International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)

WORKING PAPER

**Fourth GREPECAS–RASG-PA Joint Meeting and
Twenty-second Meeting of the CAR/SAM Regional Planning and Implementation Group
(GREPECAS/22)**
Virtual Phase (Asynchronous, 16 September to 11 October 2024)
In-Person Phase (Lima, Peru, 20 to 22 November 2024)

Agenda Item 5:   **CAR/SAM Air Navigation Services (ANS) Implementation**

**ANALYSIS OF THE IMPLEMENTATION OF THE BASIC BUILDING BLOCKS (BBB) OF
THE METEOROLOGICAL SERVICE FOR INTERNATIONAL AIR NAVIGATION**

(Presented by the Secretariat)

<table>
<tr><td colspan="2" align="center">**EXECUTIVE SUMMARY**</td></tr>
<tr><td colspan="2">The Working paper presents the verification process of Basic Building Blocks (BBB), necessary to collect, process and monitor the implementation of Meteorological Services for International Air Navigation as a topic that should be considered in the activities of the GREPECAS aeronautical meteorology area.</td></tr>
<tr><td>**Action:**</td><td>Suggested actions are presented in Section 4.</td></tr>
<tr><td>*Strategic Objectives:*</td><td>• Safety
• Air Navigation Capacity and Efficiency
• Environmental Protection</td></tr>
<tr><td>*References:*</td><td>• Twentieth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/20), Salvador, Brazil, 16 to 18 November 2022
• Eighth North American, Central American and Caribbean Working Group Meeting (NACC/WG/8) ICAO NACC Regional Office, Mexico City, Mexico, 29 August to 1 September 2023</td></tr>
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1.   **Introduction**

1.1   GREPECAS Conclusion 19/09 required States to support the establishment of a CAR/SAM Regional Dashboard to be implemented for GREPECAS/20, as well as to provide ICAO with the information and data sets necessary for its implementation.

1.2   GREPECAS Conclusion 19/02 requested States to determine the necessary mechanisms to verify the effective implementation of the BBB corresponding to the Meteorological Service for international air navigation (MET).

1.3   GREPECAS 20 discussed the progress of the GREPECAS Dashboard that seeks to serve the States and the Regional Implementation Groups to monitoring the implementation progress and support the Annual Regional Safety Reports and Air Navigation Reports among other activities. Similarly, GREPECAS 20 discussed the dashboard' expectations and implementation goals, highlighting:

   a) be able to support tasks that require continuous data collection and measurements to establish a data report that is representative,
   b) the implementation status be shown through dynamic and interactive graphics that are available in the Dashboard,
   c) generate ad-hoc reports that will illustrate the data collected in the Dashboard, and,
   d) make available for each State access to the secure portal of the GREPECAS Dashboard for its use and reporting

2.   Analysis and discussion

2.1   When considering the verification process of the MET BBB Framework, the MET/TF discussed and integrated the following aspects:

2.1.1   Structure based on global systems, supporting centres and meteorological offices: the GANP portal grouped essential services based on Aerodrome Meteorological Offices (AMO), Meteorological Watch Offices (MWO), Global Systems and Supporting Centres, associating the corresponding ICAO standards and guide material. The MET/TF identified the inclusion of an essential service named RMM, without references to the Annex 3 standards and recommended practices (SARPs), therefore it is not in the context of the verification process. The Secretariat was notified to consider updating the GANP.

2.1.2   Regional Air Navigation Plan (eANP): Volumes I and II Part V, describes the facilities, services, and procedures to be implemented by States for the provision of meteorological service; the verification process involves reviewing and updating said volumes and creating the corresponding proposals for amendments (PfA).

2.1.3   Regulatory context and national methods: It was considered as necessary for the verification, to analyse the application of three articles of the Chicago Convention that support the national regulatory process, Art 12 - Implementation and enforcement of SARPs, Art 37 - Collaboration in ensuring the highest practical degree of uniformity in regulations, standards, procedures and Art 38 - Immediate notification of differences between national practices and those established by international standards. The review of the National Regulation associated with Annex 3 and the use of the ICAO electronic filing of differences (EFOD) system, facilitates the verification process, and ensure results reliability.

2.1.4   Degree of compliance or deviation from the Annex 3 Standards: associated to 2.2.3, the verification process integrates the notification of differences through the Aeronautical Information Publication (AIP) in the Gen. 1.7 part, likewise, the description of the meteorological service responsible for the facilities, services, and procedures to provide meteorological information in accordance with AIP part Gen 3.5. Correlating the information of the eANP, AIP and EFOD, is a fundamental step for reliability of the verification process.

2.1.5   Relationship with the State safety oversight system (SSO): when conducted by national inspectors, the BBBs verification is part of the surveillance activities in accordance with ICAO Document 9734 part A. Establishing a BBB verification cycle would allow for the identification of deficiencies and their resolution. This cyclical process creates efficiency and synergy for the operation of the meteorological service as well as for strengthening the SSO.

2.1.6   Universal Safety Oversight Audit Program (USOAP): Eight critical elements (CE) constitute an effective SSO. The implementation CE, CE-6 and CE-7 address the State's capability to monitor compliance with its licensing and certification obligations, as well as surveillance and oversight; CE-8 address the States' capability to resolve any safety issues that could also be related to deficiencies in the provision of the Service. Protocol Questions (PQs) are the primary tool used in the ICAO USOAP Continuous Monitoring Approach (CMA) to assess the effective implementation of CEs. The verification process allows the State to collect evidence of its surveillance activities on the service provider.

2.1.7   Air Navigation Deficiencies: The ICAO Council definition "…a situation in which a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with the standards and recommended practices related ICAO regulations, and whose situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation..."; the Uniform Methodology for the Identification, Assessment and Reporting of Air Navigation Deficiencies is described on the GREPECAS website (access here) same that offers the GREPECAS air navigation deficiencies database (GANDD). (USOAP CMA PQ 7.045 refers).

2.1.8   Standardized classification of the implementation status: A range of five implementation ranks was determined as presented below, to facilitate the recording of the reality faced by the States. It also provides realistic and relevant information for planning and deploying assistance activities in accordance with States' needs.

Status*	Explanation
N/A	The BBB element is not Applicable
Planning	Implementation of this BBB element is planned, but not yet started
Developing	Implementation of this BBB element is in the development phase, but not yet operational
Partially Implemented	Implementation of this BBB Element is partially completed and/or operational but all planned implementations are not yet completed
Implemented	Implementation of this BBB Element has been completed and/or is fully operational

*English language status will be maintained to achieve uniformity in compilation

3.   Conclusion

3.1   A dashboard based on the verification of MET BBBs will provide objective and relevant information on the status of MET implementation in the regions and will allow for improved planning and deployment of assistance activities.

3.2   Collaborative work between Civil Aviation Authorities, Meteorological Authorities and entities providing meteorological services is essential to achieve effective verification of MET BBBs and to facilitate data collection, information analysis, storage and display of reports in a manner consistent with the dynamic nature of the provision of essential services.

3.3   The Meeting, after evaluating the information included in this note, may consider approving the following conclusion:

DRAFT CONCLUSION/DECISION GREPECAS/22/X **Cyclic verification of BBB MET**	
What: That, a) the NACC and SAM Regional Offices develop the dashboard associated with the BBB MET in coordination with the States, Territories and International Organizations in line with the CAR/SAM eANP work plan; b) the States, Territories and International Organizations support the work of the Regional Offices to continue the development of the BBB MET verification process; c) the States, Territories and Organizations strengthen the surveillance and oversight processes, as well as quality control, to generate synergy with the verification process presented, combine national efforts and feed the dashboard.	**Expected impact:** ☐ Political / Global ☐ Inter-regional ☐ Economic ☐ Environmental ☐ Operational/Technical
Why: In accordance with the provisions of GREPECAS, it is necessary for States to establish and monitor the implementation status of the Meteorological Service for International Air Navigation through the verification of the BBB and represent the results in a dashboard.	
When: GREPECAS 23 **Status:** ☒ Valid / ☐ Superseded / ☐ Completed	
Who: ☒ States ☒ ICAO ☐ Other: Secretariat, States	

4.   Suggested actions

4.1   The States are invited to:

a) consider the process described and conceptualize the development of the verification process of the BBB MET;

b) support the efforts to continue the formulation of the verification process and achieve the development of the control panel based on the verification of the BBB MET; and

c) consider the approval of the conclusion presented in section 3.3.

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