

AFI RVSM SWITCH - OVER PLAN

T -24 ToS T+24

AFI RVSM SWITCHOVER PLAN

EXECUTIVE SUMMARY

The AFI RVSM Task Force has provided guidance material for the States Switchover Plans so that they can refer to and adapt to their own local requirements. The AFI Functional Hazard Assessment final version, as accepted by Task Force 6, was referred to as guidance material when compiling the AFI Switchover Plan.

The switchover document satisfies the identified major switchover hazards resulting from the Functional Hazard Assessment that will need to be considered in order to accomplish a safe and successful switchover from CVSM to RVSM at time of switchover.

The switchover plan only addresses the switchover period and does not address the timelines as reflected in the action plan required to implement RVSM. The actions to RVSM implementation should be considered as the RVSM Task Force timetable that is issued periodically by the Task Force and lodged with the ARPO.

RECOMMENDATIONS

It is recommended that States:

- Review the switchover plan, against their own detailed switchover plan and incorporate any amendments as required.
- Action any additional requirements as issued periodically by the ARPO appropriate to the States switchover plans.

ARPO
ICAO ESAF
NAIROBI KENYA

AFI RVSM SWITCHOVER PLAN

1. INTRODUCTION

- 1.1 The AFI RVSM Task Force has provided a Switchover Plan for States to adapt to their own local requirements. The principle concerns of the Aviation Community have been addressed in the AFI Switchover Plan. This document should be referred to by States/FIR's to produce a plan that will be relevant to their ACC. This will in effect mean that there will need to be greater detail for individual actions within each FIR.
- 1.2 The Safety Case, with special reference to the CRA and TLS, would have been presented, and assurances provided that the level of safety preparedness of the States as reflected in the NSP's is sufficient for the task.
- 1.3 The process will culminate in the switchover from CVSM to RVSM at Time of Switchover (ToS), which will require specific attention to ensure a safe and effective changeover with the minimum disruption to the flow of air traffic. At the ToS the whole of the RVSM airspace will be in a transition phase for controllers and aircrews until it is reported that all aircraft are at the required RVSM FLAS.
- 1.4 The ARMA and ASECNA (via WACAF) will serve as the focal points of contact during the switchover period. ASECNA will be required to report all significant operations/events relating to the switchover, in the ASECNA area of operations to the ARMA.

2. ACTIONS PRIOR TO ToS AFI RVSM SWITCHOVER T-24

- 2.1 AFI RVSM implementation readiness reporting will continue throughout the switchover period with the National Program Managers reporting to the ARMA.

2.2 Airspace

It is essential that there is a stable airspace configuration during the Switchover period from CVSM to RVSM. The stability of the airspace will also require the utmost co-operation from military organizations.

2.3 Flight Planning

Flight planning, will continuously be checked during the switchover period for irregularities including incorrect RVSM status in Flight Plan and the flight level in the filed ATC Flight Plan not being in accordance with FLAS.

Within the switchover period there will continue to be increased contact between Aircraft Operators and ATS and the overall awareness as to the necessary flight planning and approval requirements for entry into RVSM airspace will be reinforced. Warnings will be provided to non-RVSM approved aircraft that would incorrectly penetrate AFI RVSM airspace.

Aircraft Operators and ATS should note that the submission of RPLs will require specific and separate attention. Operators of RVSM approved aircraft shall indicate the approval status by inserting the letter W in Field 10 of the ICAO FPL, regardless of the Requested Flight Level (RFL). From **28 August 2008**, ATS may invalidate a flight plan that does not comply with the RVSM requirements at ToS.

2.4 Civil/Military Coordination

Military exercises during switch over period should be suspended as per the FHA. If they do need to take place they should be coordinated with the greatest of care.

2.5 Ground Communications

During the switchover period redundant ground communication facilities must be available and ready for immediate use and adequately supported by competent technical staff.

2.6 Letters of Agreement/Procedures LOAs/LOP's.

States/FIR'/ACC's will ensure that the current LOA/LOP is easily accessible for reference purposes during the Switchover period. The following points should be carefully and continuously reviewed with regard to:

- FLAS for consistency with RVSM
- RVSM status of aircraft on the flight plan and if in doubt verify information with ARMA

3. **AWARENESS CAMPAIGN**

- 3.1 During the switchover period operators should be reminded of the flight planning requirements as well as the requirement of RVSM operator/aircraft approvals in order to operate within the AFI RVSM airspace.

4. SWITCHOVER (25 September 2008) ToS

4.1 Switchover

A prime activity of the switchover period will be the switchover from CVSM to RVSM.

- Non RVSM approved flights airborne in the immediate period prior to the switchover may be adjusted to their new levels below FL290
- Operators must manage contingency fuel requirements as appropriate.
- At ToS, aircraft will be reassigned to their new levels.
- Operation above FL410 will not be permitted during the specified interval during the Switchover period by non RVSM approved aircraft.

4.2 Timing of Change.

The AFI RSVM Task Force has conducted a traffic analysis to determine a quiet and stable period, which confirmed the suitability for the switchover at 0001 HRS (UTC) 25th September 2008.

4.3 Aircraft in Flight at Time of Switchover.

The sequence of events at switchover will be:

- Warning of Switchover from CVSM to RVSM by all ground stations
- Implementation of Switchover from CVSM to RVSM by all RVSM approved aircraft and the exclusion of all non-RVSM approved aircraft. State aircraft will be managed accordingly.
- An on going verification of Operator/Aircraft approval status
- Heightened vigilance for any irregularities and reporting to ARMA

Inevitably, there will be a mixed population of air traffic being handled at the time of switchover however preparations to limit the amount of non RVSM aircraft should be increased prior to the switchover.

Repeated broadcasts of the pending switchover will be made to aircraft in flight commencing 45 minutes before switchover. Phraseology for broadcast as an example is:

“All stations, All stations, (ACC identification) Control Broadcast, RVSM operations commence at time 0001 HRS (UTC) 25th September 2008.”

4.4 Flow Management.

ACC's should apply flow management during the switchover period if required.

4.5 Staffing Levels at Time of Switchover.

- ACC staffing will be a major focus of attention with a need for back-up staff, engineering staff and in particular software support as reflected in the FHA.
- Comprehensive briefings will be provided by supervisors to all operational staff during ToS.
- ACC management shall suspend operational training during the switchover period.

4.6 Weather Phenomena during Switchover Period

Any adverse weather phenomena, sand storms or volcanic activity will be reported immediately to the ARMA during the Switchover period to assist with contingency planning.

4.7 Contingency Planning.

Contingency plans are already in place for the normal operation of ACCs. The RVSM ATC manual provides some guidance on contingency procedures for degradation of aircraft equipment associated with height keeping or the occurrence of weather phenomena, which directly affect the ability of aircraft to maintain their allocated flight level.

ACCs should therefore review their contingency arrangements prior to switchover and then have them readily available during the switchover period for any eventuality. Various failure conditions will have to be considered.

As in normal operations ATC personnel should be reminded in addition to the above, the procedures related to emergencies, communication failure and contingencies as contained in the PANS/ATM Doc 4444 chapter 15 are still applicable.

4.8 Hazard Identification and Mitigation.

National Safety Plans shall satisfy the requirements of the AFI FHA Appendix E.2 (AFI RVSM Switchover Period) and Appendix F.2 (allocated safety requirements for AFI RVSM Switch over period.)

5. IMMEDIATE POST IMPLEMENTATION PHASE (SWITCHOVER – 25th September 2008 PLUS 24 HOURS)

Twenty four hours after the introduction of RVSM each FIR will be required to provide a report to ARMA. FIR's experiencing problems or envisaging problems will report as such so that remedial action can be suggested. The report shall also include any large height deviations, wake vortex encounters and any other reportable incident brought about by the implementation of RVSM.

6. CONCLUSION

- 6.1 The AFI RVSM Task Force has adopted this SWOP as guidance material for application/publication by all AFI States.
- 6.2 National Program Managers must act on any additional requirements as issued periodically by the ARPO appropriate to the States switchover plans.
- 6.3 The Switchover from CVSM to RVSM will require further activity within States with further guidance and direction provided to ACCs by their Civil Aviation Authorities. Aircraft Operators will also need to note the flight planning aspects and the operational aspects of the switchover.

THE AFI RVSM QUICK RESPONSE TEAM

The AFI RVSM Quick Response Team is described as follows:

ARMA

Location: South Africa, Johannesburg Air Traffic Control Centre; Central Airspace Management Unit; ARMA. On call at the above location will be;

ARPO, ARMA, ATNS; IATA

Tel No.: +27 11 928 6506

Fax: +27 11 928 6420

Email: Afirma@atns.co.za

SAT Phones: Contact details will be made available when NPM's are notified

Mobile No's: Contact details will be made available when NPM's are notified

FIR's Reporting to ARMA

Accra, Addis Ababa, Asmara, Beira, Cairo, Cape Town, Dar es Salaam, Entebbe, Gaborone, Harare, Johannesburg, Johannesburg Oceanic, Kano, Khartoum, Luanda, Lilongwe, Lusaka, Mogadishu, Mauritius, Nairobi, Roberts, Seychelles and Windhoek.

ASECNA HEAD OFFICE

Location – Senegal; ASECNA Head Office (Dakar, Yoff near Earth Station). On call at the above location will be;

ICAO WACAF ATM Officer, ASECNA, IATA

Tel No: +221 33820 7546 Fax: +221 33820 7546

Email: rvsm.switchover@asecna.org

SAT Phones: Contact details will be made available when NPM's are notified

Mobile No's: Contact details will be made available when NPM's are notified

FIRs Reporting to ASECNA

Algiers, Antananarivo, Brazzaville, Dakar, Kinshasa, Ndjamena, Niamey and Tripoli.

RVSM SWITCH OVER PLAN: (Countdown).

NO.	TASK IDENTIFICATION	DURATI ON	START	END
1.	Sign the text to nominate the persons in charge of FIR switch over activities.	1 day	Tue. 5/6/08	Tue. 5/6/08
2.	List key persons and display it in ACC.			
3.	Carry out the operation checks of the centre by Fax, email and AFTN messages exchange with the Quick Response Team Point of Contact (ARMA and ASECNA) at the appropriate centre and the adjacent ACCs and military.	14 days	Mon. 09/06/08	Sun. 22/06/08
4.	Prepare and publish an AIC requiring the mention of RVSM status on all flight plans with effect from 25 th August 2008. Publication to be issued at AIRAC date of 3 rd July 2008	11 days	Mon. 23/06/08	Thu. 03/07/08
5.	Carry out additional operation checks of the centre by Fax, email and AFTN messages exchange with the Quick Response Team Point of Contact (ARMA or ASECNA) at the appropriate centre and the adjacent ACCs and military if required.	3 days	Tue. 08/07/08	Thu.10/07/08

NO.	TASK IDENTIFICATION	DURATI ON	START	END
6.	Simulate switchover exercise. ACCs test software changes to accommodate RVSM are in place and functional.	3 days	Tue.15/07/08	Thu.17/07/08
7.	Prepare and publish AIP Supplement suspending operations above FL410 of non RVSM aircraft for two (2) hours before and after ToS. Publication be issued at the AIRAC date of 31 st July 2008	7 days	Thu. 24/07/08	Thu. 31/07/08
8.	Prepare and publish an AIP Supplement prohibiting the non RVSM aircraft within RVSM airspace (FL 290 and FL410) from 24 th September 2008 at 22h01 UTC. Publication be issued at the AIRAC date of 31 st July 2008			
9.	Prepare and publish an AIP Supplement Suspending use of East Bound RVSM FL 310, 350, and 390 on 25 th September 08 for two (2) hours after ToS. Include diagram of Flight Level Allocation System (FLAS) 2008 from the date of the implementation of RVSM. Publication of AIP supplements to be issued by at the AIRAC DATE OF 31 st July 2008.			
10.	Update and sign all letters of the agreement/ procedures by integrating the RVSM requirements with effective date on 25 th September, 2008	56 days	Thu. 31/07/08	Thu. 25/09/08
11.	Organize a particular awareness campaign to address the military	10 days	Tue. 26/08/08	Fri. 12/09/08
12.	Ensure that no major modification to the ATS equipment will be carried out during the month of September 2008	23 days	Mon. 08/09/08	Tue. 30/09/08
13.	Prepare and publish a Trigger NOTAM two (2) weeks before ToS notifying the implementation of RVSM and relevant procedures to be applied.	2 days	Tue. 09/09/2008	Wed. 10/09/08
14.	Ensure that official documents e.g. NSP, SWOP, FLAS etc are available in all the structures concerned	7 days	Mon. 22/09/08	Sun. 28/09/08
15.	Send a Fax /Email to ASECNA and ARMA with a copy to ICAO confirming that the ACC(s) is/are ready for switchover to RVSM (activity of NPM)	1 day	Mon. 22/09/08	Mon. 22/09/08

NO.	TASK IDENTIFICATION	DURATI ON	START	END
16.	Activate the ACC implementation Team in accordance with the plan developed for the Team.			
17.	Provide daily the situation of the operating condition of the equipment requirements;			
18.	Adjust the ACCs staffing in order to provide extra personnel;			
19.	Ensure Meteorological staff are available in case of emergency due to adverse meteorology	7days	Mon. 22/09/08	Sun. 28/09/08
20.	Refresh the operational staff on the duty in RVSM implementation	7 days	Mon. 22/09/08	Sun. 28/09/08
21.	Read back systematically all flight levels exchanged in conversations between controllers, or controller- pilot		Tue. 23/09/08	Continuous
22.	242201 -250201 UTC suspend operations above FL410 for non RVSM aircraft	1 day	Thu. 25/09/08	Thu. 25/09/08
23.	242201 UTC: Remove non-RVSM aircraft from RVSM airspace			
24.	242315 UTC: Controllers transmit to all aircraft: "Attention all aircraft x2, RVSM operations will begin at 0001 UTC" (Repeat this at 2330; 2345 & 2355)			
25.	At 0001 UTC Start allocating RVSM flight levels to aircraft except FL310, 350, and 390			
26.	0001-0200 UTC: Suspend use of East Bound RVSM FL 310, 350, and 390.			
27.	0001-0200 UTC: Allocate only RVSM FL 290, 330, 370, and 410 to East Bound flights.			
28.	At 0201 UTC: Start allocating without flight level exception RVSM flight levels in accordance with FLAS			
29.	Apply 2000ft separation in emergency case and keep using RVSM FLIGHT LEVELS			
