SAMPLE TEMPLATE
AIR NAVIGATION REPORT FORM (ANRF)

Regional and National planning for all ASBU Modules

REGIONAL/NATIONAL PERFORMANCE OBJECTIVE

SAFETY AND EFFICIENCY OF SURFACE OPERATIONS
(A-SMGCS LEVEL 1-2) (ASBU B0-75)

Performance Improvement Area 1:
Airport Operations

ASBU B0- 75 : Impact on Main Key Performance Areas (KPA)

	Access & Equity	Capacity	Efficiency	Environment	Safety
Applicable	Y	Y	Y	Y	Y

ASBU B0-75: Implementation Progress

Elements	Implementation Status (Ground and Air)
1. Visual aids	PAPI, CAT I Airfield Lighting Systems Planned CAT II Airfield Lighting Systems by 2015
2. Multilateration, SSR Mode S, and ADS-B;	Implemented SSR Mode S Planned - Multilateration December 2014 - ADS-B - December 2014
3. Transponder for both aircraft and vehicles	Transponder for all Aircraft already implemented. Vehicle Transponder December 2016
4. Alerting systems with flight identification information	- Runway incursion alert - Short term conflict alert - Area penetration alert - Deviation alert - Medium term alert

ASBU B0-75: Implementation Roadblocks/Issues

Elements	Implementation Area			
	Ground system Implementation	Avionics Implementation	Procedures Availability	Operational Approvals
1. Visual aids	Nil	Nil	Nil	Nil
2. Multilateration and ADS-B;	Nil	Kenya Registered Aircraft Equipage	nil	• Trained Personnel for approvals required.

3 Transponder for vehicles	Nil	Vehicle equipage	Nil	Nil
4 Alerting systems with flight identification information	Nil	Nil	Nil	Nil

ASBU B0-75: Performance Monitoring and Measurement (Infrastructure)	
Infrastructure/Implementation referring to elements of the Module	**Performance Metrics**
1. Visual aids	- Number of PAPIs Installed - Number of CAT II Airfield Lighting Systems installed
2. Multilateration, SSR Mode S, and ADS-B;	Number of Airports covered
3. Transponder for both aircraft and vehicles	Number of aircraft and vehicles equipped
4. Alerting systems with flight identification information	Percentage of correct alerts received

ASBU B0-75: Performance Monitoring and Measurement(KPAs)	
Module benefits to Key Performance Areas	**Performance Metrics**
Access & Equity	Reduced delays
Capacity	Enhanced airports operations
Efficiency	Minimal operational delays
Environment	Reduced Carbon emissions
Safety	Reduced runway incursions

— — — — — — — — —

AIR NAVIGATION REPORT FORM
HOW TO USE - EXPLANATORY NOTES

1. **Air Navigation Report Form (ANRF):** This form provides a standardized approach to implementation monitoring and performance measurement of Aviation System Block Upgrades (ASBU) Modules. The Planning and Implementation Regional Groups (PIRGs) and States could use this report format for their planning, implementation and monitoring framework for ASBU Modules. Also, other reporting formats that provide more details may be used but should contain as a minimum the elements described below. The Reporting and monitoring results will be analysed by ICAO and aviation partners and then utilized in developing the Annual Global Air Navigation Report. The Global Air Navigation Report conclusions will serve as the basis for future policy adjustments aiding safety practicality, affordability and global harmonization, amongst other concerns.

2. **Performance objective:** In the ASBU methodology, the performance objective for the regions as well as for the States will be the ASBU module title itself along with corresponding Performance Improvement area (PIA). Consequently, for ASBU Block 0, a total of 18 ANRFs will be developed that reflects respective 18 Modules.

3. **Impact on 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 (KPAs) 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).

4. **Implementation Progress:** This section, while describing different elements of the ASBU Module, indicates progress in its implementation by PIRGs/States.

5. **Elements related to ASBU module:** The regional/national air navigation work programmes, under this section, will list elements that are needed to implement the respective ASBU Module and thus achieve the said performance objective. For the list of elements related to different Block 0 Modules, refer to the documentation describing ASBU Modules. Furthermore, should there be elements that are not reflected in the ASBU Module (example: In ASBU B0-80/Airport CDM, Aerodrome certification and data link applications D-VOLMET, D-ATIS, D-FIS are not included; Similarly in ASBU B0-30/AIM, note that WGS-84 and eTOD are not included) but at the same time they are linked to the module, ANRF should specify those elements. As a part of guidance to PIRGs/States, the FASID (Volume II) of every Regional ANP will have all 18 ANRFs formats for 18 Modules of ASBU Block 0. Note that not all Modules are applicable to all airspaces/States. These ANRFs formats include, in some cases, elements not reflected in the module but linked in view of their close relationship. The PIRGs and States could use these 18 ANRFs formats available in FASID as the basis for reporting ASBU implementation status for Block 0 Modules.

6. **Implementation Status (Ground/Air):** Planned implementation date (moth/year) and the current status/responsibility for each element are to be reported in this section that should provide as much details as possible and cover both avionics and ground systems. If necessary, use additional pages.

7. **Implementation Roadblocks/Issues**: Any problems/issues 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 by the concerned entity is to be initiated. 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 issues 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 two types;

    A. Infrastructure/implementation metrics: This Metric reflects the status of implementation of elements of the Module. For example-Number of airports with ADS-B, number of PBN routes implemented, Number of Sates implemented WGS-84.
    B. Benefit/ impact on KPA: This Metrics reflects the benefits that are derived from the Module to five main KPAs

    On the basis of examples of Metrics detailed below, PIRGs/States to indicate under this section the appropriate metrics that represents the monitoring of respective ASBU Module both in terms of Infrastructure as well as benefits to five KPAs.

    The impact on KPAs could be extended to more than five KPAs mentioned above if maturity of the system allows and the process is available within the State to collect the data.

— — — — — — — — —

LIST OF PERFORMANCE METRICS FOR ASBU MODULES- EXAMPLES

Key Performance Area	Related Performance Metrics
1. Access & Equity	1. KPA/Access: Percentage of instrument runway ends having an APV
	2. KPA/Access: Duration of Special Use Airspace (SUA) limits Civil Operations
	3. KPA/Equity Percentage of aircraft operators by class who consider that equity is achieved
	4. KPA/Access: Percentage of requested flight level versus cleared flight level
2. Capacity	1. Number of movements per day per aerodrome
	2. Average ATFM delay per flight at an airport
	3. Number of aircraft entering a specified volume of airspace per hour
	4. Average en-route ATFM delay generated by airspace volume
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 operation
	2. Average ATFM delay per flight in the airport
	3. Percentage of PBN routes
5. Environment	1.Kilograms of CO2 emissions reduced per operation
6. Flexibility	To be decided
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 airport)
10. Safety	1. Number of runway incursions per aerodrome per year
	2. Number of incidents/accidents due to MET conditions
11. Security	Not Applicable
Implementation /Infrastructure	1. Percentage of States implemented eTOD
	2. Number of aerodromes comply with Visual Aids for Navigation requirements as per Annex 14
	3.Percentage of certified aerodromes used for international operations
	4. Number of aircraft fitted with ADS-B IN
	5. Number of aircraft fitted with ACAS / logic Version 7.1
	6.Percentage of aerodromes with PBN STAR implemented
	7. Percentage of aerodromes with CDOs implemented
	8. Number of ADS-Cs available over oceanic and remote Areas
	9. Number of continental CPDLC systems established
	10. Percentage of aerodromes with PBN SIDs implemented
	11. Percentage of aerodromes with CCOs implemented
	12. Number of States implemented WGS-84

— END —.