



SAMPLE TEMPLATE

1. AIR NAVIGATION REPORT FORM (ANRF)

(This template demonstrates how ANRF to be used.

The data inserted here refers to ASBU B0-05/CDO as an example only)

Regional and National planning for ASBU Modules

2. REGIONAL/NATIONAL PERFORMANCE OBJECTIVE – B0-05/CDO: Improved Flexibility and Efficiency in Descent Profiles Performance Improvement Area 4: Efficient Flight Path – Through Trajectory-based Operations					
3. ASBU B0-05/CDO: Impact on Main Key Performance Areas (KPA)					
	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	N	N	Y	Y	Y
4. ASBU B0-05/CDO: Planning Targets and Implementation Progress					
5. Elements			6. Targets and implementation progress (Ground and Air)		
1. CDO					
2. PBN STARs					
7. ASBU B0-05/CDO: Implementation Challenges					
Elements	Implementation Area				
	Ground system Implementation	Avionics Implementation	Procedures Availability	Operational Approvals	
1. CDO					
2. PBN STARs					

8. Performance Monitoring and Measurement 8A. ASBU B0-05/CDO: Implementation Monitoring	
Elements	Performance Indicators/Supporting Metrics
1. CDO	Indicator: Percentage of international aerodromes/TMAs with CDO implemented Supporting metric: Number of international aerodromes/TMAs with CDO implemented
2. PBN STARs	Indicator: Percentage of international aerodromes/TMAs with PBN STARs implemented Supporting metric: Number of international aerodromes/TMAs with PBN STARs implemented

8. Performance Monitoring and Measurement 8 B. ASBU B0-05/CDO: Performance Monitoring	
Key Performance Areas (Out of eleven KPAs, for the present until experienced gained, only five have been selected for reporting through ANRF)	Where applicable, indicate qualitative Benefits,
Access & Equity	Not applicable
Capacity	Not applicable
Efficiency	Cost savings through reduced fuel burn. Reduction in the number of required radio transmissions.
Environment	Reduced emissions as a result of reduced fuel burn
Safety	More consistent flight paths and stabilized approach paths. Reduction in the incidence of controlled flight into terrain (CFIT).
9. Identification of performance metrics: It is not necessary that every module contributes to all of the five KPAs. Consequently, a limited number of metrics per type of KPA, serving as an example to measure the module(s)' implementation benefits, without trying to apportion these benefits between module, have been identified on page 5. For the family of ASBU modules selected for air navigation implementation, States/Region to choose the applicable performance (benefit) metrics from the list available on page 5. This approach would facilitate States in collecting data for the chosen performance metrics. States/Region, however, could add new metrics for different KPAs based on maturity of the system and ability to collect relevant data.	

AIR NAVIGATION REPORT FORM HOW TO USE - EXPLANATORY NOTES

1. **Air Navigation Report Form (ANRF):** This form is nothing but the revised version of Performance Framework Form that was being used by Planning and Implementation Regional Groups (PIRGs)/States until now. The ANRF is a customized tool for Aviation System Block Upgrades (ASBU) Modules which is recommended for application for setting planning targets, monitoring implementation, identifying challenges, measuring implementation/performance and reporting. Also, the PIRGs and States could use this report format for any other air navigation improvement programmes such as Search and Rescue. If necessary, other reporting formats that provide more details may be used but should contain as a minimum the elements described in this ANRF template. The results will be analysed by ICAO and aviation partners and utilized in developing the Regional Performance Dashboard and the Annual Global Air Navigation Report. The conclusions from the Global Air Navigation Report will serve as the basis for future policy adjustments, aiding safety practicality, affordability and global harmonization, amongst other concerns.
2. **Regional/National Performance objective:** In the ASBU methodology, the performance objective will be the title of the ASBU module itself. Furthermore, indicate alongside corresponding Performance Improvement area (PIA).
3. **Impact on Main Key Performance Areas:** Key to the achievement of a globally interoperable ATM system is a clear statement of the expectations/benefits to the ATM community. The expectations/benefits are referred to eleven Key Performance Areas (KPA) and are interrelated and cannot be considered in isolation since all are necessary for the achievement of the objectives established for the system as a whole. It should be noted that while safety is the highest priority, the eleven KPAs shown below are in alphabetical order as they would appear in English. They are access/equity; capacity; cost effectiveness; efficiency; environment; flexibility; global interoperability; participation of ATM community; predictability; safety; and security. However, out of these eleven KPAs, for the present, only five have been selected for reporting through ANRF, which are Access & Equity, Capacity, Efficiency, Environment and Safety. The KPAs applicable to respective ASBU module are to be identified by marking Y (Yes) or N (No). The impact assessment could be extended to more than five KPAs mentioned above if maturity of the national system allows and the process is available within the State to collect the data.
4. **Planning Targets and Implementation Progress:** This section indicates planning targets and status of progress in the implementation of different elements of the ASBU Module for both air and ground segments.
5. **Elements related to ASBU module:** Under this section list elements that are needed to implement the respective ASBU Module. Furthermore, should there be elements that are not reflected in the ASBU Module (example: In ASBU B0-80/ACDM, Aerodrome certification and data link applications D-VOLMET, D-ATIS, D-FIS are not included; Similarly in ASBU B0-30/DAIM, note that WGS-84 and eTOD are not included) but at the same time if they are closely linked to the module, ANRF should specify those elements. As a part of guidance to PIRGs/States, every Regional ANP will have the complete list of all 18 Modules of ASBU Block 0 along with corresponding elements, equipage required on the ground and in the air as well as metrics specific to both implementation and performance (benefits).
6. **Targets and implementation progress (Ground and Air):** Planned implementation date (month/year) and the current status/responsibility for each element are to be reported in this section. Please provide as much details as possible and should cover both avionics and ground systems. This ANRF being high level document, develop necessary detailed action plan separately for each element/equipage.

7. **Implementation challenges:** Any challenges/problems that are foreseen for the implementation of elements of the Module are to be reported in this section. The purpose of the section is to identify in advance any issues that will delay the implementation and if so, corrective action is to be initiated by the concerned person/entity. The four areas, under which implementation issues, if any, for the ASBU Module to be identified, are as follows:

- Ground System Implementation:
- Avionics Implementation:
- Procedures Availability:
- Operational Approvals:

Should be there no challenges to be resolved for the implementation of ASBU Module, indicate as “NIL”.

8. **Performance Monitoring and Measurement:** Performance monitoring and measurement is done through the collection of data for the supporting metrics. In other words, metrics are quantitative measure of system performance – how well the system is functioning. The metrics fulfil three functions. They form a basis for assessing and monitoring the provision of ATM services, they define what ATM services user value and they can provide common criteria for cost benefit analysis for air navigation systems development. The Metrics are of two types:

A. **Implementation Monitoring:** Under this section, the indicator supported by the data collected for the metric reflects the status of implementation of elements of the Module. For example- Percentage of international aerodromes with CDO implemented. This indicator requires data for the metric “number of international aerodromes with CDO”.

B. **Performance Monitoring:** The metric in this section allows to assess benefits accrued as a result of implementation of the module. The benefits or expectations, also known as Key Performance Areas (KPA), are interrelated and cannot be considered in isolation since all are necessary for the achievement of the objectives established for the system as a whole. It should be noted that while safety is the highest priority, the eleven KPAs shown below are in alphabetical order as they would appear in English. They are access/equity; capacity; cost effectiveness; efficiency; environment; flexibility; global interoperability; participation of ATM community; predictability; safety; and security. However, out of these eleven KPAs, for the present until experienced gained, only five have been selected for reporting through ANRF, which are Access & Equity, Capacity, Efficiency, Environment and Safety. Where applicable, mention qualitative benefits under this section.

9. **Identification of performance metrics:** It is not necessary that every module contributes to all of the five KPAs. Consequently, a limited number of metrics per type of KPA, serving as an example to measure the module(s)’ implementation benefits, without trying to apportion these benefits between module, have been identified on page 6. For the family of ASBU modules selected for air navigation implementation, States/Region to choose the applicable performance (benefit) metrics from the list available on page 6. This approach would facilitate States in collecting data for the chosen performance metrics. States/Region, however, could add new metrics for different KPAs based on maturity of the system and ability to collect relevant data.

**LIST OF PERFORMANCE METRICS FOR ASBU MODULES RELATED TO ELEVEN
KPAs - EXAMPLES**

Key Performance Area	Related Performance Metrics
1. Access & Equity	1. KPA/Access: Number of international aerodromes with APV
	2. KPA/Access: Percentage of time Special Use Airspace (SUA) available to Civil Operations
	3. KPA/Access: Percentage of requested flight level versus cleared flight level
	4. KPA/Access: Number of access denials due to equipment failure
	5. KPA/Equity: Percentage of aircraft operators by class who consider that equity is achieved
	6. KPA/Equity: Percentage of different types of aircraft operating in a particular airspace or international aerodrome.
2. Capacity	1. Number of operations (arrivals+departures) per international aerodrome per day
	2. Average ATFM delay per flight at an international aerodrome
	3. Number of landings before and after APV per international aerodrome
	4. Average en-route ATFM delay generated by airspace volume
	5. Number of aircraft in a defined volume of airspace for a period of time
3. Cost effectiveness	1. IFR movements per ATCO hour on duty
	2. IFR flights (en-route) per ATCO hour duty
4. Efficiency	1. Kilograms of fuel saved per flight
	2. Average ATFM delay per flight at the international aerodrome
	3. Percentage of PBN routes
5. Environment	1. Kilograms of CO ₂ emissions reduced per flight (= KGs fuel saved per flight x 3.157)
	2. The number of electronic pages dispatched
6. Flexibility	1. Number of backups available in emergency
	2. Number of changes approved to the flight plan
	3. Number of alternatives granted
7. Global Interoperability	1. Number of ATC automated systems that are interconnected
8. Participation of the ATM Community	1. Level of participation in meetings
	2. Level of responses to planning activities
9. Predictability	1. Arrival/departure delay (in minutes) at international aerodrome
10. Safety	1. Number of runway incursions per international aerodrome per year
	2. Number of incidents/accidents with MET conditions as a sole or as a contributory factor
	3. Number of ACAS RA events
	4. Number of CFIT accidents
	5. Number of missed approaches avoided due to use of CDO
11. Security	Not Applicable

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REFERENCE TABLE OF THE NEW AND OLD ASBU MODULES

Old ASBU Modules Numbering System	New ASBU Modules Identifiers	
65	<i>APTA</i>	<i>Airport Accessibility</i>
70	<i>WAKE</i>	<i>Wake Turbulence Separation</i>
15	<i>RSEQ</i>	<i>Arrival/Departure Management</i>
75	<i>SURF</i>	<i>Surface Operations</i>
80	<i>ACDM</i>	<i>Airport Collaborative Decision Making</i>
81	<i>RTWR</i>	<i>Remote Aerodrome Control Towers</i>
25	<i>FICE</i>	<i>FF/ICE</i>
30	<i>DAIM</i>	<i>Digital Aeronautical Management</i>
31	<i>SWIM</i>	<i>System Wide Information Management</i>
105	<i>AMET</i>	<i>Advanced Meteorological Information</i>
10	<i>FRTO</i>	<i>Free Routing</i>
35	<i>NOPS</i>	<i>Network Operations</i>
84	<i>ASUR</i>	<i>Initial Surveillance</i>
85	<i>ASEP</i>	<i>Airborne Separation</i>
86	<i>OPFL</i>	<i>Optimum Flight Levels</i>
101	<i>ACAS</i>	<i>Airborne Collision Avoidance Systems</i>
102	<i>SNET</i>	<i>Ground-Based Safety Nets</i>
05	<i>CDO</i>	<i>Continuous Descent Operations</i>
40	<i>TBO</i>	<i>Trajectory-Based Operations</i>
20	<i>CCO</i>	<i>Continuous Climb Operations</i>
90	<i>RPAS</i>	<i>Remotely Piloted Aircraft Systems</i>

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