ICAO

Twenty-Second Meeting of the AFI Planning and Implementation Regional Group (APIRG/22)
(Accra, Ghana, 29 July – 2 August 2019)

Agenda Item 2: Performance Framework for Regional Air Navigation Planning and implementation.

2.4: Status of implementation of ASBU

AVIATION SYSTEM BLOCK UPGRADES BLOCK 0 MODULE IMPLEMENTATION STATUS FOR SOUTH AFRICA

(Presented by South Africa)

SUMMARY	
This information paper presents the ASBU Block 0 Module Implementation Status for South Africa Action by the Meeting: a) Note the progress made by South Africa regarding ASBU Block 0 module implementation.	
Strategic Objectives	Objective (a) Safety, (b) Air Navigation Capacity and Efficiency

1. INTRODUCTION

1.1 The more efficient routes facilitated by performance-based procedures and advanced avionics serve to significantly reduce aviation emissions – a key factor supporting more fuel-efficient modern aircraft as aviation pursues its commitment to comprehensively reduce its environmental impacts.

1.2 The Aviation System Block Upgrades (ASBU) methodology and its Modules define a programmatic and flexible global systems engineering approach allowing all States to advance their Air Navigation capacities based on their specific operational requirements.

1.3 If the air transport system is to continue to drive global economic prosperity and social development to the extent that the aviation community and the world have grown accustomed, especially in the face of expected regional traffic growth projections and the pressing need for more determined and effective climate-related stewardship, States must fully embrace the new Block Upgrade process and follow a unified path to the future global Air Navigation system.

Basic Modules to implement as a minimum path to support global interoperability were discussed at the Twelfth Air Navigation Conference (AN-Conf/12). They will be defined in the next triennium and be taken in account in the Regional Priorities agreed to by the Planning and Implementation Regional Groups (PIRGs). As the GANP progresses, Module implementation will be fine-tuned through regional agreements in the ICAO PIRG process.

1.4 As per the ICAO GANP – ICAO Doc 9750, South Africa is harmonized with ICAO's 10 key Navigation Policy Principles. With reference to this information paper particularly to the key principle of 'Use of ASBU Blocks and Modules.

1.5 When the ASBU Blocks and Modules are adopted by regions, sub regions or States they should be followed in close accordance with the specific ASBU requirements to ensure global interoperability and harmonization of air traffic management. South Africa has been focusing its efforts both regionally and in the wider AFI region to achieve the desired interoperability and harmonization of the region.

2. DISCUSSION

SOUTH AFRICAN ASBU Block 0 module status

2.1 PIA 1: AIRPORT OPERATIONS

2.1.1 APTA - Optimization of Approach Procedures including vertical guidance

High level Implementation Indicator(s) - % of international aerodromes having at least one runway end provided with PBN procedures (APV Baro-VNAV or LPV)

Status - 66% Baro VNAV Procedures Implemented at 6 International Aerodromes and 8 Domestic aerodromes

2.1.2 WAKE - Increased Runway Throughput through optimized Wake Turbulence Separation

High level Implementation Indicator(s) - % of applicable international aerodromes having implemented increased runway throughput through optimized wake turbulence separation

Status - 0% Determine Requirement to implement this ASBU Module element and if requirement is identified, to implement.

2.1.3 SURF - Safety and Efficiency of Surface Operations

High level Implementation Indicator(s) - % of applicable international aerodromes having implemented A-SMGCS Level 2

Status - 100% Implemented at Airports: FAOR & FACT. No need has been identified for any other airports.

2.1.4 ACDM - Improved Airport Operations through Airport-CDM

High level Implementation Indicator(s) - % of applicable international aerodromes having implemented improved airport operations through airport-CDM

Status - 100% Implemented at FAOR, FALE and FACT established airport management centres (AMC's) No additional planned. Have established a framework for ad hoc ACDM in support of special events.

2.1.5 RSEQ - Improve Traffic flow through Runway Sequencing (AMAN/DMAN)

High level Implementation Indicator(s) - % of applicable international aerodromes having implemented AMAN/DMAN

Status - 67% AMAN Implemented at FAOR and FACT. DMAN at FAOR planned, implementation date not determined.

2.2 PIA 2: GLOBALLY INTEROPERABLE SYSTEMS AND DATA

2.2.1 FICE - Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration.
High level Implementation Indicator(s) - % of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC/OLDI with neighbouring ACCs

Status - 100% AIDC implemented within FACA/FAJA FIR. AIDC with neighbouring states not implemented – dependent

2.2.2 DATM - Service Improvement through Digital Aeronautical Information Management

High level Implementation Indicator(s) – percentage of States having implemented an AIXM based AIS database.

Status - 100% CAD Implemented.

2.2.3 AMET - Meteorological information supporting enhanced operational efficiency and safety
High level Implementation Indicator(s) - percentage of States having implemented QMS
% of States having implemented SADIS.

Status - 100% MET data integration into ATNS systems (CAMU, Eurocat) Implemented as well as Integrated Weather Displays in ATSU's (DAID/AWOS)

2.3 PIA 3: OPTIMUM CAPACITY AND FLEXIBLE FLIGHTS - THROUGH GLOBAL COLLABORATIVE ATM

2.3.1 FRTO - Improved Operations through Enhanced En-Route Trajectories

High level Implementation Indicator(s) – percentage of FIRs in which FUA is implemented

Status - 67% FUA Implemented within the South African FDRG (FAJA/CA/JO). UPR's implemented in FAJO. No Flex treks designed or published. ATM planning to do a needs analyses and feasibility study.

2.3.2 **NOPS** - Improved Flow Performance through Planning based on a Network-Wide view.

High level Implementation Indicator(s) - percentage of FIRs within which all ACCs utilize. ATFM systems

Status - 100% Implemented within FAJA, FACA and FAJO.

2.3.3 **ASUR** - Initial capability for ground surveillance.

High level Implementation Indicator(s) - percentage of FIRs where ADS-B OUT and/or MLAT are implemented for the provision of surveillance services in identified areas.

Status - 100% MLAT/ADS-B is implemented as part of the ASMGC in FAOR and FACT. However, it is certified for MLAT and not for ADS-B. ATNS is in the process of rolling out Wide area MLAT/ADS-B in the North Region with implementation estimated end 2019.

2.3.4 **ASEP** - Air Traffic Situational Awareness(ATSA)

High level Implementation Indicator(s) – percentage of States having implemented air traffic situational awareness

Status – Not Applicable. Basic airborne situational awareness during flight operations (AIRB) responsibility of airlines.

2.3.5 **OPFL** - Improved access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B

High level Implementation Indicator(s) - percentage of FIRs having implemented in-trail procedures.

Status – 0% Needs analyses and feasibility study for ITP to be done.

2.3.6 **ACAS** - ACAS Improvements.

High level Implementation Indicator(s) - percentage of States requiring carriage of ACAS (with TCAS 7.1 evolution).

Status – n/a Airline responsibility.

2.3.7 **SNET** - Increased Effectiveness of Ground-Based Safety Nets.

High level Implementation Indicator(s) - percentage of States having implemented ground-based safety-nets (STCA, APW, MSAW, etc.).

Status – 100% Ground Based safety nets implemented in Eurocat system.

Short-term Conflict Alert, Area Proximity Warnings and Minimum safe Altitudes warnings have been implemented.

2.4 PIA 4: EFFICIENT FLIGHT PATHS

2.4.1 **CDO** - Improved Flexibility and Efficiency in Descent Profiles (CDO).

High level Implementation Indicator(s) - percentage of international aerodromes/TMAs with PBN STAR implemented percentage of international aerodromes/TMA where CDO is implemented.

Status – 50% Only ACSA international aerodromes identified as requiring a need. All ACSA International Airports to be implemented according to PBN Roadmap.

2.4.2 **TBO** - Improved Safety and Efficiency through the initial application of Data Link En-Route

High level Implementation Indicator(s) - % of FIRs utilizing data link en-route in applicable airspace.

Status – 90% ADS/CPDLC Implemented with Eurocat. FAJO = 90% of airspace. Random routing is applied within the Oceanic en-route operations and has been implemented since 1997 in the IORRA together with an accommodation for vertical and lateral random operations. Within the AORRA lateral random routing operations were established in 2006.

2.4.3 **CCO** - Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO).

High level Implementation Indicator(s) - % of international aerodromes / TMAs with PBN SID implemented percentage of international aerodromes/TMA where CCO is implemented.

Status – 50% Only ACSA international aerodromes identified as requiring a need. All ACSA International Airports to be implemented according to PBN Roadmap.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the progress made by South Africa regarding ASBU Block 0 module implementation.