International Civil Aviation Organization
North American, Central American and Caribbean Office

WORKING PAPER

Safety and Air Navigation Directors of the CAR Region Meeting (CAR/DCA/OPSAN)
Mexico City, Mexico, 18 to 19 February 2014

Agenda Item 4:	Regional Performance Indicators and Metrics for Implementation of Improvements in Safety and Air Navigation
	4.1 ICAO Regional Performance Dashboards – Air Navigation; Annual Global Air Navigation Report

AIR NAVIGATION PERFORMANCE DASHBOARD AND THE ANNUAL GLOBAL AIR NAVIGATION REPORT

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This working paper presents the Air Navigation Regional Dashboards to be implemented for monitoring and reporting the progress of air navigation implementation in each ICAO Region and the status of development of the first Annual Global Air Navigation Report that ICAO will deliver to States regarding global air navigation implementation and relevant achievements

Action:	• The suggested action is presented in Section 3
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency • Environmental Protection
References:	• ALLPIRG Meeting • First NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/1), Mexico City, Mexico, 29 July to 1 August 2013

1.   Introduction

1.1   With the adoption of the performance-based approach to air navigation planning and implementation as established in the NAM/CAR Regional Performance Based Air Navigation Implementation Plan (RPBANIP), performance and implementation monitoring has been conducted through the different regional implementation working groups and reported in the respective North American, Central American and Caribbean Directors of Civil Aviation Meetings. Additionally, NAM/CAR States and Territories have been developing their performance-based National Plans to support their air navigation infrastructure/service planning in accordance with the agreements, milestones and regional tasks established in the RPBANIP.

1.2   As part of performance-based implementation planning and establishment of a global/ regional exchange of information to harmonize implementation, ICAO proposed air navigation performance measurement, and a monitoring and reporting strategy with the adoption of the Aviation System Block Upgrade (ASBU) methodology.

1.3   A set of performance indicators and metrics based on the ASBU Block 0 modules have been adopted by the NACC Air Navigation Implementation Working Group (ANI/WG), as well as the corresponding Air Navigation Report Form (ANRF) as reflected in the RPBANIP.

2.   Discussion

Data Collection

2.1   *Measurement Strategy*: In 2009, all Planning and Implementation Regional Groups (PIRGs) adopted a performance-based approach to air navigation planning and implementation as a result of the ALLPIRG Meeting in 2013. The PIRGs have progressively identified and agreed on a set of initial regional performance indicators and supporting metrics. As experienced in the working group meetings, where air navigation implementation progress and operational benefits are described, States have recognized that a measurement strategy comprised of data compilation, processing, storage and reporting for identified regional performance metrics is fundamental to performance-based success. This performance measurement strategy will enable global correlation of status and expectations.

2.2   In order to support the on-going task of collecting, measuring and reporting data, GREPECAS considered these activities to be covered by the Programmes and Projects Review Committee (PPRC). In the case of the NAM/CAR Regions, the PPRC will be provided with data from the NAM/CAR working groups such as the ANI/WG and the Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATG).

2.3   The ICAO Regional Office website, through a Geographical Information System (GIS), will provide implementation status through dynamic and interactive charts. This system will generate ad hoc reports and enable easy transferal of the dataset into the Regional Performance Dashboard and annual Global Air Navigation Report.

2.4   Additionally, a Memorandum of Understanding has been established with industry to obtain international aeronautical information related to the implementation status of air navigation infrastructure. This information will assist with development of the annual Global Air Navigation Report and data for the Regional Performance Dashboard.

2.5   The initial set of metrics for the Air Navigation Dashboard and its source of data were identified as follows:

      1.   Performance-based Navigation (PBN) Approach (ICAO Headquarters (HQ) data)
      Percentage of international aerodrome runways (as defined in Doc 7910 – *Location Indicators*/Aeronautical Information Publication (AIP)) with Approach Procedure with Vertical Guidance (APV)

2. **Air Traffic Flow Management (ATFM) (data from Regional Offices)**
Percentage of Flight Information Region (FIRs) within which all Area Control Centre (ACCs) utilize ATFM measures

3. **Aeronautical Information Management (AIM) (data from Regional Offices)**
Implementation status of selective steps

4. **Ground-Ground Digital Coordination/Transfer (data from Regional Offices)**
Percentage of FIRs within which all applicable ACCs have implemented at least one interface to use Air Traffic Services inter-facility data communication (AIDC)/Online Data Interchange (OLDI) with neighbouring ACCs

5. **Environmental Benefit (ICAO HQ data)**
Percentage of fuel burn reduction

Regional Performance Dashboard

2.6   *Dataset and Prototype*: Transparency and sharing of information are fundamental to a safe and efficient global air transportation system. Consistent with this principle, ICAO is planning to introduce regional "Performance Dashboard" homepages for every ICAO Regional Office public website. These dashboards will illustrate regional implementation status related to the ICAO Strategic Objectives for the period 2014-2016, which were approved by the 38th Session of the ICAO Assembly in September 2013. They will show targeted performance at the regional level and will initially contain graphics and maps with planned expansion to include the ASBU Block 0 Modules. This new interactive online system has been in Beta mode for the ICAO west and east Africa regions since August 2013 and become active for the remaining ICAO regions in March 2014; updated semi-annually.
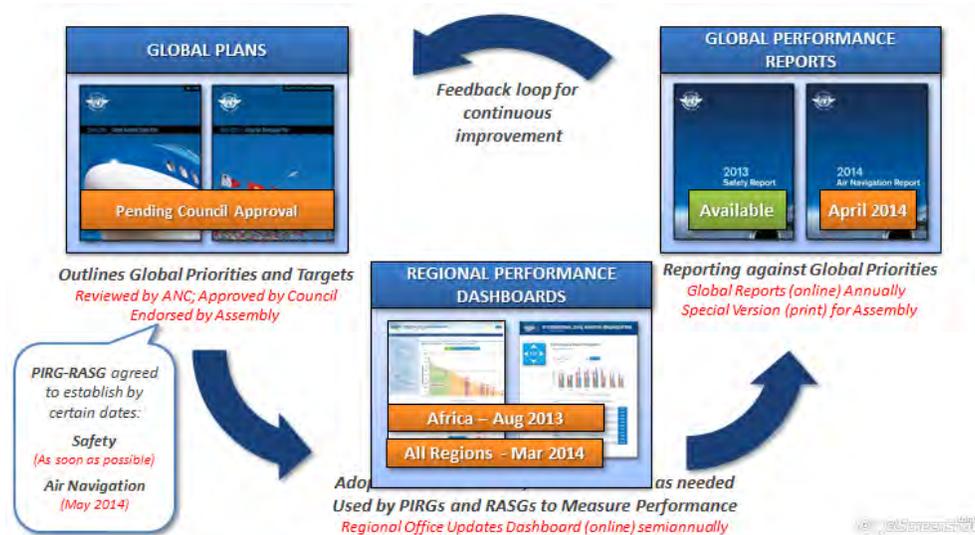
The live version of the dashboard is available at the following link (for Africa):
http://www.icao.int/safety/pages/regional-targets.aspx?region=Africa

Global Air Navigation Report

2.7   *Purpose*: Much like the existing annual Safety Report, the objective of the annual Global Air Navigation Report will assist PIRGs and States with understanding areas that require special attention to improve air navigation performance worldwide, as well as to help propagate information on implementation success stories. The first edition of this report, slated for April 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 of priorities for regional work programmes, as well as longer-term policy adjustments.

2.8   *Subjects to be Covered*: The first edition of the Global Air Navigation Report will consist of qualitative and quantitative information and cover air navigation systems key performance areas.The initial report will cover the following subjects:

a)   Global air navigation challenges, such as the capability to ensure safe, sustained growth, increased efficiency and responsible environmental stewardship
b)   Measuring against those challenges
c)   Status of operational measures for performance improvement
d)   Implementation progress in accordance with State operational requirements for selected priority ASBU Block 0 Modules. The metrics or initial dataset that includes key global air navigation priorities are Performance-Based Navigation (PBN), Continuous Descent 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 the ICAO Fuel Savings Estimation Tool (IFSET), or if desired, any other more rigorous tool recognized by ICAO's Committee on Aviation Environmental Protection (CAEP). This initial dataset for both the Regional Performance Dashboard and Global Air Navigation Report was recently agreed by the PIRG chairpersons, which will be proposed for regional adoption.
e)   Sharing successful initiatives and key demonstrations

2.9   *Contents of the Report*: The report will open with a general overview of global air navigation challenges in terms of capacity, sustainability and interoperability, and will discuss the methodologies in place to measure efforts to address those challenges. Through data collection by PIRGs, the report will focus on implementation status of priority operational improvements, identify roadblocks and recommend follow-up as necessary. In line with the subjects to be covered under the Global Air Navigation Report, efficiency and capacity indicators will be included to report system and service implementation progress and targets, similar to the current RPBANIP progress implementation data provided to the NAM/CAR DCAs.

2.10   *Addressing Environment*: The assessment results of the potential environmental benefits associated with the implementation of certain operational improvements through specific measurement tools, such as IFSET, will also be reflected. The tool is designed to assist States with estimating and reporting fuel savings in a consistent manner with the models recognized by ICAO's CAEP and in alignment with the Global Air Navigation Plan (GANP).

2.11   The report will conclude with success stories of efficient implementation.
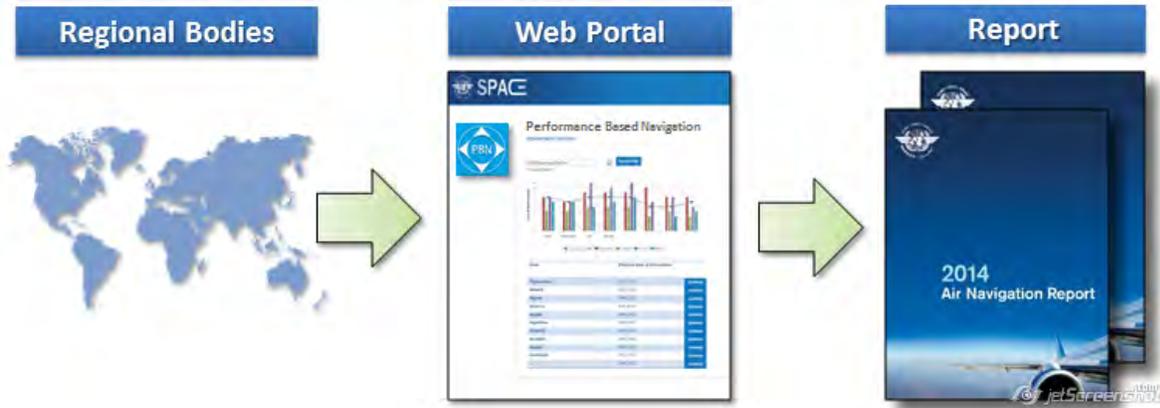
2.12   This first Global Air Navigation Report will use simplified metrics as mentioned for the Regional Dashboard. The next version of the report will be generated using this list as a driver.

ANI/WG Monitoring and Reporting

2.13   Based on the ASBU ANRF for implementation monitoring, as agreed by States/Territories and international organizations at the ANIWG/1 Meeting, a number of metrics per Key Performance Area (KPA) have been included in the RPBANIP to serve as measurements of implementation benefit(s). States will collect the necessary data for the chosen metrics. These metrics are in line with the regional metrics and targets adopted by the NAM/CAR Regions as established in Conclusion ANI/WG/1/14 - *Adoption of a Performance Monitoring and Measuring Programme in the NAM/CAR Regions.*

3. **Suggested Actions**

3.1 That the Meeting:

a) note the plan for the online Regional Performance Dashboard that is scheduled for debut in March 2014 and the annual Global Air Navigation Report in April 2014;

b) support the ICAO NACC Regional Office by providing the required information/data for the performance metrics to be included in the ICAO NACC Regional Performance Dashboard;

c) support implementation working groups like the ANI/WG and the NACC/WG with data collection for submission of air navigation metrics.

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