



**Agenda Item 3: Air navigation activities at global, intra-regional, and inter-regional level**  
**3.1 Follow-up on the development of regional performance dashboards**

(Presented by the Secretariat)

**SUMMARY**

This working paper presents the Meeting with information on the regional performance dashboard and its indicators, as well as on the goals to be met by the Regions over the next triennium, so that GREPECAS can inform the ICAO Council thereof.

**References:**

- 38<sup>th</sup> ICAO Assembly (Montreal, Canada, 24 September to 4 October 2013)
- Global Coordination Meeting (GCM) of Regional Planning and Implementation Groups (PIRGs) and Regional Aviation Safety Groups (RASG) (Montreal, Canada, 19 March 2013)
- Thirteenth Meeting of Civil Aviation Authorities of the South American Region (RAAC/13) (Bogotá, Colombia, 4-6 December 2013)
- Fifth Meeting of Directors of Civil Aviation of North America, Central America, and the Caribbean (NACC/DCA/5) (Port-of-Spain, Trinidad and Tobago, 28-30 April 2014)

**ICAO Strategic Objectives**

*This working paper concerns the strategic objectives related to safety, air navigation capacity and efficiency, and environmental protection.*

**1. Introduction**

1.1 The new versions of the Global Aviation Safety Plan (GASP) and the Global Air Navigation Plan (GANP) allow for consistent planning of regional safety and air navigation activities in accordance with the specific needs of each region.

1.2 Within this context, the Global Coordination Meeting (GCM) of Regional Planning and Implementation Groups (PIRG) and Regional Aviation Safety Groups (RASG), held in Montreal, Canada, on 19 March 2013, had as its main objective 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 GASP. The outcome of the meeting includes:

- a) endorsement to global safety priorities and consideration of the need to establish regional targets and priorities;
- b) the RASGs and PIRGs were requested to establish regional priorities for air navigation objectives by May 2014, in accordance with the GANP/ASBU frame of reference;

- c) agreement on the need to measure performance improvements to help demonstrate their positive impact on the environment;
- d) endorsement of the envisioned regional performance dashboard prototype and determination of an initial set of indicators and metrics for air navigation;
- e) confirmation of the need for a coordination mechanism in each region between the RASG and PIRG;
- f) that PIRGs must ensure consistent action and avoid duplication of efforts; and
- g) agreement on the utilisation of specific interface groups, where required, for addressing the harmonisation of air navigation plans in adjacent areas of PIRGs.

1.3 Resolution A38-2 on ICAO global planning for safety and air navigation resolved that the new approved versions of the GASP and GANP would provide the framework in which regional, sub-regional, and national implementation plans would be developed and implemented, thus ensuring harmonisation and coordination of efforts aimed at improving international civil aviation safety, capacity, and efficiency. It also urged member States to demonstrate the political will necessary for taking remedial actions to address safety and air navigation deficiencies, including those identified by the Universal Safety Oversight Audit Programme (USOAP), through the achievement of GASP and GANP objectives and the ICAO regional planning process.

1.4 Resolution A38-2 *Appendix B* instructed the ICAO Council to publish the results of the analysis on the regional performance dashboards and in an global air navigation report including, as a minimum, the **key** implementation **priorities** and accrued environmental benefits estimated using the methods recognised by the ICAO Committee on Aviation Environmental Protection (CAEP).

1.5 The initial set of metrics or data included in the global air navigation **key priorities** referred to in Conclusion A38-2 *Appendix B* (Ref. A38 / WP087) are as follows:

- Performance based navigation (PBN)
- Continuous descent operation (CDO)
- Continuous climb operation (CCO)
- Aeronautical information management (AIM)
- Air traffic flow management (ATFM)
- Environmental benefits resulting from operational improvements estimated using the ICAO Fuel Savings Estimation Tool (IFSET) or any other tool recognised by the CAEP.

1.6 Furthermore, this Resolution invited the PIRGs to use ICAO standardised tools or adequate regional tools to monitor and, in collaboration with ICAO, analyse the implementation status of air navigation systems.

1.7 In order to measure the status of implementation of global targets and priorities in each Region, ICAO intends to post Regional Performance Dashboards on ICAO Regional Office websites. These dashboards will illustrate the regional status of implementation of the strategic objectives for the period 2014-2016.

## 2. Discussion

2.1 On 5 May 2014, ICAO published the Regional Performance Dashboard at the following link: <http://www.icao.int/safety/Pages/Regional-Targets.aspx>. This initial dashboard is being improved with a view to harmonising data sources and is a starting point for measuring regional achievements.

2.2 The Regional Performance Dashboard will show the performance of regional objectives and will initially contains graphics and maps, with planned expansion to include regional implementation priorities. The current status (baseline) and the projected implementation of each of the selected regional objectives for the 2014-2016 period will be shown based on the associated metrics. The currently posted dashboard contains a disclaimer since the existing information on air transport, air navigation and safety-related data and statistics is provided to the International Civil Aviation Organization (ICAO) by third parties. All third-party contents have been obtained from sources considered to be reliable. However, ICAO specifically gives no assurance and makes no representation as to the accuracy, integrity or timeliness of such information and assumes no responsibility for reliance on, or use of, such information.

2.3 In this regard, the CAR/SAM Regions have been working during 2013-2014 on the performance indicators and goals for both safety and air navigation, resulting in regional commitments concerning the indicators and goals approved in the Bogotá Declaration and the Port-of-Spain Declaration.

### ***Bogotá Declaration***

2.4 During the last few years, the air transport sector has experienced a high rate of growth in the South American Region. Although the progress achieved demonstrates that an effective way has been found to manage the implementation of the required safety and capacity improvements, it was also necessary to establish clear goals for the following three years and to obtain a commitment from the States to their achievement.

2.5 In this regard, the meeting of Air Navigation and Safety Directors held in Lima, Peru, on 21-22 October 2013, analysed the status of safety and air navigation in the Region, and selected five (05) indicators for monitoring safety objectives, focused on safety, accidents and serious incidents, runway excursions and incursions, aerodrome certification, and SSP and SMS implementation; and ten (10) indicators for monitoring air navigation objectives, focused on terminal PBN, en-route PBN, CDO, CCO, fuel savings/reduction of CO<sub>2</sub> emissions, ATFM, AIM, interconnection of the air traffic service (ATS) message handling system (AMHS), interconnection of automated systems and implementation of domestic Internet Protocol (IP) networks.

2.6 Subsequently, the Thirteenth Meeting of Civil Aviation Authorities of the South American Region (RAAC/13) (Bogotá, Colombia, 4-6 December 2013) established the safety and air navigation indicators and goals of the SAM Region, and approved the Bogotá Declaration, which is the document that establishes the commitment of the Region to the attainment of the goals by December 2016 ([http://www.icao.int/SAM/Documents/RAAC13/RAAC13\\_BogotaDeclarationNewsAPX\\_v1.pdf](http://www.icao.int/SAM/Documents/RAAC13/RAAC13_BogotaDeclarationNewsAPX_v1.pdf)). **Appendix A** contains the air navigation performance indicators, the parameters assigned to them, as well as the status and goals to be achieved by December 2016.

### ***Port-of-Spain Declaration***

2.7 A conclusion was agreed upon at the First Safety and Air Navigation Directors of the CAR Region Meeting (CAR/DCA/OPSAN/1), held at the ICAO NACC Regional Office in Mexico City, México, 18 to 19 February 2014, where goals were discussed that were later proposed at the Fifth North American, Central American and Caribbean Directors of Civil Aviation Meeting (NACC/DCA/5), held in Port-of-Spain, Trinidad and Tobago, 28 to 30 April 2014, for all the Civil Aviation Authorities to sign the *Port-of-Spain Declaration* as the agreement and NACC regional commitment to achieve a minimum set of performance-based metrics and safety, air navigation and environment goals/objectives.

2.8 The NACC/DCA/5 Meeting declared its commitment to achieve the safety goals related with safety oversight, accident reduction, runway excursions reduction, aerodromes certification, implementation of the State Safety Programme (SSP) and Safety Management System (SMS), as well as air navigation, approach - Performance-Based Navigation (PBN), Air Traffic Flow Management (ATFM), Aeronautical Information Management (AIM) transition, ground-ground digital coordination/transfer and environmental benefit (<http://www.icao.int/NACC/Documents/Meetings/2014/NACCDCA5/POSDeclarationEN.pdf>). **Appendix B** includes the air navigation performance indicators, their assigned parameters and the current status and goals foreseen for the short term.

### *Monitoring of air navigation indicators by GREPECAS*

2.8 Pursuant to paragraphs 1.2 and 1.6, the PIRGs are to monitor the progress of indicators and metrics concerning air navigation priorities. Accordingly, GREPECAS would be responsible for monitoring the progress of indicators and metrics in the CAR/SAM Regions.

2.9 In this regard, the second meeting of the Programmes and Projects Review Committee (PPRC/2), held in Lima, Peru, 16-18 July 2013, agreed that the PPRC would be responsible for the collection, monitoring and reporting of data on the status of implementation of operational improvements in the CAR/SAM Regions through the Regional Offices. To that end, it adopted Conclusion 2/3 – *Regional and Global Air Navigation Report*, requesting States to provide the ICAO Regional Offices with the information required to show operational improvements by February 2014 and periodically thereafter; and to establish a performance measurement strategy that comprises data collection, processing, storage and reporting for the identified regional performance metrics for air navigation systems.

2.10 As stated above, the CAR and SAM Regions have already selected their regional indicators and goals. Consequently, each Region will be responsible for the progress made with respect to these indicators, and the Regional Offices will be responsible for updating the data collected at regional PPRC meetings. To this end, a form containing the established indicators and goals has been developed, as shown in **Appendix C**. It is proposed that the aforementioned form be submitted to the Air Navigation Commission.

## **3 Conclusion**

3.1 The Civil Aviation Authorities of the Region have recognised that a measurement strategy that comprises the collection, processing, storage and reporting of data on the identified regional performance metrics is fundamental for the success of a performance-based approach. This is reflected in the commitments assumed by both Regions in the Bogota Declaration and the Port-of-Spain Declaration.

## **4 Suggested action**

4.1 The Meeting is invited to:

- a) take note of the information contained in this working paper;
- b) analyse the information presented in section 2 and the Appendices to this working paper, and approve the form for the indicators and targets shown in **Appendix C**; and
- c) discuss any other matters it may deem appropriate. - - - -

## APPENDIX A

## INDICATORS AND AIR NAVIGATION TARGETS FOR THE SAM REGION

	Indicators	Data	Current Value	Goal December 2016
<b>1. PBN TERMINAL</b>	% of international aerodromes with APV, pursuant to resolution A-37/11	AIP data	61%	100%
<b>2. PBN EN-ROUTE</b>	% of ATS routes with PBN	AIP data	38%	60%
	% of international aerodromes with PBN SIDs/STARs	AIP data	48%	60%
<b>3. CDO</b>	% of international aerodromes /TMAs with CDO	AIP data		40%
<b>4. CCO</b>	% of international aerodromes /TMAs with CCO	AIP data		40%
<b>5. Fuel / CO2 savings</b>	Reduction of emissions based on IFSET	Follow-up at the SAM/IG meeting	2014- 14.295 t of CO2	Annual reduction of 40,000 t of CO2
<b>6. ATFM</b>	% of area control centres (ACCs) providing air traffic flow management (ATFM) service	Follow-up at the SAM/IG meeting	52%	100%
<b>7. AIM</b>	% of elements (AIS to AIM roadmap) required for AIS-to-AIM transition that have been implemented in Phase I	Follow-up at the SAM AIM meeting	84%	100%
<b>8. AMHS interconnection</b>	% of AMHS interconnections at regional level	Follow-up at the SAM/IG meeting	15%	100%
<b>9. Interconnection of automated systems (ATS inter-facility data communications - AIDC)</b>	% of automated system interconnections	Follow-up at the SAM/IG meeting		100%
<b>10. Implementation of domestic IP networks</b>	% of SAM States with IP communication networks implemented	Follow-up at the SAM/IG meeting		80%

## APPENDIX B

## INDICATORS AND AIR NAVIGATION TARGETS FOR THE CAR REGION

	Indicators	Remarks	Current Value	Target December 2016
<b>1- Approach – Performance-based navigation (PBN)</b>	% of instrument approach runways that have approach procedures with vertical guidance (APV) with barometric vertical navigation (Baro VNAV), in accordance with Assembly Resolution A-37/11	AIP data	92%	100%
<b>- PBN Terminal</b>	% of selected aerodromes with CDO	AIP data	50%	60%
	% of selected aerodromes with CCO	AIP data	50%	60%
<b>- PBN en-route</b>	% of ATS routes with PBN	AIP data	80%	100%
<b>2. ATFM</b>	% of area control centres (ACCs) within flight information regions (FIRs) with ATFM measures available		60%	100%
<b>3- Transition to aeronautical information management (AIM)</b>	% of elements required by the Roadmap– Phase I (P-03 – AIRAC adherence monitoring, P-04 – Monitoring of States’ differences to Annex 4 and Annex 15, P-05 – WGS-84 implementation, and P-17 – Implementation of QMS in aeronautical information services (AIS) to AIM		75%	100%
<b>4-Interconnection of automated systems (ATS inter-facility data communications - AIDC)</b>	% of ACCs within the applicable FIRs that have implemented at least one interface for ATS inter-facility data communications (AIDC)/on-line data interchange (OLDI) with neighbouring ACCs			100%
<b>5. Environmental benefit</b>	To achieve a regional CO <sub>2</sub> emission reduction of 40,000 tonnes per year through PBN implementation		N/A	Annual CO <sub>2</sub> reduction of 40,000 t

## APPENDIX C

## FOLLOW-UP TO INDICATORS AND AIR NAVIGATION TARGETS

Indicators		CAR		SAM	
		Current Value	Goal December 2016	Current Value	Goal December 2016
<b>1. PBN TERMINAL</b>	% of international aerodromes with APV, in accordance with Resolution A-37/11	N/A	N/A	61%	100%
	% of runways with APV instrument approach with Baro VNAV, in accordance with Resolution A-37/11	80%	100%	N/A	N/A
<b>2. PBN EN-ROUTE</b>	% of ATS routes with PBN	N/A	N/A	38%	60%
	% of international aerodromes with PBN SIDs/STARs	N/A	N/A	48%	60%
<b>3. CDO</b>	% of international aerodromes /TMAs with CDO	N/A	N/A		40%
<b>4. CCO</b>	% of international aerodromes /TMAs with CCO	N/A	N/A		40%
<b>5. Fuel / CO2 savings</b>	Reduction of emissions based on IFSET		Annual reduction of 40,000 t of CO2	2014- 14.295 t of CO2	Annual reduction of 40,000 t of CO2
<b>6. ATFM</b>	% of area control centres (ACCs) providing air traffic flow management (ATFM) service	60%	100% (by December 2018)	52%	100%
<b>7. AIM</b>	% of elements (AIS to AIM roadmap) required for AIS-to-AIM transition that have been implemented in Phase I	70%	100%	84%	100%
<b>8. AMHS interconnection</b>	% of AMHS interconnections at regional level	N/A	N/A	15%	100%
<b>9. Interconnection of automated systems (ATS inter-facility data communications - AIDC)</b>	% of automated system interconnections		50% of ACCs with at least 1 interface (AIDC/OLDI)		100%

<b>10. Implementation of domestic IP networks</b>	% o SAM States with IP communication networks implemented	N/A	N/A		80%
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