THE UGANDA ASBU PLAN- HIGHLIGHTS

ASBU WORKSHOP 18TH TO 22RD SEPT, 2017- DAKAR

Outline

- Introduction
- FIR, ATS routes and Aerodromes
- Air Navigation Services
- Current Airline Operators
- Traffic forecast
- CNS/ATM infrastructure
- Challenges
- Progress made

Introduction

- The Civil Aviation Authority (CAA) is a corporate body established by Act of Parliament, *The Civil Aviation Authority Act (CAP 354),* with the objective of promoting a safe, regular, secure and efficient use and development of civil aviation inside and outside Uganda.

- The CAA Act (CAP 354) spells out the mandate for the Authority under sections 6(1) and 6(2).

Introduction Cont'd

Mandate of CAA Uganda

- Advises government on matters concerning Aviation
- Provide ANS
- Provide Regulatory compliance
- Management of Aerodromes

ENTEBBE FLIGHT INFORMATION REGION STRUCTURE AND AERODROMES

ENTEBBE FIR

- From Ground to Unlimited
- From GND to 1500: Class G

ENTEBBE UTA and ATS ROUTES

- From FL 145 to Unlimited, centered on a radius of 150NM from NN
- Class of airspace: A

ENTEBBE TMA

- From 1500ft to FL 145, Centered on a radius of 65NM from NN
- Class of airspace: E

ENTEBBE CONTROL ZONE

- From Ground to 9000ft, Centered on a radius of 15NM from NN
- Class of airspace C and D

Structure of Entebbe FIR

ATS ROUTES.pdf

AERODROMES

- The **primary**/major international aerodrome in Uganda is **Entebbe.**
- **Category A: Aerodrome of Entry and Departure of International air traffic**
- **Secondary**/other international **(Category B)** aerodromes in Uganda are: **6 in number**
- **Category B: Entry and Departure, customs, immigration and health available on request**

Aerodromes cont'd

- National (**Category C)** aerodromes in Uganda are: **38 in number**
- **Category C: Domestic Aerodromes**
- **Category D: Heliports**

Air Navigation Services and Responsibilities

The Directorate of Air Navigation Services (DANS), of the Uganda Civil Aviation Authority is the Department responsible for the provision of air Navigation services

Air Traffic Services

- Flight Information Services (FIS)
- Alerting Service (ALRS)
- Air Traffic Control Services
  - En-route Radar Control Service (ENR)
  - Approach Radar Service (APR)
  - Approach Control Services (APP)
  - Aerodrome Control Service(TWR)
- Coordination of search and rescue services

Air Navigation Services cont'd

Aeronautical Information Services/Charts

- Aeronautical Information Publication (AIP);
- Amendment service to the AIP (AIP AMDT);
- Supplement to the AIP (AIP SUP);
- NOTAM and Pre-flight Information Bulletins (PIB);
- Aeronautical Information Circulars (AIC); and
- Checklists and lists of valid NOTAM
- Provision of Charts

Communication Navigation and Surveillance services

- LF/MF Non-Directional Beacon (NDB)
- Instrument Landing System (ILS)
- Doppler VOR (DVOR)
- Distance Measuring Equipment (DME)
- VHF Direction Finding Station (VDF)
- Radar SSR Mode S – Airspace Management System (AMS)
- VHF/RTF capable of operating on the appropriate frequencies;
- ATS/DS systems - VSAT
- AFTN
- Aeronautical Mobile Service (HF)
- TETRA

Meteorological services for ANS

The meteorological services for Civil Aviation are provided by the Uganda National Meteorological Authority, National meteorological centre Entebbe

- Meteorological Observations and Reports
- Provision TAF, METAR
- Satellite weather imagery
- Prognostic charts (geopotential flight levels (wind and temperature)
- SIGMET
- Flight documentation (weather charts and tabular forecasts of wind and temperatures)
- Pre- flight weather briefing

Scheduled OPerators

- Kenya Airways
- Ethiopian
- Turkish Airlines
- South African
- Emirates
- KLM Royal Dutch Airlines
- Qatar Airways
- Rwanda air

Scheduled cont'd

- SN Brussels
- Precision Airlines
- Etihad Airways
- Fly Dubai
- Egypt Air
- Fly Sax
- African Express
- Precision Air

Non scheduled operators

- AEROLINK
- Aim Air
- Auric Air
- Air Serv
- Air Tec Africa
- Coastal AV
- DHL
- Eagle Air
- Grand Air SVC

Non scheduled cont'd

- DAC AVIATION
- KAFTC
- Kakira Sugar Works
- KEA
- Kibali Gold
- Mission Aviation Fellowship(UGANDA)-MAF
- Mission Aviation(DRC)-MAF
- Saf Air-SFR

Uganda Licensed Air Operators

- Air Serv / Reliance
- Eagle Air
- Kampala Aeroclub Flight Training Centre (KAFTC)
- Mission Aviation Fellowship (MAF)
- Premier Safaris
- Uganda Air Cargo Corporation
- Ndege Juu Ya Africa
- Asante Aviation
- Transafrik (U) Ltd
- Kampala Executive Aviation
- Aero Link
- Kampala Executive Aviation
- Vule Airlines

Growth indicator : Traffic forecast

YEAR	Total Movements	Total Passengers	Cargo (tonnes)
2012	43,449	1,475,631	55,907
2018	55,500	2,377,100	77,100
2023	76,300	3,810,700	100,700
2033	123,700	7,667,700	172,100

Source: CAA Master plan 2014

Current CNS/ATM Infrastructure and Automation

- LF/MF Non-Directional Beacon (NDB) - 4
- Instrument Landing System (ILS) - 1
- Doppler VOR (DVOR) - 2
- Distance Measuring Equipment (DME) - 3
- VHF Direction Finding Station (VDF) - 1
- SSR Mode S – Airspace Management System (AMS)

Infrastructure cont'd

- VHF radio operating on the appropriate frequencies
- ATS/DS systems - VSAT
- AFTN (transitioning to AMHS by Nov 2017)
- Aeronautical Mobile Service (HF)
- AIM Automation
- ATIS
- AWOS
- TETRA

Technical and operational challenges

- High cost of technical training
- High cost of equipment/systems
- Evolving technology
- Bureaucratic procurement procedures
- Inadequate staffing
- Retention of technical personnel(staff turn over)
- Terrorism threats
- Airspace restrictions
- Aging technical staff

Economic Concerns

- Capital intensive nature of the aviation industry.
- Limited financial resources
- Inflation
- Rapid changes in Aviation technology
- Lack of strong home based airlines
- low Air Traffic

Stakeholders Needs and Requirements

- Improved safety
- Efficient services
- Increased capacity
- Access and equity.
- Environmental protection
- Security
- Cost effectiveness

Prioritization of B0 - modules for Uganda

- Follows the AFI region ANP prioritization
- Consideration is given to Essentials and Desirable modules
- From each module considered, prioritization of elements is per need

ASBU Module Review

Priorization/ selection of Modules (18 B0) and PIA

ASBU BLOCK O MODULE	PIA	PRIORITY
B0-APTA	1	ESSENTIAL
B0-WAKE	1	SPECIFIC
B0-RSEQ	1	OPTIONAL
B0-SURF	1	OPTIONAL
BO-ACDM	1	DESIRABLE
B0-FICE	2	ESSENTIAL
B0-DATM	2	ESSENTIAL
B0-AMET	2	DESIRABLE
B0-FRTO	2	ESSENTIAL
B0-NOPS	2	DESIRABLE
B0-ASUR	2	DESIRABLE

ASBU Module review cont'd

ASBU BLOCK 0 MODULES	PIA	PRIORITY
B0-ASEP	3	SPECIFIC
B0-OPFL	3	SPECIFIC
B0-ACAS	3	ESSENTIAL
B0-SNET	3	DESIRABLE
B0-CDO	4	DESIRABLE
B0-TBO	4	DESIRABLE
B0-CCO	4	DESIRABLE

Progress made

B0 – DATM		
1	Quality Management Systems	ISO 9001:2008 Certified
2	Data integrity monitoring	Implemented
3	AIRAC adherence monitoring	Implemented
4	Monitoring of States' differences to Annex 4 and Annex 15	Implemented
5	Implement WGS-84	Partial
6	Integrated Aeronautical information database	Implemented

DATM cont'd

	Element	Status
7	Unique identifiers of aeronautical features	Implemented
8	Aeronautical information conceptual model –AICM	Implemented
9	Aeronautical data exchange (AIXM 5.1, WXXM, AOXM, FIXM, ENXM)	AIXM 5.1 implemented
10	Communication networks based on Internet Protocol (IP)	AMHS due for installation in October, 2017
11	Electronic AIP (eAIP)	Implemented
12	Aeronautical information briefing	Implemented
13	Electronic Obstacle data set (eTOD)	Partially
14	Digital NOTAM (eNOTAM)	Pending availability

Progress made cont'd

SN	B0 - SNET	STATUS
	Ground-based safety nets functionalities in the ATM systems:	
1	Short –Term Conflict Alert (STCA),	Implemented
2	Area Proximity Warning,)	Implemented
3	Minimum Safe Altitude Warning (MSAW)	Implemented
4	Specific Controllers' Training	Implemented

Progress made cont'd

B0 – FRTO		
1	Airspace planning	Some challenges here
2	Flexible Use of airspace	-NOTAM is used to activate Danger areas -Effective civil Military Coordination
3	Flexible Routing	PBN routes implemented in the FIR User preferred routes are granted

Progress made cont'd

B0 - FICE		
1	Aeronautical Message Handling Switching (AMHS) or Ground-Ground Network Standard AFTN-AMHS or ATN	Due for installation in October 2017
2	Implement Flight Data Processing Systems (FDPS) with relevant set of AIDC message capabilities as per ICAO Doc 4444	Partial
3	Implement AIDC links with neighboring FIRs	Awaiting regional coordination
4	Implement processes such as, Notification, Initial coordination, Revision of Coordination, etc.	Partial

Conclusion

- Uganda realises the need to pick the low hanging fruits from the ASBU framework. However, the ones that require high captial investiments will take a bit more time to implement

- CAA Uganda will continue to engage with the neigbouring FIRs and the ICAO regional office in the implementation of ASBU elements to ensure interoperability and seemlessness of operations. The EAC UFIR is one of such efforts.

- Stakeholder involvement is key.