRGs and States in understanding which areas require special attention to effectively improve air navigation performance worldwide as well as to help propagate information on implementation success stories. This first edition of this Report, slated for March 2014, will also provide an opportunity for the civil aviation community to evaluate progress across different ICAO regions. This will facilitate more effective interregional harmonization planning. The outcomes reflected in the proposed Report could also help identify annual tactical adjustment priorities for regional work programmes, as well as informing longer-term policy adjustments.

2.6.　　　　The first edition of the *Global Air Navigation Report* is planned for release in March 2014. It will consist of qualitative and quantitative information and cover key performance areas of air navigation systems. The initial report will cover the following subjects:

- global air navigation challenges;
- measuring against those challenges;
- status of operational measures for performance improvement;
- implementation progress of selected priority ASBU Block 0 Modules. The metrics or initial dataset that includes key global air navigation priorities are Performance Based Navigation (PBN), Continuous Decent Operation (CDO), Continuous Climb Operations (CCO), Aeronautical Information Management (AIM), Air Traffic Flow Management (ATFM) and estimated environmental benefits accrued from operational improvements based on ICAO Fuel Savings Estimation Tool (IFSET) or any other more rigorous tool recognized by Committee on Aviation Environmental Protection (CAEP). This initial dataset for both *Regional Performance Dashboard* and the *Global Air Navigation Report* was recently agreed by the PIRG Chairs; and
- sharing of successful initiatives and key demonstrations.

MID Region Operational Improvements

2.7.　　　　MIDANPIRG/13 supported an initial set of operational improvements and agreed that the CNS/ATM/IC SG further review them taking into consideration the outcome of the AN-Conf/12, as follows:

a) Improved Airport Accessibility;

b) Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration –AIDC;

c) Service Improvement through Digital Aeronautical Information Management;

d) Improved Operations through Enhanced En-Route Trajectories;

e) Improved Flexibility and Efficiency in Descent Profiles (CDOs);

f) Improved Flexibility and Efficiency in Departure Profiles;

g) Improved Runway Safety (A-SMGCS);

h) Improved Airport Operations through A-CDM; and

i) Improved access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B.

2.8.   The meeting may wish to note that MIDANPIRG/12 through Conclusion 12/47 endorsed 8 Metrics for performance monitoring of the air navigation systems in the MID Region, as follows:

MID Metric 1: Number of accidents per 1,000 000 departures;

MID Metric 2: Percentage of certified international aerodromes;

MID Metric 3: Number of Runway incursions and excursions per year;

MID Metric 4: Number of States reporting necessary data to the MIDRMA on regular basis and in a timely manner;

MID Metric 5: The overall collision risk in MID RVSM airspace;

MID Metric 6: Percentage of air navigation deficiencies priority "U" eliminated;

MID Metric 7: Percentage of instrument Runway ends with RNP/RNAV approach procedure; and

MID Metric 8: Percentage of en-route PBN routes implemented in accordance with the regional PBN plan.

2.9.   The meeting may wish to note that the ICAO MID Regional Office, through State Letter Ref.: AN 7/26.1–13/056 dated 18 February 2013, sent a questionnaire to all MID States, on Aviation System Block Upgrades (ASBU) Block Zero Modules, in order to prioritize the appropriate ASBU modules relevant to the MID Region.

2.10.   Based on all of the foregoing and taking into consideration the global developments, including the outcome of the AN-Conf/12, it became obvious that MIDANPIRG should review the list of agreed Metrics and establish new priorities and targets for air navigation.

3.   **ACTION BY THE MEETING**

3.1   The meeting is invited to:

a) urge States to:

i.   establish a performance measurement strategy for their air navigation system;
ii.   share successful initiatives among each other; and
iii. support the ICAO MID Regional Office by providing the requisite information to demonstrate operational improvements; and

b) task MIDANPIRG and its Steering Group (MSG) with:

i.   the establishment of priorities and targets for air navigation by May 2014, in accordance with Recommendation 6/1 of the Twelfth Air Navigation Conference;
ii.   the monitoring and measurement of the agreed air navigation Metrics and indicators, at regional level; and
iii. the identification of necessary measures/action plans to reach the agreed air navigation targets.

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