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Mexico City, Mexico, 30 September to 04 October 2024

Agenda Item 4: Follow-up to the NACC/WG 2023-2024 work plan

BASIC BUILDING BLOCKS (BBB) FRAMEWORK IN AERODROME OPERATION SERVICES

(Presented by Secretariat)

EXECUTIVE SUMMARY	
This paper provides information ON the Basic Building Blocks (BBB) Framework in aerodrome operation services in the CAR Region.	
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency
<i>References:</i>	<ul style="list-style-type: none">• BBBs (icao.int)

1. Introduction

1.1 The Basic Building Block (BBB) framework outlines the foundation of any robust air navigation system. It is nothing new but the identification of the services to be provided to the international civil aviation in accordance with **ICAO Standards is essential**. These essential services are defined in the areas of aerodromes, air traffic management, search and rescue, meteorology and information management.

1.2 This baseline is defined by essential services recognized by ICAO Member States as necessary for international civil aviation to develop in a safe and orderly manner. Once these essential services are provided, they constitute the baseline for any operational improvement.

2. General status of BBBs in the AGA area

2.1 According to the Final Report of Eight North American, Central American and Caribbean Working Group Meeting (NACC/WG/8), important challenges were identified on AGA area. It was identified, for example, that there is a strong correlation between the analysis of the BBBs in AGA and the certification of aerodromes. Based on this, it is possible to observe the level of service provided by the BBBs by the number of certified aerodromes. There are 97 certified aerodromes in the CAR Region (from 149 international aerodromes), which represents 65%. In this case, the status of aerodrome certification in the CAR Region in 2024 shows a slight decrease in the number of certified aerodromes.

2. In addition, it is possible analysis through the Universal Safety Oversight Audit Programme (USOAP) Protocol Questions (PQs) versus BBBs. In this case, the States and Territories in CAR Region comply with **around 50% of the BBB**, referring to the essential services provided by airports for international civil aviation under ICAO standards.

3. Regional Strategy for the Evaluation of BBBs in the AGA area

3.1 According to the Final Report of Second Meeting of Rapporteurs of the North American, Central American and Caribbean Working Group (NACC/WG/RAP/02), the assessment of the BBBs will greatly benefit the region because through the data obtained the region will be able to:

- a) Regional deficiencies/differences;
- b) Status of regional implementation;
- c) Update information on the services of the electronic air navigation plan in its Volumes I and II;
- d) Support the execution of priority regional projects with information.

3.2 In this context, the analysis and evaluation of BBBs in Aerodrome Operation Services (AOS) should be conducted at the level of international aerodromes to ensure compliance with ICAO standards as outlined in Annex 14, Volume I. Particularly, for the CAR Region, the evaluation of BBBs must be performed for each of the 149 international aerodromes listed in the Regional Air Navigation Plan CAR/SAM, Volumes I and II ([eANP \(icao.int\)](https://www.icao.int/eANP)).


3.3 The ICAO NACC Regional Office developed a guide document for the assessment BBBs, which is found in Appendix A of the (NACC/WG/RAP/02) meeting. The document contains the essential elements to be evaluated by area, in addition to references to ICAO documentation, and the USOAP PQs related to the implementation of these services (see Figure A).

5. Aerodrome Operation Services				ICAO USOAP relate PQ	ICAO Evaluation
Name of international aerodrome: _____ (ICAO COD.)					
To be completed by the State:					
Elements	Description of Annexes:	Reference/ Guidance	State Observation	BBB vs PQs	To be completed by ICAO NACC Sat. Def.
5.1 Runways	<p><u>Annex 14 Vol 1</u></p> <p>2.3.2 For an aerodrome used by international civil aviation for non-precision approaches, the elevation and good undulation of each threshold, the elevation of the runway end and any significant high and low intermediate points along the runway shall be measured to the accuracy of one-half <u>0.000</u> or foot and reported to the aeronautical information services authority.</p> <p>2.3.3 For precision approach runway, the elevation and good undulation of the threshold, the elevation of the runway end and the highest elevation of the touchdown zone shall be measured to the accuracy of one-quarter <u>0.000</u> or foot and reported to the aeronautical information services authority.</p> <p>2.5.1 The following data shall be measured or described, as appropriate, for each facility provided on an aerodrome:</p> <p>a) runway – true bearing to one-hundredth of a degree, designation number, length, width, displaced threshold location to the nearest <u>0.000</u> or foot, slope, surface type, type of runway and, for a precision approach runway category I, the existence of an obstacle free zone when <u>provided</u>;</p> <p>b) strip, runway end safety area, <u>0.000</u> or length, width to the nearest <u>0.000</u> or foot, surface type, and arresting system – location (which runway end) and <u>descriptions</u>;</p> <p>f) clearance – length to the nearest <u>0.000</u> or foot, ground <u>grades</u>;</p> <p>g) visual aids for approach procedures, marking and lighting of runways, taxiways and aprons, other visual guidance and control aids on taxiways and aprons, including taxi holding <u>positions and checklists</u>, and location and type of visual display <u>guidance systems</u>.</p>	<p>A14 Vol 1: Ch.: 2, 3</p> <p>Doc 9157, Doc 9137: Part 2, Doc 9184: Part 1, Doc 9870, Doc 9774, Doc 9981: Part 1, 2</p>	<p>YES: NO:</p> <p>N/A: TBD:</p>	<p>CE6 - PQ 8.137 CE6 - PQ 8.163 CE6 - PQ 8.191 CE6 - PQ 8.227 CE6 - PQ 8.145 CE7 - PQ 8.147</p>	

Figure A - Image of the guide document for assessment of BBBs in AOS.

3.4 To conduct a case study, Costa Rica expressed interest in applying the BBBs assessment guide at Juan Santamaria International Airport (MROC). It was conducted during the Multidisciplinary Assistance Mission (TEAM) for the Evaluation of Runway Safety Teams (RST) at Juan Santamaria International Airport (MROC), Costa Rica, from July 8 to 12, 2024.

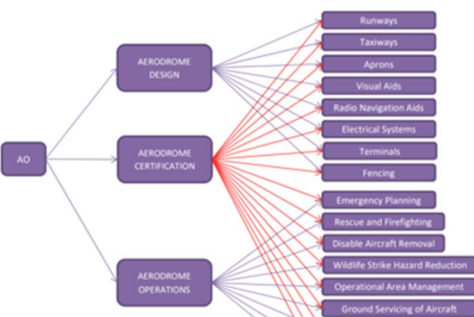
3.5 During the TEAM in Costa Rica, airport operator and *Dirección General de Aeronáutica Civil* (DGAC) (Civil Aviation Authority) representatives from the aerodromes and air navigation sectors noted the need to enhance and streamline the process of analyzing BBBs at the aerodrome level. They observed that each BBB element is linked to several ICAO standards (Annex 14, Vol I), which require separate evaluation, similar to an aerodrome inspection checklist. As a result, the decision was made to develop a BBB Checklist in AOS (see Figures B and C).



**ANALYSIS OF THE BASIC BUILDING BLOCK (BBB)
- AERODROMES BASIC ELEMENTS -**

Complete with international airport information:


State Name:	
City Name:	
Name of international aerodrome:	
ICAO COD:	
Geographical location:	
Certified aerodrome (yes or no):	
Authorized deviations from ICAO SARPs (yes or no):	
State Focal Point for BBB analysis:	
State Focal Point Contact (email):	
Date (Day/Month/Year):	



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    AO[AO] --> AD[AERODROME DESIGN]
    AO --> AC[AERODROME CERTIFICATION]
    AO --> OP[AERODROME OPERATIONS]
    AD --- R1[Runways]
    AD --- R2[Taxiways]
    AD --- R3[Aprons]
    AD --- R4[Visual Aids]
    AD --- R5[Radio Navigation Aids]
    AD --- R6[Electrical Systems]
    AD --- R7[Terminals]
    AD --- R8[Fencing]
    AC --- R9[Emergency Planning]
    AC --- R10[Rescue and Firefighting]
    AC --- R11[Disable Aircraft Removal]
    AC --- R12[Wildlife Strike Hazard Reduction]
    AC --- R13[Operational Area Management]
    AC --- R14[Ground Servicing of Aircraft]
    OP --- R15[Runways]
    OP --- R16[Taxiways]
    OP --- R17[Aprons]
    OP --- R18[Visual Aids]
    OP --- R19[Radio Navigation Aids]
    OP --- R20[Electrical Systems]
    OP --- R21[Terminals]
    OP --- R22[Fencing]
    OP --- R23[Emergency Planning]
    OP --- R24[Rescue and Firefighting]
    OP --- R25[Disable Aircraft Removal]
    OP --- R26[Wildlife Strike Hazard Reduction]
    OP --- R27[Operational Area Management]
    OP --- R28[Ground Servicing of Aircraft]
  
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Figure B - Image of the new BBB Checklist in AOS for General Information.



**ANALYSIS OF THE BASIC BUILDING BLOCK (BBB)
- AERODROMES BASIC ELEMENTS -**

5. AERODROME DESIGN AND CERTIFICATION MODULES								
5.1. RUNWAY ELEMENTS								
	WHAT THE ICAO STANDARD IS ABOUT / ITEM TO BE OBSERVED	Reference/ Guidance	THE STANDARD IS FULLY COMPLIED WITH BY THE AERODROME			Do you have a Corrective Action Plan (PAC) for this deviation/deficiencies?	If so, do you have PAC, what is the estimated correction date?	Does this deviation/deficiency have CAA-approved mitigation measures or procedures?
			YES	NO	PARTIALLY			
5.1.1	Reported the Runway elevations - for non-precision approaches	<i>Annex 14, Vol I, 2.3.2</i>						
5.1.2	Reported the Runway elevations - for precision approaches	<i>Annex 14, Vol I, 2.3.3</i>						
5.1.3	Aerodrome dimensions and related information - runway	<i>Annex 14, Vol I, 2.5.1</i>						

Figure C - Image of the new BBB Checklist in AOS for Runway Elements.

3.6 The BBB Checklist in AOS is currently being developed by the coordinator of the AGA Task Force, with its submission for review and approval planned for the Third Meeting of the North American, Central American and Caribbean Working Group Aerodromes and Ground Aids Task Force (NACC/WG/AGA/3), scheduled for the first half of 2025.

3.7 The Meeting is invited to take note of the information presented in this paper.