



International Civil Aviation Organization

Tenth Meeting of the APIRG Air Traffic Services, Aeronautical Information Services and Search and Rescue Sub-Group

[Dakar, Senegal 13 – 15 May 2009]

Agenda Item 6: Review of the Report of the Second Meeting of the PBN Task Force

PBN Implementation Project *(Presented by Mozambique and IATA)*

Summary

This paper informs the meeting on the successful implementation of a PBN Project in Mozambique, in partnership with IATA.

References:

- APIRG/16 Report.

1. Introduction

1.1. Thanks to a loan from the World Bank, the Ministry of Transport and Communications of Mozambique has awarded IATA a contract to perform WGS-84 Surveying, Procedure Design, Flight Validation and Procedure Charting at several domestic Aerodromes, as a result of public tender issued in November 2007. The started upon signature of a binding contract on July 17th 2008.

2. Discussion

Project Scope and Results

2.1. As part of the air transport sector reform process, the Mozambique Civil Aviation Authority (IACM) has contracted IATA to develop RNAV non-precision instrument approach procedures based upon the Global Navigation Satellite System (GNSS) for eight (8) selected airports: Tete, Lichinga, Vilanculo, Chimoio, Quelimane, Inhambane and Nampula. All of which are considered busy or have the potential for growth in air traffic. The main objective of this project was to enhance safety at these airports and help realize operational efficiency.

2.2. The consultancy services to be provided entailed the following:

- a) Collection of WGS-84 survey data and preparation of WGS-84 coordinates for the airports in which it has not been done.
- b) Designing of procedures for the selected airports: LNAV approaches for all airports, and Standard Terminal Arrival Procedures (STARs) and Standard Instrument Departure Procedures (SIDs) when deemed required to provide adequate safety levels.
- c) Flight verification and validation of the designed procedures by appropriately equipped aircraft.
- d) Facilitating the publication of the PBN Procedures for the selected airports.

Project Timeline

- a) Start-up Meetings of Working Groups were completed during IATA Project Management Team visit to Maputo on July 28-30 2008.
- b) The Initial Airport Assessment and Fact-Finding Mission, was completed in September 2008.
- c) The WGS-84 Survey of intended aerodromes (Nampula excluded) was completed by end of November 2008, in two separate survey campaigns.
- d) Initial Instrument Procedure Design as per ICAO PANS-OPS Doc 8168, in accordance with ICAO PBN Manual (Doc 9613) was completed by December 2008.
- e) Flight Validation, performed in accordance with ICAO Document 8071, Manual on Testing of Radio Navigation Aids, Volume II, Testing of Satellite-based Radio Navigation Systems, was completed by January 2009

- f) Final Instrument Procedure Design, included stakeholders's review, full Quality Assurance and Charting as per ICAO Annex 4, was complete by April 2009.

2.3. Full compliance with ICAO Doc 9613 and AFI Regional PBN Implementation Plan was considered throughout the project. A 3-days ATC PBN Workshop on Area Navigation, Area Navigation Systems, GPS, RNP Approaches, ATC Procedures and Separation, was also provided to 37 participants from IACM, ADM and airspace users (See *Table below*).

Time	Day 1 Monday	Day 2 Tuesday	Day 3 Wednesday	Day 4 Thursday
8:30	Meeting with IACM, ADM and LAM	Workshop Module 1 Introduction to PBN	Workshop Module 8 Navigation Specification Overview	Workshop Module 14 Future PBN NavSpecs and the Global PBN Task Force
9:20	Meeting with IACM, ADM and LAM	Workshop Module 1 Introduction to PBN	Workshop Module 9 GNSS and PBN Approvals	Workshop Review/Exercise
BREAK				
10:30	Briefing with AdM Implementation Roles and Responsibilities	Workshop Module 2 Area Navigation	Workshop Module 10 RNP Approaches	Exam
11:20	Briefing with AdM Implementation Roles and Responsibilities	Workshop Module 3 Area Navigation Systems	Workshop Module 11 APV Approaches	Course Evaluation
LUNCH				
13:00	Briefing with IACM AIC, AIP and AIRAC Publishing Process	Workshop Module 4 GPS Theory	Workshop Module 12 Review of Mozambique Charts	Workshop Wrap-up Assistance with any outstanding issue
13:50	Briefing with IACM Introduction to Operational Approvals	Workshop Module 5 GPS Receiver & RAIM	Workshop Module 12 Review of Mozambique Charts	Workshop Wrap-up Assistance with any outstanding issue
BREAK				
15:00	Briefing with IACM Operational Approval Step-by-Step Process	Workshop Module 6 GNSS Interference and NOTAMS	Workshop Module 13 ATC Separation, Procedures and Phraseology	
15:50	Briefing with IACM Regulator Roles and Responsibilities	Workshop Module 7 GNSS Augmentations	Workshop Module 13 ATC Separation, Procedures and Phraseology	

3. Conclusion

3.1. The meeting is invited to note the successful implementation of Mozambique PBN Project, in partnership with IATA, including comprehensive training of stakeholders' personnel.

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