

**ICAO REGIONAL WORKSHOP ON THE
IMPLEMENTATION OF THE FPP FOR THE
AFRICAN REGION
(DAKAR, 26-28 MARCH 2014)**

**Flight Procedure Implementation
Feedback - Kenya**

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Workshop on the implementation of the FPP 26-28 March 2014

Presentation Overview

- Brief Background information on KCAA
- Services and airspace overview
- Flight Procedure Implementation
 - ✓ WGS 84 survey
 - ✓ Designs and implementation
 - ✓ Implementation Challenges
 - ✓ Current status
 - ✓ Stakeholder needs

Traffic Forecast (5 years)

	2013-2014	2014-2015	2015-2016	2016-2017
Aircraft	257,930	265,417	273,149	281,082
Passengers	8,887,049	9,418,256	9,981,236	10,577,888
Freight (Kg)	299,788,498	325,898,957	354,388,813	385,482,130

Type of Traffic

Operation	Percentage (%)
Military	2
Airlines (Pax)	39
Airlines(Freight)	8
General Aviation	45
Government/State	1
Training	5

Airlines and Operators

Kenyan Operators	Int'l Operators
Kenya Airways	British Airways
Fly 540	KLM
East African Air Charters	Air France
Jet Link	Turkish Airlines
East African Safari Air Express	Emirates
African Express	Qatar
Air Kenya	South African
Safarilink	Precision
Bluebird Aviation	Air Uganda
ZBAC	Etihad
DAC Aviation	Ethiopian
Freedom Express	Air Malawi
Astral Aviation etc	Lufthansa etc

AIRPORTS

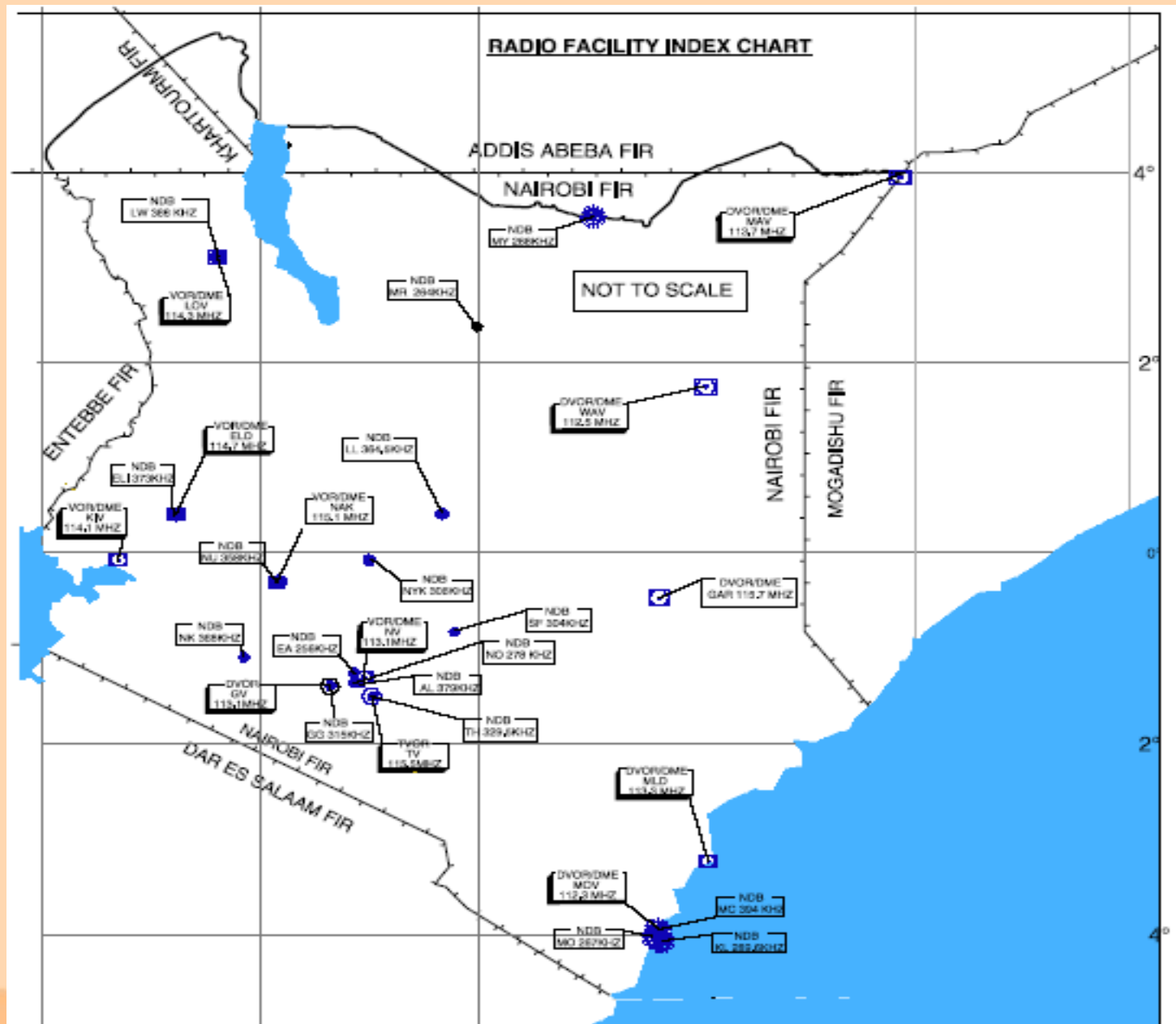
Airport	Number
International	3
Regional	5
Domestic	12
Airstrips	400

Air Navigation Infrastructure

Facility	Number of Installations
VOR/DME	10
VOR	2
NDB*	11
ILS/DME	3
VDF	4

* being decommissioned

Air Navigation Infrastructure

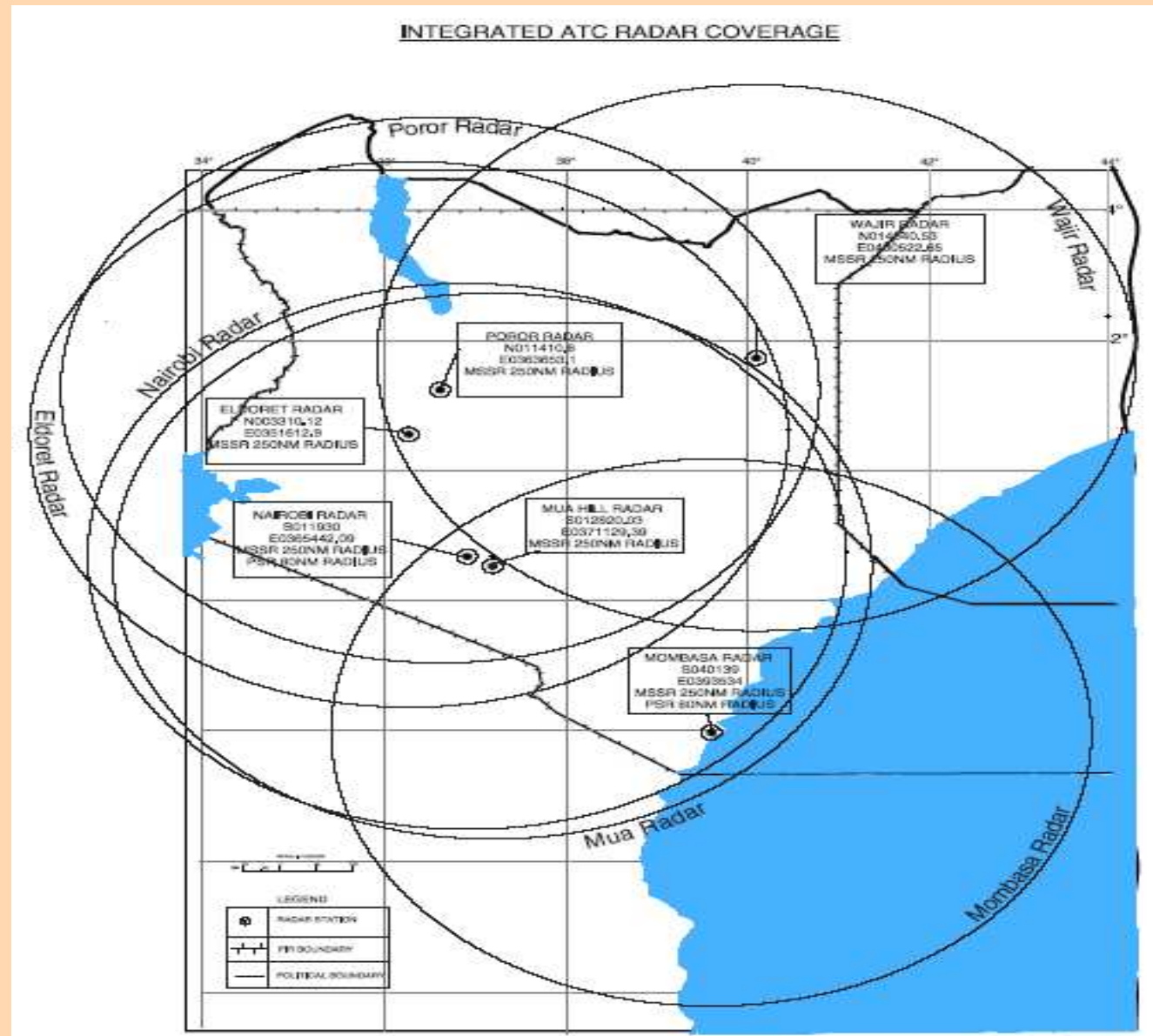


Air Navigation Infrastructure

SSR Mode 'S'

Station	Range
Nairobi	250 Nm
Mua hills	250 Nm
Poror	250 Nm
Mombasa	250 Nm
Wajir	250 Nm
Eldoret	250 Nm

Air Navigation Infrastructure



SERVICES

The ANS Directorate is responsible for the provision of air navigation services within the Nairobi Flight Information Region. The range of services provided are :-

- ATS
- AIS/MAP
- CNS
- SAR Coordination
- PANS-OPS

AIRSPACE STRUCTURE

Airspace	Number
FIR	1
UTA	1
TMA	3
CTR	6

FIR/UTA/TMA/CTR

The Kenyan Airspace Structure

Flight Procedure Implementation

- First WGS 84 Survey was done in the year 2000 covering 3 int'l airports and 2 Regional Airports (Nairobi JKIA, Nairobi Wilson, Mombasa, Kisumu and Malindi Airports)
- Service was contracted to NIMA ,ATNS and survey of Kenya
- Data processing and storage by then was a challenge due to lack of understanding of the concept and the expectations of the Authority

Flight Procedure Implementation

- After the surveys the design of the instrument flight procedures ([RNAV/GNSS](#)/[SIDS](#)/[STARS](#)) was contracted to IATA covering 2 Int'l Airports (Nairobi JKIA and Moi).
- Additional WGS-84 surveys (SLC- UK) were done in 2007 covering 6 other Airports (Loki, [Olkiombo](#), Nanyuki, [Malindi](#), Lamu and Kisumu).
- GNSS procedures were outsourced to IATA covering all the above airports.
- The above project had a training component in procedure design and 12 officers were trained .

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Flight Procedure Implementation

IMPLEMENTATION CHALLENGES

- Lack of proper training and understanding (ATC/PILOTS – interpretation)
- From an ATS perspective there was an increase in the number of incidents that were reported (inadequate training).
- Some of the major carriers also had issues in executing some of the procedures.
- Small carriers (especially domestic operators) could request execution of the same even with no ops approval

Flight Procedure Implementation

IMPLEMENTATION CHALLENGES

- Feedback from the industry is difficult to receive (except when directly affected).
- Transitioning to the ILS when operational was an issue to some specific aircraft type.
- Sharing of information between the safety directorate(AIR/FLT-OPS) and ATS on the OPS Approvals not timely – current fpln able to provide information .
- Lack of qualified personnel to give ops approval at the initial stages of implementation

Flight Procedure Implementation

CURRENT STATUS

- A PANS-OPS unit was set up in September 2012 (trained personnel and equipment-automated).
- Several software in place i.e. Micro Station J, MapInfo, ERDAS and Geotitan
- The unit has since designed and published 6 instrument flight procedures.
- We engage ASECNA and ENAV in flight validation (difficulty in ascertaining the competence of the pilots involved).

Flight Procedure Implementation

CURRENT STATUS

- A maintenance WGS 84 survey was done in December 2012 for HKJK/HKNW/HKMO and HKEL
- Part of the targets for the procedure design unit this year is to design for :
 - ✓ Eldoret Int'l-GNSS/NPA/ILS
 - ✓ Review the JKIA and Moi Airports procedures in light of the PBN target dates and following the recent surveys;
 - ✓ Wajir Int'l (WGS84 Survey)

Flight Procedure Implementation

DESIGN UNIT CHALLENGES

- Training- advanced PBN related and RNP-AR
- Lack of enough qualified staff to aid in ground/flight validation, flight inspection and safety assessment etc (we hope the A_FPP will assist).
- Inadequate stakeholder support (when design drafts are circulated almost nil feedback is received)
- Funding to aid in acquisition of necessary tools and training (additional design licenses faster PCs and recurrent training).

Flight Procedure Implementation

STAKEHOLDERS NEEDS

- A safe and secure airspace and operations
- Enhanced and efficient airport/airspace capacity
- Airspace structure and procedures that aid in the reduction of carbon emissions.

Flight Procedure Implementation



**THANK YOU FOR YOUR
ATTENTION**

QUESTIONS?