



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**Third Meeting of the APIRG Communications, Navigation  
and Surveillance Sub-Group  
Nairobi, 26-30 April 2010)**

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**Agenda Item 6: Review of the implementation status and performance of the Aeronautical Radio Navigation Service (ARNS), and identification of deficiencies and remedial action for their elimination.**

*(Presented by the Secretariat)*

<b>SUMMARY</b>	
This paper examines the status of implementation of ARNS facilities in the AFI Region and identifies deficiencies and corrective measures for their elimination.	
Action to be taken is at <b>paragraph 3</b>	
<b>REFERENCE:</b>	APIRG/16 Report, CNS/SG/2 report and SP AFI RAN Report

## **1. INTRODUCTION**

1.1 ICAO has launched a new evolution of performance based navigation system. The ultimate goal is a transition to GNSS that would eliminate the requirement for ground-based aids. However, in order to have a gradual transition, all pending navigational systems must be implemented according to AFI ANP.

## 2 DISCUSSION

2.1 VOR/DME and ILS should be operational until 2015 when if any will be decommissioned. No new navigational aids have been implemented since CNS/SG/2 meeting and SP AFI RAN. **Attachment A** to this working paper is the outstanding deficiencies in Radio Navigational field.

## 3. ACTION TO BE TAKEN BY THE MEETING

3.1 The meeting is invited to:

- a) take note of the above information;
- b) update the meeting on the attached deficiencies; and
- c) Angola and Madagascar who have along outstanding list should be urged to implement the facilities.

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**LIST OF DEFICIENCIES IN THE AIR NAVIGATION FIELDS**  
**NAVAIDS**

State Name	Requirements	Facilities or Services	Description of Deficiency	Date first reported	Comments on Deficiency	Description of Corrective action	Executing Body	Target date for implementation	Priority
<b>Angola</b>	Nav aids AFI/7, Rec. 10/4	Huambo	VOR/DME	1998	Not implemented	Implement facility	ENANA		A
	Nav aids AFI/7, Rec. 10/4	Kuito	VOR/DME	1998	Not implemented	Implement facility	ENANA		A
	Nav aids AFI/7, Rec. 10/4	Luena	VOR/DME	1998	Not implemented	Implement facility	ENANA		U
	Nav aids AFI/7, Rec. 10/4	Saurimo	VOR/DME	1998	Not implemented	Implement facility	ENANA		U
<b>Cameroon</b>	Nav aids AFI/7, Rec. 10/4	Maroua	VOR	1998	Not implemented	Implement facility	Cameroon		A
<b>Congo D.R.C.</b>	Nav aids AFI/7, Rec. 10/4	Kindu	VOR	1998	Unserviceable	New equipment to be installed	DR Congo	2005	U
	Nav aids AFI/7, Rec. 10/4	Kisangani	VOR/DME	1998	Unserviceable	New equipment being installed	DR Congo	2005	A
<b>Guinea</b>	Nav aids, AFI/7 Rec. 10/4	Kankan	VOR	1998	Not implemented	Implement facility	Guinea		A
	Nav aids AFI/7 Rec. 10/4	Labe	VOR	1998	Not implemented	Implement facility	Guinea		A
	Nav aids AFI/7 Rec. 10/4	Nzerekore	VOR	1998	Not implemented	Implement facility	Guinea		A
<b>Kenya</b>	Nav aids AFI/7 Rec. 10/4	Mandera	VOR/DME	1998	Not implemented	Implement facility	Kenya		U
<b>Lesotho</b>	Nav aids AFI/7 Rec. 10/4	Maseru	VOR/DME	2002	Not implemented	To implement	Lesotho		U
<b>Liberia</b>	Nav aids AFI/7 Rec. 10/4	Robertsfield	ILS 04	1998	Not implemented	Implement facility	Liberia		U
<b>Libya</b>	Nav aids AFI/7 Rec. 10/4	Sarir	VOR/DME	1998	Not implemented	Implement facility	Libya		U
<b>Madagascar</b>	Nav aids AFI/7 Rec. 10/4	Antsiranana	VOR	1998	Not implemented	Implement facility	Madagascar		U
	Nav aids AFI/7 Rec. 10/4	Maintirano	VOR	2002	Not implemented	Implement facility	Madagascar		U
	Nav aids AFI/7 Rec. 10/4	Morondava	VOR	1998	Not implemented	Implement facility	Madagascar		U
	Nav aids AFI/7 Rec. 10/4	Sainte Marie	VOR	1998	Not implemented	Implement facility	Madagascar		A

State Name	Requirements	Facilities or Services	Description of Deficiency	Date first reported	Comments on Deficiency	Description of Corrective action	Executing Body	Target date for implementation	Priority
	Nav aids AFI/7 Rec. 10/4	Toliara	VOR	1998	Not implemented	Implement facility	Madagascar		U
<b>Sao Tome &amp; Principe</b>	Nav aids AFI/7 Rec. 10/4	Sao Tome	ILS 11	1998	Not implemented	Implement facility	Sao Tome & Principe		A
<b>Sierra Leone</b>	Nav aids AFI/7 Rec. 10/4	Freetown/ Lungi	ILS 30	1999	Unserviceable	To repair	Sierra Leone		U
	Nav aids AFI/7 Rec. 10/4	Freetown/ Lungi	VOR/DME	1999	Unserviceable	To repair	Sierra Leone		U
<b>Somalia</b>	Nav aids AFI/7 Rec. 10/4	Hargeisa	VOR/DME	1998	Not implemented	Implement facility	Somalia		U
	Nav aids AFI/7 Rec. 10/4	Mogadishu	VOR/DME	1998	Not implemented	Implement facility	Somalia		U
<b>Sudan</b>	Nav aids AFI/7 Rec. 10/4	Geneina	VOR	1998	Not implemented	Implement facility	Sudan		U
	Nav aids AFI/7 Rec. 10/4	Juba	ILS 13	1998	Not implemented	Implement facility	Sudan		A
	Nav aids AFI/7 Rec. 10/4	Karina	VOR/DME	1998	Not implemented	Implement facility	Sudan		U
<b>Tanzania</b>	Nav aids AFI/7 Rec. 10/4	Dodoma	VOR/DME	1998	Not implemented	Implement facility	Tanzania	31/12/2005	U
	Nav aids AFI/7 Rec. 10/4	Mbeya	VOR/DME	1998	Not implemented	Implement facility	Tanzania	June 2006	U
	Nav aids AFI/7 Rec. 10/4	Mwanza	DME	1998	Not implemented	Implement facility	Tanzania	June 2005	U
<b>Zambia</b>	Nav aids AFI/7 Rec. 10/4	Mongu	VOR	1998	Not implemented	Under installation	Zambia	30/12/2005	U
	Nav aids AFI/7 Rec. 10/4	Solwezi	VOR	1998	Not implemented	Sourcing for funds	Zambia	Dec.w 2006	U