



ICAO DAKAR UNITING AVIATION

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Workshop on the Global Air Navigation Plan and the Regional Air Navigation Plan

Air Navigation Deficiencies Management process

Virtual, July 2022



Outline

- Basic Building Block (BBB) Framework
- Collection and posting of information in the Data base
- Reporting of information on deficiencies
- Monitoring Removal of APIRG' endorsed deficiencies from the Data base
- Assessment and prioritization



Basic Building Block (BBB) Framework

- It outlines the foundation of any robust air navigation system. It identifies the essential services in the areas of **AOP**, **ATM**, **SAR**, **MET** and **AIM** to be provided for international civil aviation in accordance with ICAO Standards.
- In addition to essential services, the BBB framework identifies the end users of these services as well as the **CNS** assets that are necessary to provide them.
- The BBB is considered an **independent framework** and **not an ASBU block** as they represent a **baseline** rather than an evolutionary step. This **baseline** is recognized by ICAO Member States as **necessary** for international civil aviation to develop in a **safe and orderly** manner.



Basic Building Block (BBB) Framework

- In 2014, the ICAO Council approved a **new template** for the **Regional Air Navigation Plans (ANPs)** to better align global and regional planning. This template consists of 3 volumes.
- **Volumes I and II** list the regional facilities and regional service requirements, for international civil aviation operations in accordance with regional air navigation agreements, in the areas of AOP, CNS, ATM, SAR, MET and AIM.
- To ensure the provision of **seamless** air navigation **services**, States need to **leverage** the **implementation** of the **BBBs** through their **national air navigation plans** as a strategic part of their national aviation planning framework.
- This will also **pave the way** for the **future implementation** of air navigation improvements to increase the quality of the services and meet the performance expectations of the aviation community.



Basic Building Block (BBB) Framework

- To set the baseline for the system envisioned in the GANP, an **effective process** should be **established** to **verify**, pursuant to **Article 37 of the Chicago Convention**, that the essential services identified in the **BBB** framework are provided.
- This process should **focus** on **verifying** the implementation of the BBBs, as the **capability** of States to **oversight** these services is covered by the USOAP CMA.
- The **process** should be **embedded** within the **methodology** for the identification of deficiencies against the regional air navigation plans.
- If the **BBBs** are **not being delivered**, ICAO, on request of State, **provides** the necessary technical assistance to address the needs identified within the process.



Chicago Convention

Article 28: Air navigation facilities and standard systems

- Each contracting State undertakes, so far as it may find practicable, to:
 - a. Provide, in its territory, **airports, radio services, meteorological services** and other **air navigation facilities** to facilitate international air navigation, in accordance with the standards and practices recommended or established from time to time, pursuant to this Convention;
 - b. Adopt and put into operation the appropriate standard systems of communications **procedure, codes, markings, signals, lighting** and other **operational practices** and **rules** which may be recommended or established from time to time, pursuant to this Convention;
 - c. Collaborate in international measures to secure the publication of **aeronautical maps** and **charts** in accordance with standards which may be recommended or established from time to time, pursuant to this Convention.



Chicago Convention

Article 37: Adoption of international standards and procedures

- Each contracting State undertakes to collaborate in securing the **highest** practicable **degree of uniformity** in regulations, standards, procedures, and organization in relation to **aircraft, personnel, airways** and **auxiliary services** in all matters in which such uniformity will facilitate and improve air navigation.
- To this end the International Civil Aviation Organization **shall adopt** and **amend** from time to time, as may be necessary, international standards and recommended practices and procedures...



Definitions

- A **deficiency** is a situation where a facility, service or procedure does not comply with a **regional air navigation plan approved by the Council**, or with related **ICAO Standards and Recommended Practices**, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation
- **Finding**. Generated in a USOAP CMA activity as a result of a lack of compliance with Articles of the Convention, ICAO Assembly Resolutions, safety-related provisions in the Annexes to the Convention, Procedures for Air Navigation Services (PANS) or a lack of application of ICAO guidance material or good aviation safety practices.

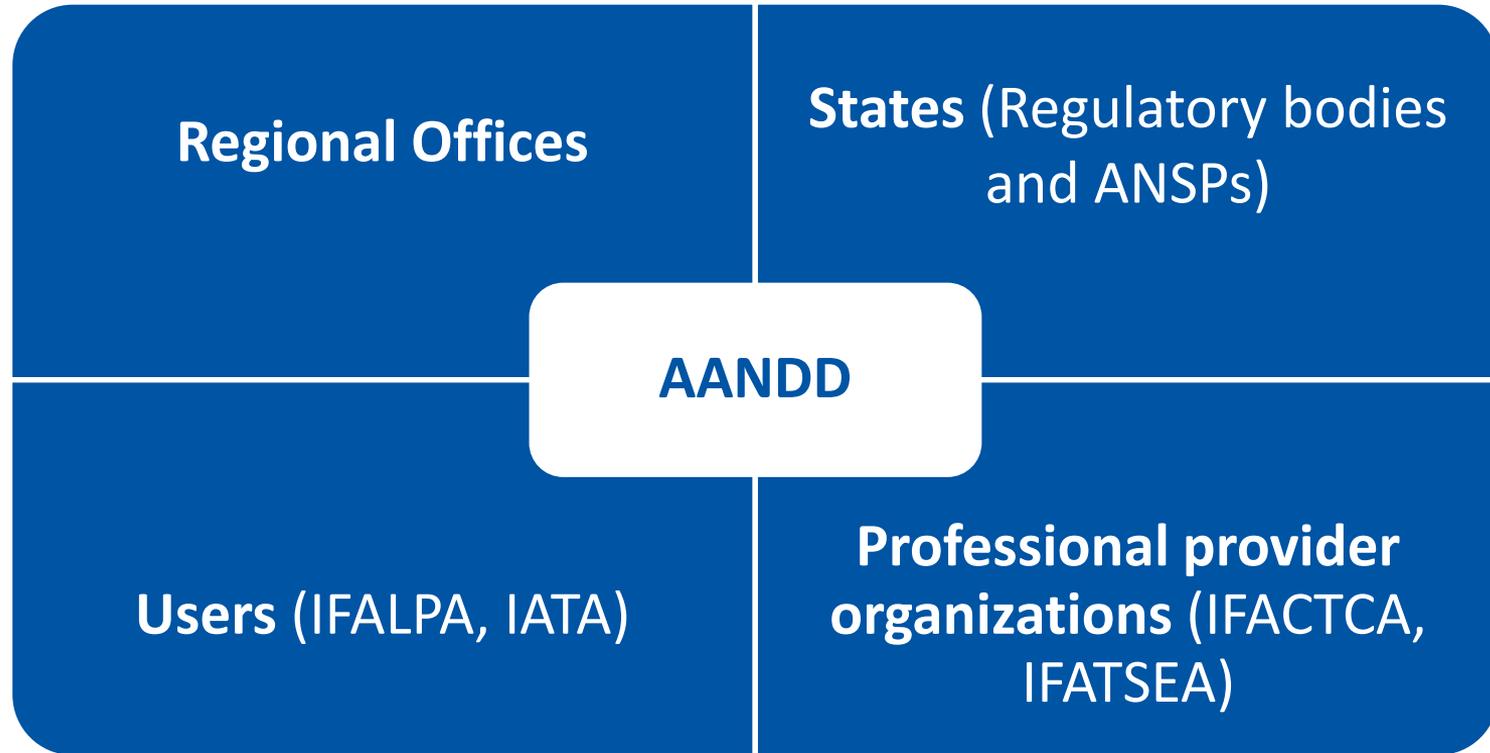


Deficiencies Database (AANDD)

- In order to support the **implementation** of the **Uniform Methodology** for the **identification, assessment and reporting of deficiencies**, it has been established for the AFI Region, a **web-based platform**, the AFI Air Navigation Deficiencies Database (**AANDD**).
- The AANDD application provides an online tool for **States** and relevant **stakeholders** to manage air navigation deficiencies in the region. The application will be accessible through the link: <https://aanndd.icao.int> for operational use.
- The training version is at the link: <https://aanndd-training.eddimas.com>



Collection of information - sources





States – Users - Professional provider organizations

- **States** should, establish reporting systems in accordance with the requirements in Annex 13, Chapter 8.
- **Users** of air navigation facilities and services to report any serious problems encountered due to the lack of implementation of air navigation facilities or services required by regional plans.
- **Professional provider organizations** should identify facilities, services and procedures that are not implemented or are unserviceable for prolonged periods or are not fully operational



Regional Offices

Regional Offices should maintain a list of specific deficiencies, if any, taking the following steps:

- Compare the status of implementation of the air navigation facilities and services with the regional air navigation plan documents and identify facilities, services and procedures not implemented;
- review mission reports with a view to detecting deficiencies that affect safety, regularity and efficiency of international civil aviation;
- make a systematic analysis of the differences with ICAO SARPs filed by States to determine the reason for their existence and their impact, if any, on safety, regularity and efficiency of international civil aviation;
- review aircraft accident and incident reports with a view to detect possible systems or procedures deficiencies;



Regional Offices

- review inputs, provided to the Regional Offices by the users of air navigation services on the basis of Assembly Resolution A37-15, Appendix L;
- assess and prioritize the result of the above according to the paragraph 4 of PART V of the APIRG Procedural Handbook Part;
- report the outcome to the State(s) concerned for resolution; and
- **report the result of above to APIRG for further examination, advice and report to the ICAO Council, as appropriate through PIRG reports.**



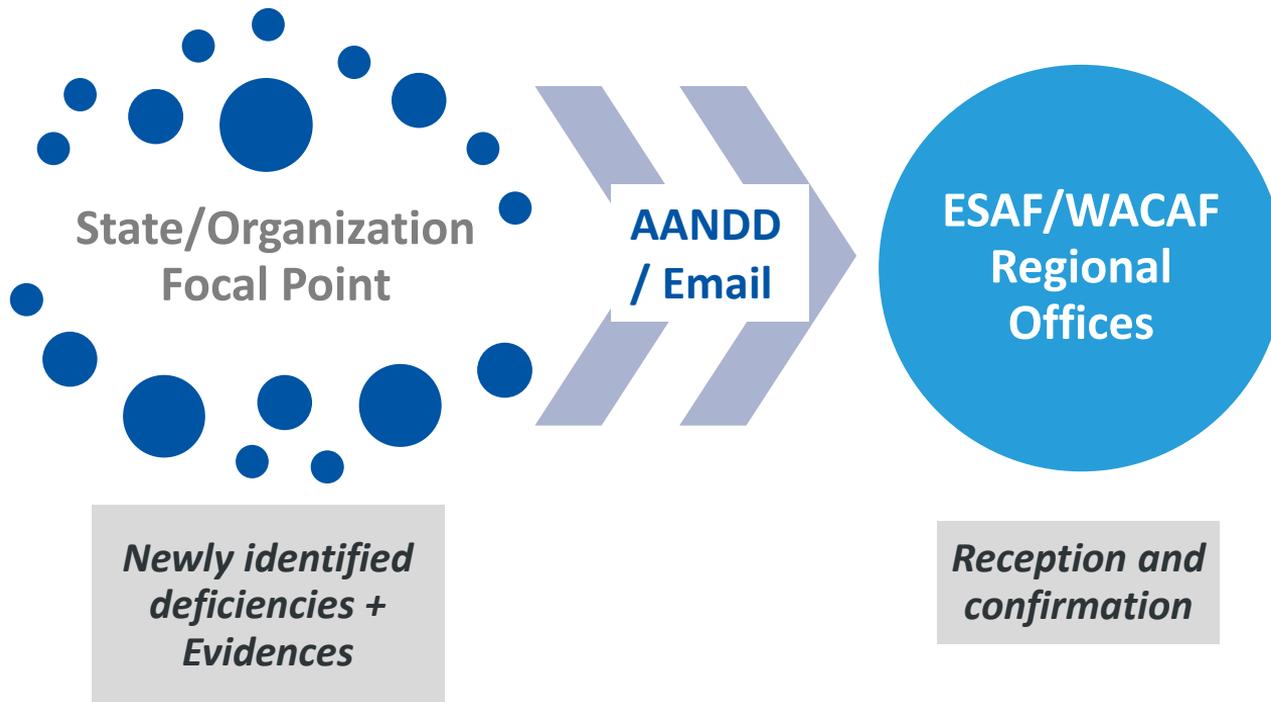
Collection of information – Minimum reporting areas

MINIMUM REPORTING AREAS

Item No	Deficiencies				Corrective Action			
	ICAO Reference Document	Description	Date first reported	Remarks/ Impact of non-implementation	Action by States	Action taken/planned by State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
CLASSIFICATION OF AIRSPACES [Annex 11, 2.6]								
1.	[Annex 11 Para 2.3] [AFI/7 Rec. 5/21]	Lack of provision of area control service		Inefficient and unsafe provision of ATS				
PERFORMANCE-BASED NAVIGATION [Annex 11, 2.7] [A37 Resolution]								
2.	[Annex 11, Para 2.7] AFI/7 Rec. 6/9	Lack of implementation of PBN		Will not achieve targets set as part of Global PBN implementation goals				
3.	[A37 Resolution] [AFI/7 Conc. 5/7]	Implementation of RNAV and RNP operations						

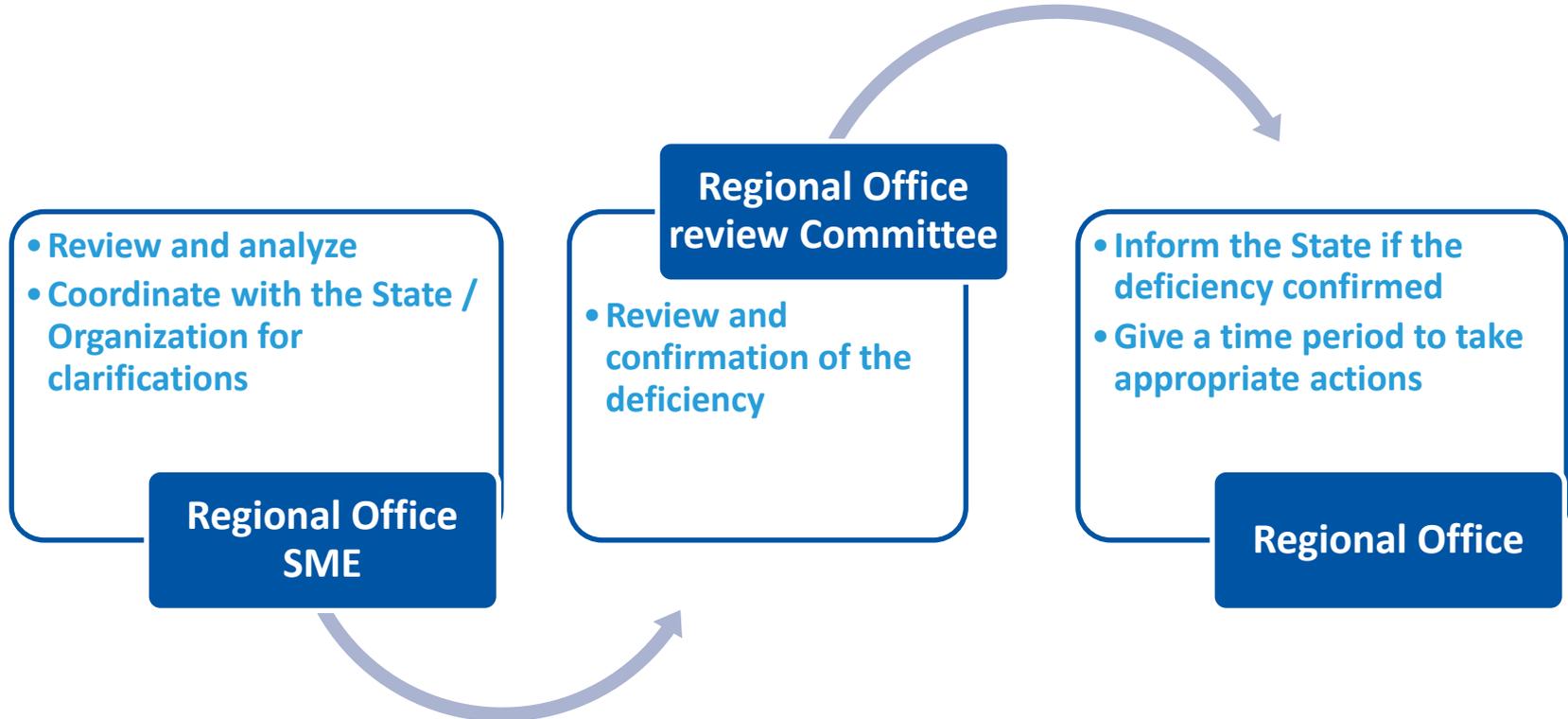


Reporting of information on deficiencies





Reporting of information on deficiencies





Monitoring & Removal of APIRG' endorsed deficiencies

Actions taken on time by the State

- *The case is closed and captured in the AANDD as proposed for deletion*
- *The information is provided to the APIRG meeting*

Actions not taken on time by the State

- *The case is submitted to the APIRG Meeting for consideration and endorsement*
- *The APIRG' endorsed deficiencies are uploaded in the AANDD by the Regional Offices*
- *The State is requested to submit an action plan within a given timeframe*



Monitoring & Removal of APIRG' endorsed deficiencies

- The States shall follow-up the implementation of proposed actions, as established in the action plan and submit relevant evidences for consideration to the ICAO Regional Office through the AANDD
- In case of challenges with the implementation, the State Focal point should inform and coordinate with the Regional Office SME
- The State's Focal Points and Regional office should ensure that the information provided in the AANDD is updated



Monitoring & Removal of APIRG' endorsed deficiencies

- States to implement their action plans and submit relevant evidences for consideration to ICAO Regional Offices
- ICAO Regional Offices to monitor the implementation by the States of their actions plans and report to APIRG
- Once the implementation completed, a documented report, comprising evidences to be submitted by the SME to the Regional Office review Committee
- The Regional Office report is submitted to APIRG for consideration.
- If deemed satisfactory by APIRG, the deficiency is deleted from the AANDD by the Regional Office.



Assessment and prioritization

Table 1. Safety risk probability table

<i>Likelihood</i>	<i>Meaning</i>	<i>Value</i>
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur sometimes (has occurred infrequently)	4
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	2
Extremely improbable	Almost inconceivable that the event will occur	1



Assessment and prioritization

Table 2. Example safety risk severity table

Severity	Meaning	Value
Catastrophic	<ul style="list-style-type: none">• Aircraft / equipment destroyed• Multiple deaths	A
Hazardous	<ul style="list-style-type: none">• A large reduction in safety margins, physical distress or a workload such that operational personnel cannot be relied upon to perform their tasks accurately or completely• Serious injury• Major equipment damage	B
Major	<ul style="list-style-type: none">• A significant reduction in safety margins, a reduction in the ability of operational personnel to cope with adverse operating conditions as a result of an increase in workload or as a result of conditions impairing their efficiency• Serious incident• Injury to persons	C
Minor	<ul style="list-style-type: none">• Nuisance• Operating limitations• Use of emergency procedures• Minor incident	D
Negligible	<ul style="list-style-type: none">• Few consequences	E



Assessment and prioritization

Table 3. Example safety risk matrix

Safety Risk		Severity				
		Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Probability						
Frequent	5	5A	5B	5C	5D	5E
Occasional	4	4A	4B	4C	4D	4E
Remote	3	3A	3B	3C	3D	3E
Improbable	2	2A	2B	2C	2D	2E
Extremely improbable	1	1A	1B	1C	1D	1E



Assessment and prioritization

Table 4. Example of safety risk tolerability

<i>Safety Risk Index Range</i>	<i>Safety Risk Description</i>	<i>Recommended Action</i>
5A, 5B, 5C, 4A, 4B, 3A	INTOLERABLE	Take immediate action to mitigate the risk or stop the activity. Perform priority safety risk mitigation to ensure additional or enhanced preventative controls are in place to bring down the safety risk index to tolerable.
5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C, 1A	TOLERABLE	Can be tolerated based on the safety risk mitigation. It may require management decision to accept the risk.
3E, 2D, 2E, 1B, 1C, 1D, 1E	ACCEPTABLE	Acceptable as is. No further safety risk mitigation required.



Assessment and prioritization

**"U" priority
(Red)**

- Urgent requirements having a direct impact on safety and requiring immediate corrective actions.

**"A" priority
(Orange)**

- Top priority requirements necessary for air navigation safety.

**"B" priority
(Green)**

- Intermediate requirements necessary for air navigation regularity and efficiency.



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European and
North Atlantic
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Paris

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(MID) Office
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Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU