INTERNATIONAL CIVIL AVIATION ORGANIZATION

THE AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)

REPORT OF THE TWELFTH MEETING OF THE AIR TRAFFIC MANAGEMENT/AERONAUTICAL INFORMATION MANAGEMENT/SEARCH AND RESCUE SUB-GROUP

ATM/AIM/SAR SG/12

(Dakar, Senegal, 25 – 29 July 2011)

The views expressed in this Report should be taken as those of the APIRG ATM/AIM/SAR Sub-Group and not of the Organization. This Report will, however, be submitted to the APIRG and any formal action taken will be published in due course as a Supplement to the Report.

Approved by the Meeting
and published by authority of the Secretary General

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PART I – HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The twelfth meeting of Air Traffic Management/Aeronautical Information Management/Search and Rescue Sub-Group (ATM/AIM/SAR SG/12) was held at the new office complex of the Western and Central African Regional Office at Dakar International Airport, Dakar, Senegal from 25-29 July 2011.

2. OPENING

2.1 The Meeting was opened by Mr. Mam Sait Jallow, Regional Director, Western and Central African (WACAF) Regional Office. In his opening remarks, Mr. Jallow welcomed all delegates to Dakar and to the twelfth meeting of the Sub-Group. He expressed appreciation on the level of attendance and thanked States and Organizations that had made it possible for the officials to attend the meeting.

2.2 Mr. Jallow recalled the Air Navigation Commission and Council had considered and approved the report of the APIRG/17 Meeting. However, concern had been raised on the high number of APIRG/17 Conclusion and the lack of implementation assertiveness in many of the Conclusions, a situation which does not support effective implementation. He noted shortly after the Ouagadougou meeting, the Regional Offices had circulated the APIRG/17 Conclusions to States, requesting update on implementation. While some States had still not responded, it was clear that the level of implementation was low. In this regard, Mr. Jallow highlighted the need for less Conclusions and more focus on implementation of existing ones.

2.3 Mr. Jallow also highlighted the need to encourage reporting of air navigation deficiencies, as well as collection of information on impediments to implementation in order to facilitate identification of solutions.

2.4 Finally, Mr. Jallow called on the participants to recall priority issues relating to implementation in the Region, in particular the New ICAO Flight Plan format that becomes applicable on 15 November 2012, and urged the meeting to find effective implementation approach.

3. ATTENDANCE

3.1 The meeting was attended by a total of 79 participants and experts from 28 States and 6 organizations. The list of participants is at the **Attachment A** to the Report.

4. OFFICERS AND SECRETARIAT

4.1 The meeting was chaired by Mr Sulayman J. Jabang, Director of Air Navigation Service, Gambia Civil Aviation Authority. Mr. Seboseso Machobane, Regional Officer ATM/SAR ESAF Regional Office was the Secretary of the meeting, supported by Messrs. Sadou Marafa, Regional Officer ATM/SAR WACAF Regional Office and Georges Baldeh, Regional Officer AIS WACAF Regional Office.

5. LANGUAGE

5.1 Discussions were conducted in the English and French languages and documentation was to the extent possible also issued in the two languages.

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item No.	Subject
1.	Adoption of provisional agenda and Election of the Chairperson and Vice Chairperson
2.	Follow-up on SP/AFI RAN Recommendations and APIRG Conclusions and Decisions pertaining to ATM, AIM and SAR fields, as well as those of the ATS/AIS/SAR SG/11 and its future work programme
3.	CNS/ATM Coordination Issues
4.	Performance Based Navigation (PBN) implementation ➢ Airspace optimization (enroute, terminal, approach) ➢ PBN infrastructure
5.	Safety Management ➢ RVSM operations and monitoring activities ➢ Safety Management System
6.	Contingency Arrangements
7.	Transition 2012 ICAO Flight Plan format
8.	AIS/MAP issues
9.	APIRG Performance Objectives
10.	Review of Air Navigation deficiencies in the ATM, AIM, MAP and SAR fields
11.	ATM/AIM/SAR Sub-group's terms of reference and future work programme
12.	Date, venue and provisional agenda of ATM/AIM/SAR SG/13
13.	Any other business

7. CONCLUSIONS AND DECISIONS – DEFINITION

7.1 All APIRG Sub-Groups and Task Forces record their actions in the form of Conclusions and Decisions with the following significance:

a) **Conclusions** deal with matters which, in accordance with the Group's terms of reference, merit directly the attention of States on which further action will be initiated by ICAO in accordance with established procedures; and

b) **Decisions** deal with matters of concern only to the APIRG and its contributory bodies.

8. LIST OF CONCLUSIONS

Draft Conclusion 12/1: Establishment of the AFI Volcanic Ash Contingency Plan
Draft Conclusion 12/2: Strategy for Implementation of NEW ICAO Flight Plan Format
Draft Conclusion 12/3: QMS Implementation and Establishment of Service Level Agreements
Draft Conclusion 12/4: Proposal for Amendment to the AFI ANP (Doc 7474) FASID Related to E-tod
Draft Conclusion 12/5: SIP for AFI Region e-TOD implementation Seminar/Workshop
Draft Conclusion 12/6: AFI Performance Objectives
Draft Conclusion 12/7:

9. LIST OF DECISIONS

Draft Decision 12/1: Establishment of the AFI MET/ATM Task Force
Draft Decision 12/2: Revised Terms of Reference of the AFI Flight Plan
Draft Decision 12/3: Amendment of AFI Basic ANP and FASID with regard to Materials related to the Transition from AIS to AIM
Decision 12/4: Appellation and Terms of Reference of the ATM/AIM/SAR Sub-Group
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Appendix 11A	SG Revised TOR
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PART II: REPORT ON AGENDA ITEMS

Report on Agenda Item 1: Adoption of the Provisional Agenda and Election of the Chairperson and Vice Chairperson

1.1 The meeting reviewed the provisional Agenda for the Twelfth Meeting of the Air Traffic Management/Aeronautical Information Management/Search and Rescue Sub-Group (ATM/AIM/SAR SG/12) as presented under WP/1. The agenda was adopted without modification as shown at paragraph 6 of the History of the Meeting.

1.2 The meeting recalled that at the ATS/AIS/SAR SG/11 meeting, and in accordance with established practice within APIRG, Mr. Silas Silas from Botswana and Mr. Abdelwahab Djatouf from Algeria had been elected as Chairperson and Vice-Chairperson respectively, to facilitate the business of the Sub-Group. The meeting agreed that the Chairperson should chair two successive meetings in order to enable him/her to actively support the work of the Sub-Group in between meetings, and eventually provide a detailed progress report to the next meeting.

1.3 However, the meeting noted that both Mr. Silas Silas from Botswana and Mr. Abdelwahab Djatouf from Algeria had not been able to attend the ATM/AIM/SAR SG/12. Following discussion on the best way forward, the meeting agreed to elect a new Chairperson.

1.4 In this regard, Representative from South Africa nominated Mr. Sulayman J. Jabang, Director of Air Navigation Service, Gambia Civil Aviation Authority, as Chairman. The nomination was seconded by the representatives from Mali, Botswana, Burkina-Faso and Uganda. Accordingly Mr. Sulayman Jabang was elected Chairman of the ATM/AIM/SAR Sub-Group, to service its twelfth and thirteen meetings as well as facilitate work relating to the Sub-Group in the interim period as indicated above.

1.5 Mr. Jabang thanked the participants for their confidence in him, and assured them of his commitment to serve and follow up on the work of the Sub-Group.

Report on Agenda Item 2: Follow up on SP AFI/08 RAN Recommendations and APIRG Conclusions and Decisions

2.1 The Sub-Group noted that at its Seventeenth meeting in Ouagadougou, Burkina Faso 2-6 August 2010, APIRG adopted 108 Conclusions and Decisions, of which 44 are applicable to the work of the ATM/AIM/SAR Sub-Group. On reviewing the outcome of APIRG/17 the Air Navigation Commission (ANC) had commented that the number of Conclusions from APIRG/17 is significantly high. Furthermore, many Conclusions lacked implementation assertiveness.

2.2 The Sub-Group acknowledged that the high number of Conclusions, which had been accumulating over many years, had an undesirable effect. Amongst others, they present a challenge with regard to implementation prioritization by diluting focus, complicating the task of prioritization in States, and making follow up by all parties including the Regional Offices, ineffective. This effect is exacerbated by the language in the Conclusions, which lacks implementation clarity

2.3 It was noted that, the Regional Offices circulated to States the APIRG/17 Conclusions and Decision applicable to the Sub-Group, and provided a form that had been approved by the Fourth Directors General of Civil Aviation Meeting (DGCA/4) in Swaziland in November 2010, on which information regarding the status of implementation as well as impediments thereto, where applicable, could be provided. Many States had not yet responded. It was nevertheless noted that many Conclusions were yet to be implemented, some due to their medium to long tern nature.

2.4 The meeting agreed on the need to review each of the Conclusions together with the agenda item to which it applies, with the objective to:

(a) identify to the extent practical issues that may constitute impediments to implementation and propose solutions;

(b) facilitate focus and prioritization and draft amended Conclusions for APIRG, to:

i) merge Conclusions or Decisions with others that are considered similar or closely related;
ii) identify those that are adequately addressed by other Conclusions, Decisions, procedures, or activities;
iii) identify those that may be included in the terms of reference and work programmes relevant to APIRG subsidiary bodies and those that can be included in the APIRG handbook to serve general purposes;
iv) improve the quality of existing Conclusions pursuant to comments from the ANC;
v) substantially reduce the number of existing Conclusions; and

(c) propose language in existing Conclusions which would address new issues, in order to limit the number of new Draft Conclusions and Decisions.

2.5 Accordingly, in deliberating on various agenda items, the meeting referred to the list of Conclusions and Decisions at **Appendix A** to the report on agenda item 2, and acknowledged that there was no need for further Conclusions.

2.6 Due to time constraints, the Sub-Group could not directly address abovementioned issues of number and quality of Conclusions in detail. However, the Sub-Group noted that, at its past two meetings, the PBN/GNSS Task Force had commenced the processes. The meeting considered the outcome of the PBN/GNSS Task Force meeting in Dakar, 13-15 June 2011, in which the Task Force had, inter alia, reviewed and proposed consolidation and improvement of the APIRG/17 Conclusions applicable to the PBN/GNSS Task Force.

2.7 The meeting agreed with the approach taken by the PBN/GNSS Task Force and accordingly, agreed with consolidation action annotated against various Conclusions/Decisions at **Appendix B** to the report on agenda item 2. The meeting also endorsed the Conclusions/Decisions of the PBN/GNSS Task Force at **Appendix C** to the report on agenda item 2.

2.8 With regard to other Conclusions applicable to the Sub-Group, it was agreed that the Secretariat could facilitate the process of consolidation by following the same approach. Furthermore, the meeting noted that some of the material in the Conclusions could be adequately covered in various ICAO planning and implementation documents, such as the Regional Performance Framework Forms (PFF), Regional Strategies, Roadmaps, Task Lists, or body of the report.

2.9 The Sub-Group recalled that the Global Air Traffic Management Forum on Civil/Military Cooperation, which was held as a follow up to Recommendations of the Eleventh Air Navigation Conference was successfully convened at ICAO HQ in Montreal, Canada from 19 to 21 October 2009. Pursuant to the outcome of the Forum, guidance on civil/military cooperation in air traffic management has been developed with the support of civil and military experts from various States and organizations and published as Circular 330 (Cir 330, Civil Military Cooperation in Air Traffic Management, Order Number: Cir330 - ISBN 978-92-9231-693-8),

2.10 As a further follow-up to the outcome of the Forum, the 37th Assembly approved for the triennium 2011-2013 five regional seminars/workshops on civil/military cooperation to roll-out the guidance material in Civil/Military Cooperation in Air Traffic Management (Cir 330) in all ICAO regions. The AFI Region seminar is scheduled to be convened in Nairobi, Kenya in the January/February 2013 timeframe. The seminar will be a Special Implementation Project (SIP).

2.11 An invitation letter to the Seminar will be issued in the last quarter of 2012. However, States are invited to take the opportunity of this information to undertake long term planning, as well as inform and request military authorities to also plan and prepare to participate at the most appropriate levels in this seminar.

2.12 The meeting noted that issues relating to civil/military coordination and Search & Rescue (SAR) continue to receive limited attention despite their importance, and urged that the Regional Offices should, in the invitation State Letters, urge States to ensure appropriate representation at the forthcoming first meeting of the AFI SAR Services Integration Task Force (ASSI TF/1), noting in particular that, as indicated in APIRG Conclusion 17/67, success of the Task Force is highly dependent on the input from State SAR providers. The meeting noted with appreciation, progress made by Niger in the implementation of SAR provisions. It was noted that in general, the SAR provisions involving international agreements in order to be implemented, experience delays. From experience, the establishment of SAR agreements in

the AFI Region has in many cases been slow, and it was noted in this regard that in some cases the agreements are seen as impacting on sovereignty issues.

2.13 Following lengthy discussions reflecting difficulties in SAR implementation due to the need to involve non civil aviation State entities as well as adjacent States, the meeting agreed that States should focus on establishing bilateral and multilateral agreements to facilitate cooperation.

2.14 The meeting recalled that the ATS/AIS/SAR SG/11 meeting had agreed on material that required the development of an amendment proposal for Doc 7030 and the AFI ANP (Doc 7474), however, that such amendments had not been initiated. It was indicated that the delays had been experienced due to resource limitations and moratoria on amendments as the documents were being upgraded.

2.15 The meeting noted that, amongst others, the amendment was to address procedural issues relating to RVSM, and that prior to the amendment, operators continue to be impacted negatively. Accordingly, the meeting urged the Secretariat to expedite processing of the amendment.

Report on Agenda Item 3: CNS/ATM Coordination Issues

3.1 On 28 July 2011 in Dakar, Senegal, the ATM/AIM/SAR SG/12 and the CNS/4 Meetings met in a joint session (08:30 to 13:00) in order to discuss issues that required coordination between the two Sub-Groups or expertise from either of the Sub-Group. The session was co-chaired by the Chairpersons of the two Sub-Groups.

3.2 Summary of the deliberations of the Joint Session of the Sub-Groups is reflected hereunder. Reference should also be made to the Report of the CNS/SG/4 Meeting (Dakar 25-29 July 2011):

The Strategy for implementation of GNSS in the AFI Region, particularly issues relating to SBAS.

3.3 In this regard the Joint Session noted the PBN/GNSS TF/2 in Dakar June 2011 had deliberated on the strategy and made refinement. The final way forward however, was pending implementation of APIRG/17 Conclusion 17/29 which, inter alia, called for an independent CBA in addition to the one conducted by the SBAS vendor.

3.4 The meeting deliberated at length on the need for a CBA. It was recalled, inter alia, that users (IATA member airlines) have expressed concern on the implementation SBAS, in particular its potential cost implications, while the airline fleets are being ABAS capable, and the Regional PBN implementation plan includes ABAS. It was noted however, that the independent CBA is a requirement by APIRG and that AFCAC has been requested to appoint a consultant for the study. AFCAC is in the process of appointment.

3.5 The Joint Session was also informed on available guidance material relating to the monitoring of GNSS signals.

Missing flight plans

3.6 The Joint Session of the Sub-Groups recalled that the issue of missing fight plans had been with the AFI Region for many years without a solution. Furthermore, though APIRG had adopted Conclusion 17/42 which, inter alia, called for exchange of information on missing flight plans in order to identify the causal challenges, there had been no progress made in that area. In this regard, the Joint Session agreed on the following specific actions.

(a) On a three day period (15, 16 and 17 August 2011) a Regional Survey is to be coordinated by the ICAO Secretariat, in order to collect information on the causal issues of the missing flight plans;
(b) Forms for the collection of the data should be provided to the States and copied to participants of the two Sub-Groups in order to facilitate their preparation;

(c) Data from the survey is to be provided to the FPLT TF/3 meeting in September 2011 to determine the way forward; and

(d) Effort should be made to target potentially problematic routes/flows.

Surveillance Strategy

3.7 The meeting noted that the CNS Sub-Group had been working on the surveillance strategy for the Region and that logically several aspects required information on the operational requirements, in particular separation minima. It was agreed that a small working group on separation minima (SWG-SM) be formed to make an input on the operational requirements. The following States/Organizations availed themselves to participate in the SWG-SM: South Africa, ASECNA, Kenya, Morocco, IATA, IFALPA, IFATCA and ICAO Regional Offices Secretariat.

GOLD

3.8 It was noted that the GOLD had been published as an ICAO Document, after being adopted by the APAC Region. It was also recalled that South Africa had been responsible for upkeep of the document with respect to AFI. The Joint Session agreed on adopting the GOLD for the AFI Region, noting that most material was standard and limited adaptation would be necessary.

3.9 However the meeting agreed on the need to maintain a Working Group (WG) to keep the document dynamic and in this regard the following States and Organizations agreed to participate in the WG: South Africa, ASECNA and Tanzania. The meeting agreed that South Africa will lead the Group.

3.10 The Joint Session of the Sub-Groups was apprised on the following:

- Global Survey on Aircraft Equipage for PBN implementation
- Global Operational Data Link Document
- Twelfth Air Navigation Conference (2012)

Agenda Item 4: Performance Based Navigation (PBN) Implementation in AFI Region and AFI ATS Routes Network

PBN Implementation

4.1 The meeting was apprised on the outcome of the PBN/GNSS TF/2 meeting which was held in Dakar in June 2011.

4.2 The meeting noted that the Secretariat had circulated the APIRG/17 Conclusions as well as surveys on specific issues to States, one of them being PBN implementation. It was noted with concern that States' response to the surveys had been significantly low.

4.3 In this context, the Sub-Group reiterated that in order for ICAO to assess the Regional status of implementation, challenges impeding implementation, and for the PBN/GNSS Task Force to propose measures that may foster implementation, it is important for States and their Air Navigation Service Providers (ANSPs) to provide details relating to national status of implementation. The status of States' responses with regard to development of national PBN implementation plans as of PBN/GNSS TF/2 meeting are provided at **Appendix 4A** to report on agenda item 4.

4.4 The meeting noted the updated information provided by States during the deliberations on PBN implementation. However, States were requested to provide detailed information including copies of implementation plans, to the Regional Offices.

4.5 The meeting noted that, pursuant to APIRG/17 Conclusion 17/47, the ESAF and WACAF Regional Offices requested a Special Implementation Project (SIP) for a PBN Seminar, and that funds were made available. However, availability of expertise to support the Seminar has been a challenge, as a result of which the Seminar will likely have to be postponed to 2012.

4.6 The meeting discussed the issue of scarcity of expertise in the area of PBN, and recognized the need to optimize engagement of expertise that is available in the Region. In this regard, the meeting endorsed the proposal of the PBN/GNSS TF/2 that a roster of available AFI expertise should be compiled. Furthermore, the meeting noted with thanks that Kenya has already presented its input of expertise to the ESAF Regional Office. Other States that might have developed and able to share their expertise were encouraged to do the same.

4.7 It was noted that there is a perennial challenge whereby officials charged with implementation are not being included when selecting officials for training and seminars. Another challenge was lack of retention of expertise once trained. The meeting recognized that training remains important and that it is a tool that should be put in the hands of those who are charged with implementation delivery. The meeting also recognized that measures should be taken to ensure that decision makers are sensitized with regard to PBN implementation and the related requirement for development of expertise.

4.8 In light of the foregoing, the Sub-Group agreed that the seminars and symposia should include a (some) day(s) in which material targeted at sensitizing Directors General could be delivered. The process of sensitizing the Directors General should be continuous. Furthermore, the Regional Offices should consider taking advantage of scheduled meetings of AFI Directors General to provide the abovementioned sensitization. The meeting also recognized that the National PBN implementation committees should be empowered by their authorities, and requested ICAO to communicate to States in this regard.

4.9 The meeting noted that while development of PBN routes and procedures was progressing, the issue of user approvals for PBN operations continues to be a drawback in many States. Related to this issue is the lack of user knowledge about which equipment is appropriate for flying PBN routes and procedures.

Flight Procedure Programme (FPP)

4.10 With regard to establishment of FPP, the meeting noted that the letter called for under APIRG/17 Conclusion 17/52 was dispatched in February 2011 and responses were received from 27 States and one organization. Consistent with the approach for development of the FPP concept to benefit from establishment and operation of the APAC FPP, it is expected that ICAO HQ will complete the process of evaluating information on the APAC FPP experience in the last quarter of 2011. The way forward will then be determined and implemented based on such experience, other available information, as well as the level of interest demonstrated by stakeholders with regard to the AFI FPP.

Route development

4.11 The meeting noted that the PRND WG/1 held in July 2010 endorsed 31 ATS routes for immediate implementation and that the routes would be on the RNAV 10 (RNP 10) specification, with the exception of one route in the Cairo FIR, since Cairo was in the process of implementing RNAV 5.

4.11.1 The meeting noted that, of 31 ATS routes mentioned about, nine (9) routes as listed in Table 1 have not yet been implemented due to various reasons. The meeting agreed that concerned States be urged to take necessary measures for implementation of the routes as a matter of priority, preferably before APIRG 18 meeting.

Table 1.

No	Route Designator	Route Segment	Country	Comment
1	UT127	TIKAR-MRW	Sudan	Internal Route structure Review
2	UT151	OXILO-DCT-LAG	Nigeria	VHF Coverage
3	UT152	MLK-DCT-LAG	Sudan	Rejected; Suggest use of UB763
4	UT253	NV-KESOM-MOGDU-DCT-BKK	India	Engaged ASIA Region
5	UT261	BRN-DCT-ATMUL	Egypt	Awaiting Military Clearance
6	UT263	LUKRO-KAN	Nigeria	Rejected; Suggest UH206 via JOS
7	UT271	TLE-MPK	Nigeria	Rejected; Suggest UA609 via OPALA
8	UG402	TMS-DCT-GAO-DCT-TYE (See UQ402 APIRG 15 in Table 2)	Algeria	Accelerate Implementation
9	UW900	OZT-GAO-LV (See UG981 APIRG 15 in Table 2)	Nigeria	VHF Coverage

4.12 The meeting noted that subsequent to the July 2010 meeting of the PRND Working Group, IATA hosted ATS route development meetings in November and December 2010 where user/ANSP agreement was reached on a number of ATS routes required by users. This development includes the implementation of additional flexible tracks in Oceanic airspace providing flexible routing between North America and Southern Africa. Continental routes providing more access routings to AORRA airspace were also developed. Implementation of the routes has been divided in two phases:

- *Phase I*

Trials of user-preferred trajectories concept within Dakar Oceanic FIR, Sal FIR, Piarco FIR, Cayenne Rochambeau FIR, Dakar FIR and Accra FIR, which commenced on 30 June 2011.

- *Phase II*

Implementation of additional RNP10/RNAV5 routes over continental AFI and MID airspace effective 30 October 2011. In order to meet the implementation deadline, States are urged to:

(i) Carry out pre-implementation safety assessment in accordance with Annex 11 (to the Chicago Convention) Standard 2.27.5 regarding "*significant safety-related change to the ATS system…*"

(ii) Confirm in writing to ICAO Regional Offices, that all safety assessment work has been completed.

(iii) Publish implementation of RNP 10/RNAV 5 routes via AIP supplement / AIC effective 20 October 2011. No trial period is required.

4.13 The meeting took note that in order to facilitate implementation of urgently required ATS routes, on temporary basis pending the formal AFI Basic ANP amendment, the agreed routes could be implemented as part of domestic route networks, using ATS route designators for domestic networks (ref Annex 11) that are coordinated in order to achieve continuity across FIR borders.

4.14 Concern was raised with regard to amendments of AFI ANP (Doc 7474) and SUPPs (Doc 7030) which were agreed upon at ATS/AIS/SAR SG/11 meeting in 2010. The meeting was advised there had been delays in processing the amendment due to a number of unforeseen issues. Among them is that there had been a moratorium on amendments to ANPs for all Regions, while the ANP system was being upgraded in preparation for establishment of the electronic processing of ANP amendments. However, it is expected that following the moratorium, amendment proposal for the AFI Basic ANP Table ATS 1 will be circulated in the August/September 2011 time frame.

4.15 It was noted that while the PRND Working Group has not had the opportunity to progress its work for various reasons, the meeting noted that, users are continuing to coordinate the development of ATS routes. The work undertaken will be presented to the formal APIRG mechanism and integrated into other ATS route development work. In this context, the forthcoming proposal for amendment of the ANP will include such ATS routes.

4.16 With regard to the comprehensive review of the AFI ATS route network, a comprehensive user statement of requirement is to be provided by IATA and addressed once the urgently required ATS routes have been facilitated.

Atlantic Ocean Random Routing Area (AORRA)

4.17 The meeting was informed that following initial delay of AORRA phases 2, 3 and 4, AORRA was fully implemented on 26 August 2010. Along with the implementation of the random routing area, the following are key requirements:

- All fixed routes within AORRA were **suspended**. These routes may be reactivated in case of an emergency situation. Accordingly, data defining the route trajectories (route, designation and waypoints coordinates) is to be retained in FMSs, etc.

- Direct route transitions are required from waypoints on the existing airway structure to discrete Latitude/Longitude waypoints on the AORRA boundaries, in order to optimize random routing benefits.

4.18 The meeting noted the continuous coordination process between ANSPs and users through SAT Group meetings in order to deal with any new requirement related to the management of the AORRA airspace, as well as to monitor the level of safety for the operations in AORRA. In this context, the meeting noted that in the context of APIRG/17 Conclusion 17/60, additional direct transitions to/from AORRA airspace were implemented.

4.19 The meeting was informed that out of 22 route segments agreed upon at APIRG/15 and APIRG/16 meetings, only six (6) had been implemented. The meeting noted however, that many route trajectories have since become redundant as user requirements have changed. In Table 2 below, is the list of ATS routes that are still pending implementation. Table 3 is the list of ATS routes that are no longer relevant. States are to be urged to implement the routes in Table 2 as soon as possible, preferably before APIRG/18 meeting. It was expected that the forthcoming PRND Working Group meeting would review the outstanding list of ATS routes and identify further ATS route trajectories that are no longer required.

Table 2

No	Route Designator	Meeting	Country	Comment
1.	UG402	APIRG15	Algeria, Niger, Burkina Faso, Benin	Accelerate Implementation
2	UG404; UG624; UG981	APIRG15	Morocco, Algeria, Mali, Niger, Nigeria, Cameroun, Guinea, Gabon	Accelerate Implementation
4	UG629	APIRG15	Morocco, Algeria, Mali, Niger, Nigeria	Accelerate Implementation
5	UG981	APIRG15	Niger, Nigeria, Cameroun, Guinea, Gabon	Accelerate Implementation
6	UM220	APIRG 16	Sudan	Review with South Sudan
7	UM365	APIRG 16	Sudan	Review with South Sudan
8	UM665	APIRG 16	Sudan	Accelerate Implementation

Table 3

1	UG403	APIRG15	Algeria, Niger	No longer Required
2	UG616	APIRG15	Niger, Nigeria	No Longer Required
3	UB525	APIRG 16	Ethiopia, Sudan, Egypt	No Longer Required; UT124
4	UL612	APIRG 16	DR Congo, Sudan, Egypt	No Longer Required; UG607

Report on Agenda Item 5: Safety Management

Tactical Action Group (TAG)

5.1 The meeting noted the outcome of the third meeting of the Tactical Action Group of the AFI Region that was held in Johannesburg, South Africa in March, 2011. Moreover, that the TAG/3 meeting raised concerns in the following paragraphs.

5.2 The Sub-Group was informed about the large number of Unsatisfactory Condition Reports (UCRs) being filed with reference to Angola, DR Congo, Libya and Nigeria which the TAG had noted with concern.

5.2.1 It was recalled that in December 2009, a TAG mission was undertaken to DR Congo.

5.2.2 A TAG mission had been undertaken to Angola in May 2010. Since then, Angola had commenced trials on extended VHF coverage at the end of June 2011, however no update had been received by the TAG on the action list agreed with Angola in May 2010.

5.2.3 The TAG also took a mission to Nigeria in May 2010 following several unsuccessful attempts to conduct the mission previously. The mission developed and agreed on a list of action items with the Nigerian authorities. However, the TAG was yet to receive first update on progress regarding the action list. The meeting noted with concern, Nigeria's absence at the ATM/AIM/SAR SG/12 meeting, despite its pivotal role in the AFI airspace.

5.2.4 With regard to Libya, it was noted that for the time being, due to developments related the no-fly-zone (NFZ) under UN Security Council Resolution 1973, the situation could only be monitored. A TAG mission is to be arranged as soon as the situation permits.

5.3 The Sub-Group recalled that at its 11th meeting, it was agreed to review ICAO incident form as in Doc 4444 Appendix 4, in order to make it more accessible and user friendly for operational personnel such ATS personnel and air crews. In this regard, the meeting reviewed and agreed on the draft incident reporting form as in **Appendix 5A** to the report on agenda item 5.

RVSM
AFI RVSM Safety Policy

5.4 It was recalled that RVSM TF/8 developed the *AFI RVSM Safety Policy* for use during the planning and implementation period and that the Policy was endorsed by APIRG and remained current until the AFI RVSM POSC was completed.

5.5 The meeting recognized that the continued safe application of RVSM is required to be guided by a sound maintenance policy to ensure that Target Levels of safety are met. Accordingly the policy should now be amended from an implementation policy to that of a maintenance policy.

5.6 In this regard the meeting reviewed and agreed on the amended version of the *AFI RVSM Safety Policy* as in **Appendix 5B** to the report agenda item 5. It was noted that the Policy, which is now focused on maintenance as opposed implementation, will be distributed to States via a State Letter by ICAO Regional Offices and be posted on the ICAO and ARMA web sites.

Global RMACG 6 meeting

5.7 The meeting was informed on the outcome of the Annual Global RMACG 6 meeting which was held in Montreal, Canada in June 2011. It was noted that eleven (11) of the thirteen (13) Regional Monitoring Agencies (RMAs) participated at the meeting. The main aim of the meeting was to discuss co-ordination and harmonization of RVSM issues between RMA's which ultimately affects RVSM operations within all regions. In addition, an amendment to the Minimum Height Monitoring Requirement was tabled for implementation.

5.8 The meeting noted the following issues and related concerns which were discussed at the RMACG 6:

a) The importance of State RVSM Operational Approvals. Notably, many RMAs made references to AFI aircraft without appropriate approvals.
b) The amendments to the Minimum Monitoring Requirements. The amended Minimum Monitoring tables will be updated and placed on the ARMA Web page and can be accessed on ARMA website (www.atns.co.za/afi-rvsm).
c) Co-ordination failures between Area Control Centres (ACCs)' which appear to be of concern to many Regions including AFI as this phenomenon creates a Large Height Deviation environment for RVSM.

5.9 In view of the foregoing, the Sub-Group reiterated the requirement for States to provide ARMA with the required documentation for new and deregistered aircraft.

5.10 It was noted that a State Letter will be circulated advising of the amendments to the Minimum Monitoring Requirements.

ARMA report

5.11 The meeting was presented with an overview of the ARMA work associated with the five Key Performance Areas (KPAs) and thus the state of RVSM in the AFI Region. The Sub-Group agreed that the KPAs continue to be valid and necessary action should be taken by concerned stakeholders to support their attainment.

5.12 It was recalled that States have a commitment towards ensuring that RVSM is safely managed for the benefit of the aviation community as a whole. In this context, the ARMA is guided specifically by the AFI RMA Manual and ICAO Doc 9574 which contains the following five primary functions that are expected to be carried out by the ARMA in support of States obligations, which are further discussed in detail hereunder:

- Maintain a data base of AFI RVSM approvals;
- Monitor aircraft height-keeping performance and the occurrence of large height deviations and report results appropriately;
- Conduct Safety Assessments and report results appropriately;
- Monitor operator compliance with State approval requirements; and
- Initiate necessary remedial actions if RVSM requirements are not met.

Database of RVSM Approvals

5.13 ARMA maintains an RVSM Operational Approvals Data Base with all AFI State RVSM Operational Approvals to facilitate the safe and efficient flight of RVSM Operationally Approved aircraft which can be viewed at the ARMA web address (**www.atns.co.za/afi-rvsm**).

5.14 The States listed in Table 1 below have been included in the dataset and it is recommended that all States/CAA's, Aircraft Operators and ANSPs consult the table on a regular basis to ensure that the data is correct. All amendments should be forwarded to ARMA without hesitation.

Table 1

Algeria (Limited)	**Eritrea (Unsure)**	**Mauritius (All)**	**Seychelles (All)**
Angola (Limited)	**Ethiopia (Limited)**	**Mozambique (All)**	**Senegal (Unsure)**
Botswana (All)	**Gabon (All)**	**Namibia (All)**	**Sudan (Unsure)**
Burkina Faso(Limited)	**Ghana (All)**	**Niger (All)**	**Swaziland (All)**
Cameroon (Unsure)	**Kenya (All)**	**Nigeria (Processing)**	**Uganda (All)**
Chad (All)	**Libya (Unsure)**	**Reunion (Limited)**	**Zambia (All)**
Côte d'Iivoire (All)	**Madagascar (All)**	**RSA (All)**	**Zimbabwe (All)**
DRC (Limited)	**Malawi (All)**	**Rwanda (All)**	
Djibouti (Unsure)	**Mali (All)**	**Sao Tome (Unsure)**	

5.15 A total of 667 AFI RVSM Operational Approvals were recorded in the latest dataset at the end of June 2011. This is an increase of approximately 120 aircraft measured from the same time last year 2010. These figures exclude the RVSM fleets from Morocco, Tunisia and Egypt that have sizeable fleets. The meeting acknowledged that management of State RVSM Operations Approvals by Civil Aviation Authorities (CAAs) is an area that requires attention, as some States are still not in compliance with the requirements, which constitutes a "deficiency" for each of the concerned States.

Height Monitoring—Keeping of data on Performance and Large Height Deviations

5.16 The Sub-Group recalled that RVSM requires that aircraft altimeters shall be accurate enough to ensure continued safe ICAO standard separation. In order to achieve these requirements, altimetry systems must meet the global accuracy requirements for safe RVSM operations. ARMA therefore continuously monitors aircraft height keeping performance in AFI via the GPS-Based monitoring unit (GMU) method supplemented by monitoring results obtained from other RVSM regions. The main focus of Height Monitoring is to ensure that the Altimetry System Error (ASE) measured in this case for each target aircraft is within the permissible limits.

5.17 It was noted that the ARMA Height Monitoring Program is now well established and AFI CAA's must ensure that they cooperate with ARMA to maintain the height monitoring targets for each operator's fleet. Solutions to encourage CAA's and aircraft operators to comply with this requirement will need to be sought. The Sub-Group noted with concern however, that a few weeks before the Sub-Group meeting, only nine (9) States (26% of States in the Height Monitoring Programme) indicated below had

complied with the height monitoring requirements. CAAs and aircraft operators are to be strongly urged to participate in the AFI Height Monitoring Program which is managed by ARMA.

5.18 Resulting from measurements obtained by the AFI Height Monitoring Program, altimeter system error (ASE) have for the first time supplemented other altimetry system error (ASE) figures in the processing of the current AFI CRA. The GPS-based monitoring unit (GMU) method is returning good results with a total of 235 aircraft having been monitored. The Height monitoring unit (HMU) and Aircraft Geometric Height Measurement (AGHME) results have been effectively used to supplement the program and count towards the monitoring targets for AFI.

5.19 The ARMA indicated that there was low implementation of RVSM height monitoring as per provisions contained in Annex 6 to the Chicago Convention, and that this would require a concerted effort, cooperation and commitment by CAAs and operators to avoid the safety implications and inconveniences, such as CAAs withdrawal of aircraft RVSM approvals where no attempt has been made to undergo the required height monitoring flights.

5.20 The meeting was informed that some AFI States were being significantly affected by the challenge of some aircraft in the civil register claiming to be State aircraft, such as aircraft chartered (on short term hire) by State organs. It was noted that one of the solutions for such situations is that the concerned CAAs should provide guidance and/or procedures in order that State aircraft will be differentiated from State flights. The ARMA undertook to provide a State Letter in this regard to the ICAO ESAF Regional Office for circulation.

Operational Errors Leading to Large Height Deviations

5.21 Operational Errors leading to Large Height Deviations (LHDs) are still under evaluation in the CRA process which is currently in progress. However, during the previous assessment, it was established that there were 51 reported LHDs. A figure of 86 is currently under evaluation for the current assessment.

Conduct of Safety Assessments

5.22 Safety Assessments are continuously in progress to satisfy the Safety Policy. In order to make these assessments successful, States/Area Control Centres must prepare and submit the required data to ARMA. The results of the current safety assessment will be presented to APIRG/18 and fully discussed in detail during ATM/AIM/SAR SG/13.

Monitoring of Operator Compliance with State Approval Requirements

5.23 This function is continuously in progress as ARMA uses the monthly safety assessment returns to verify that aircraft captured in the RVSM band are actually State RVSM approved aircraft and operators lodged with the ARMA. It was noted that since the twelfth meeting of the Sub-Group, the ARMA has recorded approximately 79 (a conservative figure) aircraft that have been found lacking in the RVSM approvals aspect as opposed to the last period which recorded 70.

Remedial Actions of RVSM Requirements are not met

5.24 Remedial actions have been negotiated with various CAAs to find solutions for large height deviations. This is also true for aircraft demonstrating large altimetry system error (ASE) measurements. The ARMA considers this item as a continuous task and which will be reported on as required.

Monthly FIR Traffic and Associated Returns to ARMA

5.25 The meeting noted with concern that the annual return for 2010 was as low as 35% which is once again hampering the compiling of the various safety assessments. The return of safety data is critical. It was noted that both Botswana and the ASECNA FIR's have put in a great effort to provide safety data and it is believed that this is having a big effect relating to safety monitoring and for the 2011 safety assessment. It was noted that specifically, Botswana and the ASECNA FIRs had made a significant effort to provide safety data and it is believed that this is having a notable effect relating to safety monitoring and for the 2011 safety assessment.

Non RVSM Approved State Aircraft

5.26 The meeting recalled that the non-RVSM approved State aircraft have the following options:

- Remain clear of RVSM airspace between FL290 and FL410 inclusive;
- Submit a flight plan for flights above FL410, on condition that an uninterrupted climb can be maintained through RVSM airspace with an uninterrupted descent to destination aerodrome;
- Obtain State RVSM operational approval and operate in accordance with RVSM procedures and requirements;
- Indicate on the Flight Plan "STS/NON RVSM" in Field 18 without a "W".

5.27 It was noted that currently RVSM safety is being periodically and negatively affected by Non-RVSM-approved State aircraft flying at RVSM levels without the safety of the required separation minimum being applied.

RVSM implementation related deficiencies

5.28 The meeting agreed in principle that in order to encourage resolution of deficiencies relating to RVSM implementation, the deficiency list should be developed from items in the following tables. Furthermore, the deficiencies should be included in AFI Air Navigation Deficiency list and reporting should start immediately after APIRG/18. It was agreed that Members of the Sub-Group could still forward comments on the lists, to the Secretariat over the next two weeks after the meeting.

Table 2: **Safety Assessment Data Collection Deficiency**

State/FIR	Requirements	Description of Deficiency	Date	Comments	Corrective Action	Executing Body	Target Date	Priority
ABCDEF	AFIRAN 8 Rec 5/21	No Safety Data F1,F2,F3.F4	2006	No Contribution to CRA	Submit to ARMA	CAA/ACC	1/8/11	U

Table 3: RVSM State Approvals/Withdrawals

State/FIR	Requirements	Description of Deficiency	Date	Comments	Corrective Action	Executing Body	Target Date	Priority
ABCDEF	Annex 6	No Records of Approvals/ Withdrawals	2006	RVSM Safety Reduction in Separation	RVSM Approval /With-drawal Submit to ARMA F2,F3	CAA	1/8/11	U

Table 4: RVSM Height Monitoring

State/FIR	Requirements	Description of Deficiency	Date	Comments	Corrective Action	Executing Body	Target Date	Priority
ABCDEF	Annex 6	No or Limited Height Monitoring	2006	No monitoring of ASE	CAA comply with Height Monitoring Plan	CAA	1/8/11	U

Report on Agenda item 6: Contingency Arrangements

6.1 The meeting recalled that Annex 11 Chapter 2 provides that air traffic services (ATS) authorities shall develop and promulgate contingency plans for implementation in the event of disruption or potential disruption of ATS and supporting services in the airspace for which they are responsible for such services. Guidance material for the development of contingency planning is presented as Attachment D to Annex 11.

6.2 The meeting also recalled that contingency plans constitute a temporary deviation from the facilitates and services provided by States in accordance with Article 28 of the Convention on International Civil Aviation (Doc 7300) and as reflected in the Regional ANP. Consequently, as Regional ANPs are approved by the Council, contingency plans also require Council approval. The approval is normally given by the President of the Council on behalf of the Council.

6.3 The meeting noted that based on information available with the Secretariat, many States have not yet developed or updated their contingency plans for airspaces in which they provided ATS. Since APIRG/17, some States have developed Contingency Plans. However Plans are yet to be formatted in accordance with APIRG Contingency Plan Template adopted in terms of APIRG Conclusion 17/66 development. Moreover, most States have not promulgated contingency plans. Promulgation is to be effected after approval by the Council.

6.4 The meeting noted that most AFI States have still not responded to the questionnaire on the status of the implementation of Contingency Plans and in this regard, States that have not already done so are urged to complete and return the questionnaires at **Appendix 6A-1** and **Appendix 6A-2** to the report on agenda item 6, which were circulated to States by ICAO Regional Offices in the first quarter of 2011.

6.5 States that have developed contingency plans but have not used the APIRG/17 Template are urged to progress to that stage as soon as practical, and forwarded the updated Contingency Plans to the Regional Offices for review and forwarding to ICAO HQ for approval.

6.6 The meeting recognized that in many cases, the development of the Contingency Plans is slowed down by the consultative processes and establishment of coordination agreements with adjacent airspaces. It was noted however, that where responses from adjacent States were taking considerably long without responding to follow up from proposing States, the Regional Offices accredited to the concerned States could be informed and if necessary requested to facilitate completion of the coordination.

6.7 It was also recalled that the Regional Offices may provide copy of the model Contingency Plan to states that require such guidance.

Volcanic Ash

6.8 It was recalled that Volcanic ash is a hazard for flight operations with significant safety implications. Recent encounters with volcanic ash have resulted in one or more of the following and other problems:

- Engine failures and malfunctions;
- Subsequent failure of electrical, pneumatical and hydraulic systems;

- Blocking of sensors, resulting inter alia in erroneous airspeed indications;
- Smoke, dust and/or chemical pollution of cabin air; resulting in the need for aircrews to use oxygen masks;
- Communication problems;
- Loss of visibility through cockpit windows.

6.9 The meeting noted that in response to the unprecedented disruptions to commercial air traffic in Europe caused by the eruption of Iceland's Eyjafjallajökull volcanic eruption in April 2010, ICAO has established an International Volcanic Ash Task Force to drive the development of a global safety risk management framework and urge regional implementation groups (PIRGs) to improve existing regional volcanic ash contingency plans and establish new plans where such plans do not exist.

6.10 In response to the unprecedented disruptions to commercial air traffic in Europe caused by the eruption of Iceland's Eyjafjallajökull volcano in April 2010, the EUR/NAT regions combined and improved their existing contingency plans and the CAR/SAM and ASIA/PAC regions developed new contingency plans. All ICAO regions were encouraged to develop contingency plans to monitor the effects of volcanic ash in their Flight Information Regions (FIRs).

6.11 The Sub-Group noted that regular Volcanic Ash Contingency Plan (VACP) Exercises are required in implementing VACPs. Furthermore, there is need to monitor the said exercises at the regional level. In this regard, it was recalled that APIRG/17 Conclusion 17/84 established a *Core Team of Experts* to collect and study information on the impact of the global Air Traffic Management operational concept on the provision of Aeronautical Meteorological Services in the AFI Region.

6.12 The meeting agreed to propose for the dissolution of *Core Team of Experts* and to establish a MET/ATM Task Force to, *inter alia*, monitor the annual Volcanic Ash Contingency Plan exercises. Accordingly the Sub-Group formulated following Draft Decision:

Draft Decision 12/1: Establishment of the AFI MET/ATM Task Force

That the Core Team of experts established through APIRG/17 Decision 17/84 is dissolved, and the AFI MET/ATM Task Force is established with the terms of reference and work programme as at Appendix 6B to report on agenda item 6.

6.13 The Sub-Group agreed that the following States and organizations would be members of the MET/ATM Task Force. **States:** – Botswana, DRC, Kenya, Senegal, South Africa and Tanzania. **Organizations:** – ARMA, ASECNA, IATA, IFALPA, IFATCA and WMO.

6.14 The meeting recalled that within and adjacent to the AFI Region there are areas of volcanic activities which are likely to affect flight operation in the AFI Region. The AFI Volcanic Ash Contingency Plan (CP) sets out standardized guidelines for the alerting of aircraft when eruptions occur, and procedures to be followed.

6.15 In this regard, the Sub-Group reviewed the draft contingency plan that had been adapted from EUR/NAT Region volcanic ash CP, and agreed to adopt the AFI CP as at **Appendix 6C** to report on agenda item 6, and accordingly formulated the following Draft Conclusion:

Draft Conclusion 12/1: Establishment of the AFI Volcanic Ash Contingency Plan

That, with objective of mitigating the effects of volcanic ash resulting from volcanic eruptions in the AFI or other Regions, the AFI Volcanic Ash Contingency Plan is adopted as at Appendix 6C to the report under item 6.

6.16 The Sub-Group also agreed that subsequent to the ATM/AIS/SAR SG/12, the *AFI Volcanic Ash Contingency Plan* should further be reviewed and updated by the International Volcanic Ash Task Force (IVATF/2), and the Secretariat for submission to the APIRG/18.

Report on Agenda item 7: Transition to the new ICAO Flight Plan

7.1 The meeting noted that the Second meeting of the AFI Flight Plan Transition Task Force (FPLT TF/2) was held at the Silver Springs Hotel in Nairobi, Kenya, from 16 to 18 February 2011. The two and half day meeting was convened at the end of the *Workshop on ICAO 2012 Flight Plan Provisions* (14-16 February 2011), in order to benefit from the Workshop proceedings and expertise.

7.2 Amongst others, the FPLT TF/2 meeting updated the **Regional Strategy** for implementation of Amendment 1 to 15th edition of Doc 4444, reviewed the Regional **Performance Objectives** and developed a **model** for National performance framework form (PFF) reflecting detailed breakdown of activities relevant for action by States, as well as a **Conversion Table** for New to Present content of the flight plan. Copies the above are at **Appendixes A, B, C and D** respectively.

7.3 The ATM/AIM/SAR 12 meeting endorsed the proposals of FPLT TF/2 with regard to Strategy for implementation of Amendment 1 to the 15th addition of Doc 4444 which becomes applicable on the 15th November 2012, and the revised terms of reference (TOR) of the Task Force. Accordingly the Sub-Group formulated the following Draft Conclusion and Draft Decision:

Draft Conclusion 12/2: Strategy for Implementation of NEW ICAO Flight Plan Format

That, in order to implement the NEW flight plan format in a progressive and harmonized manner:

a) the AFI Strategy for Implementation of NEW ICAO Flight Plan format is adopted as at Appendix 7A to the report on agenda item 7; and

b) States and users are urged to continue their implementation planning based on the Strategy

Draft Decision 12/2: Revised Terms of Reference of the AFI Flight Plan Transition Task Force (FPLT TF)

That, in order to facilitate the work of the FPLT Task Force, the Terms of Reference of the Task Force is revised as at Appendix 7E to the report on agenda item 7.

(This draft Decision is to supersede APIRG 17 Decision 17/61)

Agenda Item 8: Review of the outcomes of the Regional QMS for AIS/MAP Services Implementation Workshop, Second AFI e-TOD Working Group Meeting and the First Meeting of the APIRG AIM Implementation TF.

Quality Management Systems (QMS)

8.1 The meeting reviewed the outcomes of the Regional QMS for AIS/MAP Services Implementation Workshop and noted that the accomplishment of QMS in AIS/MAP Services would involve the following issues to be raised and understood by CAA Administrations: *High level mandates are a must; Misconception that ISO 9000 is equal to Paper; Management System (not a quality control system); Do it yourself; Cost (rules of thumb);10% of Working Force would be involved; External fees on consulting/training +Auditor; 18 months duration period; Note that all would do it again.*

8.2 The meeting was apprised in detail on the process of QMS and noted the various benefits related safety, efficiency, cost management and customer satisfaction.

8.3 In view of the above the meeting adopted the following Draft Conclusion:

Draft Conclusion 12/3: QMS Implementation and Establishment of Service Level Agreements

That, in order to support the effective implementation of QMS, AFI are urged to:

a) **take firm commitment at the level of Directors General to implement QMS supported by ISO 9001:2008;**
b) **share their QMS implementation experience and support with other States; and**
c) **establish and maintain formal Service Level Agreements (SLA) between data originators and AIS Providers as per sample template at Appendix-8G to the report on agenda item 8.**

e-TOD

8.4 With regard to outcome of the Second Meeting of the AFI Region Electronic Terrain and Obstacle Data Working Group (eTOD WG/2) the Sub-Group reviewed and endorsed the proposed amendment of the AFI ANP (Doc 7474) to include the Draft FASID Table into the AFI FASID, Part VIII (AIS), and that subsequent to the meeting, the Secretariat carry out updates as necessary prior to circulating the amendment proposal. Accordingly, the Sub-Group adopted the following Draft Conclusion:

Draft Conclusion 12/4: Proposal for Amendment to the AFI ANP (Doc 7474) FASID Related to E-tod

That, AFI States review the draft amendment proposal for the AFI ANP FASID (Part V I I I) at (Appendix 8A and 8B), and send their comments and updates to the ICAO WACAF and ESAF Regional Offices before 31 October 2011 for the Regional Offices to circulate the amendment proposal.

8.5 The meeting agreed that States should organize awareness campaigns and training events (workshops) involving all concerned personnel from within and outside the CAA in order to provide an overview of the technical, legal, institutional and financial issues related to eTOD as well as of the actions that need to be taken in implementing e-TOD and to bring a high-level understanding of the associated topics. Accordingly, the meeting endorsed the following Draft Conclusion:

Draft Conclusion 12/5: SIP for AFI Region e-TOD implementation Seminar/Workshop

That:

a) **For the sake of an efficient and harmonized implementation of e-TOD, ICAO assist AFI States at the National Level and, to the extent possible co-operatively, organize a Regional SIP Seminar/Workshop to raise awareness campaigns and training programs to promote and expedite the process of e-TOD implementation.**

b) **AFI States to participate actively in this Workshop**

8.6 The meeting then agreed that AFI States review the proposed AFI Region e-TOD implementation timelines under **Appendix-8C** and provide updates/comments to the ICAO WACAF and ESAF Regional Offices before 31 October 2011. It was then decided that APIRG will further review adopt the e-TOD implementation timelines as necessary for its inclusion as an Appendix in the APIRG/18 Report in accordance with Standard Procedure.

8.7 The meeting reviewed the report of the First AFI Region AIM Implementation Task Force in accordance with the ICAO global ATM operational concept and the ICAO roadmap for the transition from AIS to AIM. The meeting noted that the AIM TF has developed performance goals for the transition from AIS to AIM in the AFI Region, reviewed the AIS parts of the AFI basic ANP/FASID, and further introduced/developed planning material related to the transition from AIS to AIM. The meeting noted the concerns of the AIM Task Force on the serious impact of unresolved deficiencies on safety. Further discussion on deficiencies is under agenda item 13.

Taking into consideration the latest developments in the AIM field, especially the transition from AIS to AIM, the meeting noted the updated AIM Performance Framework Forms (PFF) effected by the AIM Task Force at **Appendix-8D** to the report on agenda item 8.

8.8 The meeting noted the AIS Parts of the AFI Basic ANP and FASID introduced/developed by the AIM Task Force as Planning material related to the transition from AIS to AIM. The meeting then endorsed the ANP material related to AIM, which was developed by the Secretariat based on the work carried out in the European Region listed in **Appendix 8E1 to Appendix 8E-9**. The meeting then endorsed the following draft decision:

Draft Decision 12/3: Amendment of AFI Basic ANP and FASID with regard to Materials related to the Transition from AIS to AIM

That, the Secretariat circulate and process the AFI ANP (Doc 7474) amendment proposals material relating to the Transition from AIS to AIM at Appendix 8E (Basic ANP) and Appendix 8F (FASID) to the report on agenda item 8, for inclusion in the AFI Basic ANP and FASID.

AFI CAD

8.9 The meeting noted that following a review of the Action agreed by the Air Navigation Commission on 8 March 2011 *(ANC 186-6 refers);* the Commission noted that the transition in the AFI Region will benefit if a robust communication infrastructure exist. The Commission further called upon the Secretariat to support/monitor the transition of AIS to AIM through regional mechanism. The meeting then noted the proposal of South Africa, inviting AFI States to join the South African Regional AIS Database as an alternative to enhance the AIM implementation process within the AFI Region. The Meeting was further informed that ASECNA is planning to develop a Regional AIS Database to accommodate all the States in the Western and Central African Region.

AIS-AIM Roadmap

8.10 The roadmap indicates twenty-one steps in three Phases and AIS-AIMSG has been working to develop related SARPS and guidance materials to facilitate implementation in a worldwide harmonized manner. The meeting noted that some States that have already achieved some steps in the roadmap. Some States established a national AIM implementation plan in accordance with the roadmap and, are advancing necessary action as planned. It was recognised that there might be a large gap between the States in the regions regarding an approach for AIM because of size of an organization or budget problem etc. However, it is important to share information of each State regarding AIM implementation and to consider how to provide further support in the regions. In view of the above, it was noted that the AIM Task Force would conduct a survey to assess the current status of AIM implementation of the States. The meeting agreed that States provide their National Plans related to the transition from AIS to AIM or as a minimum, a status report against the 21 steps of the ICAO Roadmap for the transition from AIS to AIM as listed in **Appendix-8H** prior to 31 October 2011.

Contingency Plan NOTAM

8.11 The meeting noted that as a consequence of the lessons learned by the European States and AFI AIS organisations regarding the need for harmonisation in management of NOTAM related to a volcano eruption events, the ICAO AISAIM Study group proposed that the ICAO guidance material be enhanced to include examples of a series of NOTAM related to the operational impact and limited access of airspace and routes affected by volcanic ash.

8.12 Finally, the meeting endorsed the Contingency Plan NOTAM templates as per **Appendix-8I** which covers the following areas for: airspace warnings ;airspace restrictions; aerodrome/heliport closure; route portion restriction/flight levels; recommended NOTAM codes for the relevant subject.

8.13 The meeting agreed that in order to keep the number of APIRG Conclusions as discussed under agenda item 2, the Secretariat should take action to consolidate all the APIRG/17 Conclusions and Decisions in the field of AIS/MAP taking into consideration that some of the material in the Conclusions and Draft Conclusions can be adequately reflected in such documents as strategies, Regional performance objectives and roadmaps.

Report on Agenda Item 9: APIRG Performance Objectives

9.1 The meeting recalled the series of Performance Framework Forms (PFF) that the SP AFI RAN 08 meeting held in Durban, South Africa, referred to APIRG as a mechanism to identify the performance objectives as well as to establish timeframes for the regional planning and implementation process.

9.2 The meeting noted the performance framework forms directly applicable to ATM, AIM and SAR fields adopted by the SP AFI RAN meeting and handed over to APIRG as listed here below:

1. **Implementation of the new ICAO Flight Plan Provisions**
2. **Optimization of the ATS route Structure in en-route airspace**
3. **Optimization of the ATS route Structure in terminal airspace**
4. **Optimization of vertically guided RNP approaches**
5. **Search and Rescue**
6. **Implementation of WGS-84 and Electronic Terrain & Obstacle Data**

9.3 It was recalled that the APIRG/17 meeting considered all the Performance Framework Forms (PFFs) establishing performance objectives for the AFI Region, in particular those related to ATM, AIM and SAR fields which had been updated by the ATS/AIS/SAR Sub-Group, and formulated the **Conclusion 17/41** to update and adopt these PFFs.

9.4 The meeting was informed that since then, the ICAO Flight Plan Transition Task Force (FPLT TF) held two meetings (Johannesburg, South Africa from 13 to 14 September 2010 and Nairobi, Kenya from 16 to 18 February 2011 respectively) that took the opportunity to review and update the PFF on the implementation of the new ICAO Flight Plan Provisions.

9.5 Likewise, it was recalled that the three PFFs on ATS routes (En-route, Terminal and Approach) were reviewed and updated by the PBN/GNSS TF/1 and TF/2 meetings successively (Nairobi, Kenya, 12-14 October 2010 and Dakar, Senegal, 13-15 June 2011 respectively).

9.6 It was also reported that the first meeting of the AFI Region AIM Implementation Task Force (Dakar, Senegal, 20-22 July 2011) had reviewed and updated the PFF on WGS-84 and E-TOD.

9.7 The meeting was informed that the first meeting of the AFI SAR Services Integration Task Force (ASSI TF) which will be held in Dakar, 19-20 September 2011, will be the opportunity to review the PFF on Search and Rescue.

9.8 The meeting finally endorsed the PFFs as presented at **Appendix 9A to 9D** to the report on agenda item 9, and formulated the following Draft Conclusion:

Draft Conclusion 12/6: AFI Performance Objectives

That, the AFI Performance Framework Forms regarding AFI regional performance objectives in the fields of ATM, AIM and SAR are updated as at Appendixes 9A to 9D to the report on agenda item 9.

(*This draft Conclusion is to supersede APIRG Conclusion 17/41*)

Report on Agenda Item 10: Review of Air Navigation deficiencies in the ATM, AIM and SAR fields

10.1 The meeting recalled the definition of air navigation "deficiency" as approved by the ICAO Council as follows: "*a deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation*"

10.2 The Sub-Group acknowledged that the identification, assessment and reporting of air navigation deficiencies is one of the regular tasks of the ICAO planning and implementation regional groups (PIRGs). However, in order for APIRG to effectively address deficiencies in the AFI Region, adequate information on specific deficiencies should be available the relevant PIRG.

10.3 The APIRG/17 Meeting, Ouagadougou, Burkina Faso, from 2 to 6 August 2010, noted that based on currently available information at the Secretariat as of March 2010, 44 States were reported as having no deficiencies in the field of ATM, 51 in the fields of AIS/MAP, while in the field of SAR most States (40-45) had three similar deficiencies, all identified between 1991 and 1995. The Group agreed that the existing list of deficiencies was not useful, given the picture reflected by, *inter alia*, reports from the USOAP audit of AFI States, and unsatisfactory condition reports (UCRs) considered by the AFI Tactical Action Group (TAG)

10.4 The APIRG/17 meeting acknowledged that a comprehensive review of the AFI deficiency database is necessary in order to more closely reflect the actual status of deficiencies, and in turn enable concerned parties to initiate appropriate measures to resolve such deficiencies. Accordingly, the Group formulated Conclusion 17/100: *Elimination Of Air Navigation Deficiencies in the ATM AIS/MAP and SAR fields:*

10.5 The ATM/AIM/SAR Sub-Group recognized that the important task of reporting of air navigation deficiencies is best facilitated by active participation by States (and their ANSPs), users and other stakeholders including professional organizations. Consequently, and in view of the situation in the AFI Region as discussed above, it was important for the Sub-Group to address the matter of effective reporting of air navigation deficiencies.

10.6 In order to encourage reporting by all concerned parties and to enable follow up, particularly by the Regional Offices, the Sub-Group agreed on an approach to reporting that would guide the parties who are expected to participate in the reporting of deficiencies. In this regard the Sub-group agreed on a list of areas reflected in **Appendix 10A** to the report on agenda item 10, which are to be used as a reference for minimum reporting. It was reiterated that the intent of the list is NOT to replace reporting based on Council policy, but to encourage reporting, noting on the one hand the current critically low level of reporting, and on the hand the expanse of SARPs and requirements on which may be affected by the definition of "deficiency."

10.7 Without prejudice to the definition of deficiency as approved by the Council, States, (Regulators and ANSPs), users (IATA, AFRAA, etc.), and professional organizations (IFALPA, IFATCA, IFATSEA, etc.) are encouraged to report on deficiencies in the areas listed in Appendix 10A (in addition to reporting any other deficiencies as defined by the Council).

10.8 The meeting reflected on the fact that there were other mechanisms under which deficiencies were reported, such with the purview of the AFI Tactical Action Group and the ATS Incident Analysis Group (AIAG), and that there is a question of coordination in reporting and management of the data there from. It was noted in this regard, that the Council approved mechanism

is primary and the other are intended to complement its outcome. It was however, noted that there is a need to establish effective coordination in reporting under the mechanisms and management of the related data for the common objectives.

10.9 The meeting recognized that the envisaged benefits of this approach include the following:

(i) CONSISTENCY IN REPORTING ACROSS ALL AFI STATES WITH RESPECT TO THE LISTED AREAS;
(ii) ABILITY TO DERIVE TRENDS AND PROPOSE COMMON SOLUTIONS;
(iii) CONSISTENCY IN FOLLOW-UP BY REGIONAL OFFICES AND OTHER CONCERNED PARTIES;
(iv) ENCOURAGEMENT TO REPORT;

10.9.1 Undesirable outcomes of the approach which should be guarded against include the following:

(i) REPORTING ONLY ON THE LISTED AREAS, INSTEAD OF ALL DEFICIENCIES COVERED BY THE COUNCIL DEFICIENCIES;
(ii) EXCESSIVE ALLOCATION OF SOLUTION RESOURCES AND EFFORT TO THE LISTED AREAS.

10.10 Based on the above, the meeting formulated the following Draft Conclusion:

Draft Conclusion 12/7:

That, in order to encourage reporting of deficiencies, follow up, collection of information on impediments to implementation, and to facilitate identification solutions, AFI States and other stakeholders are encouraged to use the list of reporting areas at Appendix 10A to the report on agenda item 10, as a guide to minimum reporting.

10.11 The meeting recognized that, in view of the common appreciation on the intent and implications of the list, gained during its deliberations, members of the Sub-Group required more time to review and make inputs that could further refine the list.

10.12 Accordingly, the meeting agreed that the members of Sub-Group could, after the ATM/AIM/SAR SG/12 meeting adjourns, continue to review the list and forward their inputs to the Secretariat by 15 August 2011, to be incorporated as necessary by Secretariat before the report of the Twelfth meeting of the Sub-Group is finalized.

Report on Agenda Item 11: ATM/AIM/SAR Sub-Group's terms of reference and future work programme

11.1 The meeting noted that as proposed by the Sub-Group at its Eleventh meeting in Nairobi in April 2010, the APIRG/17 meeting, Ouagadougou, Burkina Faso 2-6 August 2010 agreed on the change of appellation of the Sub-Group from ATS/AIS/SAR Sub-Group to ATM/AIM/SAR Sub-Group, and accordingly formulated the following Decision.

Decision 12/4: Appellation and Terms of Reference of the ATM/AIM/SAR Sub-Group

That, in order to facilitate consistency in the use of terminology and associated developments, the APIRG ATS/AIS/SAR Sub-Group is re-titled Air Traffic Management/Aeronautical Information Management/Search and Rescue/Sub-Group (ATM/AIM/SAR SG) with the Terms of Reference as at Appendix 7B to this report.

11.2 Recognizing that this is the first meeting of the Sub-Group since the APIRG/17 meeting, the Sub-Group took the opportunity to review the terms of reference (TOR) as adopted by APIRG/17 for areas that need to be updated, taking into consideration developments in the fields of to ATM, AIM/MAP and SAR, as well as discussions of the Twelfth meeting of the Sub-Group under various agenda items. Furthermore, the meeting took the opportunity to review and update the work programme of the Sub-Group.

11.3 In view of the above, the meeting reviewed and updated the TOR and Work Programme and accordingly formulated the following Draft Conclusion:

Draft Decision 12/5: Updated Terms of Reference of the ATM/AIM/SAR Sub-Group

That, the ATM/AIM/SAR Sub-Group Terms of Reference (TOR) and Work Programme are updated as at Appendix 11A to the report on agenda item 11.

(This Draft Conclusion is to supersede APIRG/17 Conclusion 17/107)

Agenda Item 12: Date and venue of next meeting

12.1 Taking into consideration the frequency of past ATS/AIS/SAR sub group meetings, frequency of APIRG meetings and the work that has to be done since RVSM Task Force has been dissolved, the Sub-Group agreed that its thirteenth meeting (ATM/AIM/SAR SG/13) should take place in the week of 4-8 June 2012. However the meeting recognized that the dates and the venue of the meeting would have to be coordinated with other activities of the Regional Offices, and accordingly agreed that the ESAF and WACAF Offices would do the necessary in this regard.

12.2 With regard to the venue, the meeting recalled that there is a standing arrangement for the Sub-Group meeting to alternate between venues in the ESAF and WACAF areas. In this regard, it was agreed that the ATM/AIM/SAR SG/13 will be convened in the Eastern and Southern African area, at the ESAF Regional Office in Nairobi, Kenya, unless a State in the Eastern and Southern African area offers to host the meeting.

12.3 The meeting agreed on provisional Agenda as per **Appendix 12A** to the report, agenda item 12.

Agenda Item 13: Any Other Business

13.1 Many delegations raised concern that on arrival at Dakar they had been required to leave their passports at the airport, while they had been informed by the Regional Office that visas would be issued on arrival. Representative from Senegal explained that requirements for visa to enter Senegal and the implementation thereof had become stricter. Nevertheless, the civil aviation authorities in Senegal, in coordination with ICAO had made special request to immigration authorities to enable the participants attending ICAO meetings to enter the country. The communication breakdown as result of which delegates were not informed prior to travelling to Senegal, that they might have to leave passports at the airport, was regretted.

13.2 The Sub-Group noted with concern, Nigeria's absence at the ATM/AIM/SAR SG/12 meeting, despite its pivotal role in the AFI airspace.

13.3 Acknowledging the message from the opening remarks of the meeting by the ICAO Regional Director, WACAF, the Chairman observed that it continues to be a challenge to reduce the number of APIRG Conclusions in order to enhance effectiveness and that the Sub-Group has a major role in realizing the goal of reduced Conclusions. The representative from many delegations including Kenya and Senegal recalled some the miscommunication caused by the high number of Conclusions and supported the commitment highlighted by the Chairman.

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Twelfth Meeting of the APIRG Air Traffic Management/
Aeronautical Information Management/Search and Rescue/Sub-Group
(ATM/AIM/SAR SG/12) (Dakar, Senegal, 25 - 29 July 2011)

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REVISED TERMS OF REFERENCE (TOR) OF THE AIR TRAFFIC MANAGEMENT/AERONAUTICAL INFORMATION MANAGEMENT/ SEARCH AND RESCUE SUB-GROUP (ATM/AIM/SAR/ SG)

1. **TERMS OF REFERENCE**

a) Support the implementation of a performance based transition to the ATM system envisaged in the Global ATM Operational Concept, the Global Air Navigation Plan and in accordance with the regional performance objectives,

b) Ensure that the planning and implementation of ATM systems in the AFI Region, is coherent and facilitates the objective of achieving seamlessness in the air navigation system, interoperability and harmonization within the Region and with other Regions.

c) Keep under review the adequacy of requirements in the fields of Air Traffic Management, Search and Rescue, PANS-OPS, Aeronautical Information Services, as well as Aeronautical Charts, taking into account, *inter alia,* changes in user requirements, the evolution in operational requirements and technological developments.

d) Identify, State by State, those specific deficiencies and problems that constitute major obstacles to the provision of efficient air traffic management, aeronautical information services and search and rescue services and recommend specific measures to eliminate them.

2. **WORK PROGRAMME**

No.	Task Description	Priority	Target Date
1.	Analyse the operational implications of the introduction of CNS/ATM systems in the fields of ATM, SAR and AIM/MAP and propose any required actions with a view to ensuring their smooth integration in the operational environment.	A	ongoing
2.	Consider problems and make specific recommendations relating to ATM interface issues with other regions.	B	ongoing
3.	Monitor achievements and progress in the implementation of RVSM, provide recommendations improvement and support the functions of the ARMA.	A	ongoing
4.	Identify deficiencies in RVSM implementation, propose solutions and monitor correction actions	A	ongoing
5.	Review the Regional requirements air traffic control service and surveillance, monitor and support implementation	B	Oct 10
6.	Taking into consideration the Regional performance objectives relating to PBN implementation, Review the existing ATS route network (including RNAV routes) on a systematic basis with a view to achieving an optimum flow of air traffic while keeping flight distances of individual flights to a minimum. (AFI/7 Rec.5/8) (SP AFI RAN)	A	Complete user requirement by Oct 10 PRND TF agreement Apr 11
7.	Monitor and support the development and update of ATM contingency arrangements	B	ongoing

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No.	Task Description	Priority	Target Date
8.	Monitor trends on unsatisfactory condition (including incidents) reports through the TAG, IATA AIAG and similar mechanisms recommend action as appropriate	A	ongoing
9.	Develop standard auditing and proficiency maintenance procedures to be used by States to assess the capability/competence of any ATS unit as well as monitor the implementation of uniform proficiency assessment for ATS personnel. (AFI/7 Conc 5/27) (Comment – *Perhaps this needs to be developed and finished ASAP. A Working Group could draft & circulate)*	C	Oct 10
10.	Review the requirements and monitor the implementation of Search and Rescue Services	B	First Revision Oct 10
11.	Support the development of sub-regional SAR bodies	B	ongoing
12.	Promote and support States' efforts in the development of SAR agreements.	A	Review progress every Apr/May
13.	Taking into considering the Regional performance objectives that have been formulated by the SP AFI RAN 2008: – Develop further the Regional performance objectives using the Performance Framework Forms – Update the Regional performance objectives, particularly with regard to identification of and assignment of detailed tasks, and identifying deliverables with deadlines – Monitor implementation	A	Initial development by Oct 10
14.	Review the requirements and monitor the implementation of AIM and MAP services	~~B~~ (A)	ongoing
15.	Analyse, review and monitor shortcomings and deficiencies in the fields of ATM/SAR, PANS-OPS and AIM/MAP, propose measures to eliminate the shortcomings	A	ongoing

Priority:

A. High priority tasks, on which work should be speeded up;

B. Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;

C. Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

3. **COMPOSITION**

Algeria, Angola, Burkina Faso, Cameroon, Congo, Democratic Republic of Congo (DRC), Côte d'Ivoire, Egypt, Ethiopia, France, Gabon, Ghana, Guinea, Kenya, Madagascar, Malawi, Mauritania, Morocco, Niger, Nigeria, Rwanda, Senegal, Spain, South Africa, Sudan, Uganda, Tanzania, Togo, Tunisia, Zambia, Zimbabwe, ASECNA, IATA, IFALPA and IFATCA.

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APPENDIX 2A to Report on Agenda Item 2

Agenda Item No.	Subject	Related APIRG/17 Conclusion/Decision		
		No	**Subject**	**Remarks**
1.	Adoption of provisional agenda and Election of the Chairperson and Vice Chairperson			
2.	Follow-up on SP/AFI RAN Recommendations and APIRG Conclusions and Decisions pertaining to ATM, AIM and SAR fields, as well as those of the ATS/AIS/SAR SG/11 and its future work programme	67	AFI SAR services integration Task Force (ASSI/TF)	
		68	Search and Rescue Services	
		84	Establishment of core team of experts for the global ATM global operational concepts	
		Rec. 5/3	Civil/Military Coordination	AFI/7 RAN Meeting Recommendation
		15/52	Civil/Military Coordination	APIRG 15
3.	CNS/ATM Coordination Issues	28	Need for a High Level Meeting on AFI GNSS Strategy	
		29	Need for an Independent Cost-Benefit Analysis	
		40	CNS Performance Objectives	See agenda 4,9 below
		41	ATM Performance Framework	See agenda 4,9 below
4.	Performance Based Navigation (PBN) implementation ➢ Airspace optimization (en-route, terminal, approach) ➢ PBN infrastructure	40	CNS Performance Objectives	See agenda 4,9 below
		41	ATM Performance Framework	See agenda 4,9 below

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APPENDIX 2A to Report on Agenda Item 2

Agenda Item No.	Subject	Related APIRG/17 Conclusion/Decision		
		No	**Subject**	**Remarks**
		46	AFI PBN implementation Regional Plan	
		47	National PBN implementation plan	
		48	PBN implementation tools	
		49	Dissolution of the GNSS implementation and PBN Task Forces and establishment of the PBN/GNSS Task Force	
		50	PBN Route Network Development Working Group (PRND WG)	
		51	Lowering of RNAV / RNP Routes UM214 and UM215	
		52	Dissemination of a letter inviting proposals for establishment of the AFI Flight Procedures Programme (FPP)	
		53	Training in support of PBN implementation	
		54	PBN enabling legislation	
		55	Participation of representatives of States involved in PBN approval process	
		56	Funding of the PBN implementation programme	
		57	IATA guidelines for operational approvals	
		58	National PBN Programme Managers (NPPM)	
		59	Airspace Planning and Aircraft Equipment Survey	

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APPENDIX 2A to Report on Agenda Item 2

Agenda Item No.	Subject	Related APIRG/17 Conclusion/Decision		
		No	**Subject**	**Remarks**
5.	Safety Management ➢ RVSM operations and monitoring activities ➢ Safety Management System	60	Direct transitions to/from AORRA airspace	
		42	Resolution of Missing Flight Plans Problem	See agenda 7 below
		43	Implementation of Strategic Lateral Offsets (SLOP) in the AFI Region	
		44	Dissolution of APIRG RVSM Task Force and re-assignment of activities	
		45	ARMA Scrutiny Group (To be included in ARMA Manual)	
		63	Dissemination of AIAG reports	
		64	Implementation of safety management in the AFI Region	
		65	Status of implementation of safety management Provisions in the AFI Region	
		69	Timely response to TAG queries	
		70	Communication of TAG focal points	
		71	Approval of TAG visits	
6.	Contingency Arrangements	66	Development and promulgation of contingency plans	

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APPENDIX 2A to Report on Agenda Item 2

Agenda Item No.	Subject	Related APIRG/17 Conclusion/Decision		
		No	**Subject**	**Remarks**
7.	Transition 2012 ICAO Flight Plan format	42	Resolution of Missing Flight Plans Problem	Also in agenda 5
		61	Establishment of the AFI Flight Plan Transition Task Force (FPLT TF)	
8.	AIS/MAP issues	86	Transition from AIS to AIM	
		87	Planning for the Transition from AIS to AIM	
		88	e-TOD Checklist	
		89	Adoption of the e-TOD implementation plan template as a regional model	
		90	Implementation of WGS-84 and electronic terrain and obstacle data	
		91	e-TOD implementation awareness campaigns	
		92	Development and Management of a National e-TOD Programme	
		93	Coordination between States and data providers/integrators for the provision of e-TOD and exchange of experience for the implementation of e-TOD requirements	
		94	Responsibility for the provision of e-TOD	
		95	Provision of financial resources and assistance for the implementation of e-TOD	

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APPENDIX 2A to Report on Agenda Item 2

Agenda Item No.	Subject	Related APIRG/17 Conclusion/Decision		
		No	**Subject**	**Remarks**
		96	Project to complete WGS-84 implementation in the AFI Region	
		97	Adoption of the AIS to AIM transition roadmap	
9.	APIRG Performance Objectives	4	Mechanism for Data Collection to support regional performance metrics	
		40	CNS Performance Objectives	
		41	ATM Performance Framework	
		90	Implementation of WGS-84 and electronic terrain and obstacle data	See agenda 8 above
10.	Review of Air Navigation deficiencies in the ATM, AIM, MAP and SAR fields	99	Elimination Of Air Navigation Deficiencies In The ATM, AIS/MAP and SAR Fields	
		100	Development Of The AFI Web-Based Air Navigation Deficiency Database	
11.	ATM/AIM/SAR Sub-Group's terms of reference and future work programme	107	Appellation and Terms of Reference of the ATM/AIS/SAR Sub-Group	
12.	Date, venue and provisional agenda of ATM/AIM/SAR SG/13	--		
13.	Any other business	--		

----- END -----

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Appendix 2B to Report on Agenda Item 2

CONSOLIDATED APIRG/17 CONCLUSIONS & DECISIONS RELATED TO PBN

Cons/Decs No. Strategic Objectives*	Title of Cons/Decs	Text of Cons/Decs	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
Conclusion 17/41 **Conclusion 17/40, 17/41, to be consolidated and merged**	ATM PERFORMANCE FRAMEWORK	That, the AFI performance framework forms formulated by the Special AFI/08 RAN Meeting regarding performance objectives in the fields of ATM and SAR are updated as at Appendix 3.4A to this report. *Appendix 3.4A (1) Implementation of the new ICAO Flight Plan Provisions;* *Appendix 3.4A (2 Optimization of the ATS route Structure in en-route airspace;* *Appendix 3.4A (3) Optimization of the ATS route Structure in terminal airspace;* *Appendix 3.4A (4) Optimization of vertically guided RNP approaches;* *Appendix 3.4A (5) Search and Rescue.*	Update ATM/SAR performance objectives and PFFs. Align National PFF	ICAO ROs States	Updated ATM/SAR performance objectives and PFFs. Harmonized planning	31 Mar 2011 31 Mar 2011	Updated by PBN/GNSS TF/1
Conclusion 17/46 **Proposed to be updated by ~~PBN/GNSS TF/1 Draft Conclusion 1/06~~ SG/12 Draft Conclusion 12/06**	**AFI PBN IMPLEMENTATION REGIONAL PLAN**	That: a) The AFI Regional PBN implementation plan is updated and endorsed as at Appendix g 3.4D to this report, to more accurately reflect PBN implementation goals in Assembly Resolution A36-23, guidance in the PBN Manual (9613), and Regional planning guidance provided by APIRG; and b) The Regional PBN Implementation Plan be included in the AFI Doc 003.	Implementation PBN Regional plan Update Doc003	States ICAO ROs	Updated AFI Regional PBN implementation plan Updated Doc003	According to plan 31Mar 2011	

Cons/Decs No. Strategic Objectives*	Title of Cons/Decs	Text of Cons/Decs	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
Conclusion 17/47 **Proposed to be superseded by ~~PBN/GNSS TF/1 Draft Conclusion 1/06~~ SG/12 Draft Conclusion 12/01**	**NATIONAL PBN IMPLEMENTATION PLAN**	That States: (a) Use the Regional PBN implementation plan template at Appendix 3.4E to this report , for the development of a national PBN implementation plan and consider the action planning provided by the Joint PBN/GNSS/I Task Forces Meeting to support planning; (b) Provide feedback to the ESAF and WACAF Regional Offices by 30 October 2010 regarding progress in the development of their national plans, indicating any challenges, if any, that are delaying the development of the plan, as well as measures taken or to be taken to overcome such challenges; and (c) Complete their National PBN plans as soon as possible.	Develop National PBN implementation Plan Provide feedback on progress of national plans	States States	National PBN implementation Plan Updated progress on national plan implementation	ASAP, latest 30 June 2011 30 Oct 2010	
Conclusion 17/48 **Proposed to be updated and merged with ~~PBN/GNSS TF/1 Draft Conclusion 1/01~~ SG/12 Draft Conclusion 12/01**	**PBN IMPLEMENTATION TOOLS**	That States: (a) Use project management plans and implementation action plans provided by the PBN Task Force, as well as project management softwares (such as Microsoft project or freely available applications), to support PBN implementation activities; and	Issue State Letter	ESAF & WACAF Offices States	Standard use of PBN implementation tools	APIRG17	Follow up at APIRG 17

Cons/Decs No. Strategic Objectives*	Title of Cons/Decs	Text of Cons/Decs	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
		(b) Carry out a gap analysis using the project plan template attached to the report, or similar approach, in order to more accurately develop their PBN implementation plans.	Initiate gap analysis		Updated gap analysis		
Conclusion 17/51 Proposed to be updated and superseded by ~~PBN/GNSS TF/1 Draft Conclusion 1/02~~ SG/12 Draft Conclusion 12/02	**LOWERING OF RNAV/RNP ROUTES UM214 AND UM215**	That, the ICAO Regional Offices carry out further consultations with the States concerned about the lowering of RNAV / RNP routes UM214 and UM215 from FL330 down to FL320, taking into account operational considerations.	Improve air ground comms facilities	ESAF & WACAF Offices States	Improved / reliable comms facilities	2010 -2012	Follow up at APIRG 17
Conclusion 17/53 Proposed to be updated and superseded by ~~PBN/GNSS TF/1 Draft Conclusion 1/05~~ SG/12 Draft Conclusion 12/05	**TRAINING IN SUPPORT OF PBN IMPLEMENTATION**	That, in order to support the implementation of PBN in the AFI Region: a) PBN Task Force identify priority training needs for implementation for PBN; b) AFI Regional Offices organize seminars/workshops for training of relevant personnel directly involved in the implementation of PBN.		PBN TF	Identify training needs PBN W/Shops & seminars	2009 -2016	Training to be provided on a continuous basis Implementation on a continuous basis

Cons/Decs No. Strategic Objectives*	Title of Cons/Decs	Text of Cons/Decs	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
Conclusion 17/55 **Propose to be deleted, requirements to be moved to TOR of PBN/GNSS TF**	**PARTICIPATION OF REPRESENTATIVES OF STATES INVOLVED IN PBN APPROVAL PROCESS**	That, in order to support the PBN planning and implementation processes, AFI States are urged to include in their delegations to meetings of the PBN Task Force, experts and officials involved in the PBN approval process of aircraft operators.	Issue State Letter	ESAF & WACAF Offices States	shared PBN Expertise	2010-2016	Implementation on a continuous basis
Conclusion 17/57 **Proposed to be deleted**	**IATA GUIDELINES FOR OPERATIONAL APPROVALS**	That, IATA facilitates stakeholders' access to its guidelines developed to assist operators in obtaining airworthiness and operational approvals for PBN, for guidance and reference as required.	Facilitate access to guidelines	IATA	Access to guidelines	2010-2012	IMPLEMENTED NO LONGER VALID. OBSOLETE
Conclusion 17/59 **Secretariat to redraft, to reduce length and achieve more focus. To be submitted to CNS/SG and ATM/AIM/SAR SG in July 2011**	**AIRSPACE PLANNING AND AIRCRAFT EQUIPMENT SURVEY**	That, in order to facilitate airspace planning and decisions related to air navigation infrastructure: a) ICAO in coordination with IATA and AFRAA conduct regular surveys on aircraft equipage within the AFI Region; b) AFI States and air navigation service providers (ANSPs) are urged to support the ICAO/IATA global survey on aircraft equipment aimed at developing a database with accurate information on present and future	Conduct regular surveys on aircraft equipage Support the ICAO/IATA global survey on aircraft equipment	ICAO ROs IATA AFRAA States ANSPs	Updated surveys on aircraft equipage Updated surveys on aircraft equipage	31 Mar 2011 31 Mar 2011	Annual updates Annual updates

Cons/Decs No. Strategic Objectives*	Title of Cons/Decs	Text of Cons/Decs	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
		avionics capabilities of airline fleets; c) AFI States make efforts to bring awareness to the aircraft operators regarding the ICAO efforts on aircraft equipage data, and that joint efforts between civil aviation authorities and ANSPs be embarked upon to bring quicker results; and d) AFI States ensure that initiatives for air navigation system enhancements are matched with fleets capabilities and readiness.	State Letter to concerned States Bring awareness to the aircraft operators regarding the ICAO efforts on aircraft equipage. Ensure that initiatives for air navigation system enhancements are matched with fleets capabilities and readiness.	ICAO ROs States States	Awareness to Operators on acft equipage Awareness Matching of air nav systems with fleet capabilities and readiness	31 Mar 2010 Continuous Continuous	Continuous process Continuous process
Conclusion 17/90 **Proposed to be consolidated with 17/96 into a concise text**	**IMPLEMENTATION OF WGS-84 AND ELECTRONIC TERRAIN AND OBSTACLE DATA**	That: a) States adopt the revised AIM performance objective "Implementation of WGS-84 and Electronic Terrain and Obstacle Data" as contained in the Performance Framework Form in the Appendix 3.6F to this report, as a strategy for implementation; b) The proposed FASID table at Appendix F be adopted for inclusion as a requirement in the AFI FASID (Document 7474, Vol. II);	State Letter to States to establish necessity Adopt FASID Table	ICAO ROs States ICAO ROs States	Adoption of AIM performance objectives Report progress Adoption of FASID Table	31 Dec 2010 30 Jun 2011 31 Mar 2011	**Continuous Process.** **State letter has been dispatched** **Continuous Process.** **State letter has been dispatched**

Cons/Decs No. Strategic Objectives*	Title of Cons/Decs	Text of Cons/Decs	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
		c) The AFI Region e-TOD implementation strategy under Appendix 3.6G to this report be adopted for implementation; and **d)** The revised Terms of Reference of the AFI Region e-TOD working group are at Appendix 3.6H to this report be adopted.	Adopt e-TOD implementation strategy Adopt TOR of e-TOD WG	ICAO ROs States ICAO ROs	Adoption of e-TOD implementation strategy Adopted TOR for e-TOD WG	31 Mar 2011 31 Mar 2011	
Conclusion 17/96 **To be consolidated with 17/90 into a concise text taking into account Concl. 17/105**	**PROJECT TO COMPLETE WGS-84 IMPLEMENTATION IN THE AFI REGION**	That, ICAO takes necessary action to initiate a project for the completion of implementation of WGS-84 within AFI States having difficulties to complete WGS-84 implementation.	Proposal for AFI SIP	ICAO ROs	Assist States having difficulties in WGS-84 implementation	2012	Continuous Process.

*Note: ICAO has established the following Strategic objectives for the period 2011-2013

A: *Safety: Enhance global civil aviation safety:*
B: Security: Enhance Global civil aviation security;
C: Environmental Protection and Sustainable Development of Air Transport: Foster harmonised and economically viable development of international civil aviation that does not unduly harm the environment.

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Appendix 2C to Report on Agenda Item 2

PBN/GNSS TF/2 DRAFT CONCLUSIONS

Draft Conclusions No.	Title of Conclusions	Text of Conclusions	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
Draft Conclusion 12/01	**NATIONAL PBN IMPLEMENTATION PLAN**	That States, (a) that have not already done so, complete their national PBN implementation plans as a matter of urgency, using the template at Appendix C to the report on agenda item 2; (b) consider the use of planning tools provided by the PBN/GNSS Task Force, as well as project management software; and (c) provide updates to Regional Offices. (This Draft Conclusion is to supersede APIRG Conclusions 17/47 and 17/48)				30 September 2011 Continuous process 30 Oct 2010	Many States have still developed plans Continuous process
Draft Conclusion 12/02	**LOWERING OF RNAV/RNP ROUTES UM214 AND UM215**	That, ~~concerned States~~ States that have not already done so, be urged to establish the lowest usable flight level on the RNAV routes UM214 and UM215 as flight level 250 for operational reasons. This Draft Conclusion is to supersede APIRG Conclusions 17/51		ICAO ROs	Lower limit of FL250 implemented	AIRAC date of 13 Jan 2011	
New Draft Conclusion 12/03	**AFI PBN REGIONAL PERFORMANCE FRAMEWORK FORMS**	That; (a) the AFI PBN Regional Performance Framework Forms are updated as at **Appendix 3X-1 to 3X-3**, to the report on agenda item 3;					

Draft Conclusions No.	Title of Conclusions	Text of Conclusions	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
		(b) noting that the 2009 deadline established in Assembly Resolution A36-23 for the completion of State PBN implementation Plans has passed, States that have not done so, complete their national PBN implementation plans as a matter of urgency. This draft Conclusion supersedes PBN/GNSS TF/1 Draft Conclusion 1/3.					
~~**Draft Conclusion 1/04**~~	~~**DEVELOPMENT AND IMPLEMENTATION OF PBN NATIONAL PLANS**~~	~~That:~~ ~~(a) ICAO Regional Offices assess the PBN plans submitted by the States against the available global and regional guidance pertaining to PBN; and~~ ~~(b) ICAO should pursue its efforts towards establishing an effective PBN programme with a view to assisting States in overcoming PBN implementation challenges.~~ Deleted in view of APIRG Concl; 17/105 and PBN/GNSS TF/1 Draft Conclusion 1/01.					

Draft Conclusions No.	Title of Conclusions	Text of Conclusions	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
Draft Conclusion 12/05	**TRAINING IN SUPPORT OF PBN IMPLEMENTATION**	That, in order to support the implementation of PBN in the AFI Region, AFI Regional Offices organize seminars/workshops for training of relevant personnel directly involved in the implementation of PBN This draft Conclusion is to supersede APRIG Conclusion 17/53	Organize Seminars and workshops	ICAO ROs	Seminars and Workshops	2010-2012	Seminar scheduled Dec. 2011
Draft Conclusion 12/06	**AFI PBN IMPLEMENTATION REGIONAL PLAN**	That: (a) the AFI Regional PBN Implementation Plan is updated as at **Appendix 4B** to the report on agenda item 4; and (b) the Plan be included in the AFI Doc 003. This draft Conclusion is to supersede APRIG Conclusion 17/46	Implementation PBN Regional plan Update Doc003	States ICAO ROs	Updated AFI Regional PBN implementation plan Updated Doc003	According to plan 31Mar 2011	

Draft Conclusions No.	Title of Conclusions	Text of Conclusions	Follow-up Action	To be initiated by	Deliverable/ Intended Outcome	Target Dates	Status of Implementation
~~**Draft Conclusion 1/07**~~	~~**IMPLEMENTATION OF PHASE I OF AFI GNSS STRATEGY**~~	~~That AFI States which have not yet done so:~~ ~~(a) complete the implementation of WGS-84 coordinates; and~~ ~~(b) ensure that all the prerequisites are met when implementing GNSS applications for en route and non-precision approach (NPA) operations in accordance with the current Phase 1 of AFI GNSS Strategy, and in support of PBN operations.~~ Part (a) of the Draft Conclusion to be merged with APIRG Concl.17/90 and 17/96. Part (b) of the draft Conclusion to be included in GNSS Implementation Strategy	~~Proposal for AFI SIP~~	~~ICAO ROs Dakar and Nairobi~~.	~~Assist States having difficulties in WGS-84 implementation~~	~~2012~~	~~Continuous Process .~~
Draft Conclusion 12/07	**REVISED TERMS OF REFERENCE OF THE PBN/GNSS TASK FORCE**	That, the terms of reference of the APIRG PBN/GNSS Task Force are revised as at **Appendix 6A** to the report on agenda item 6.					

*Note: ICAO has established the following Strategic objectives for the period 2011-2013

A: *Safety: Enhance global civil aviation safety:*
B: Security: Enhance Global civil aviation security;
C: Environmental Protection and Sustainable Development of Air Transport: Foster harmonised and economically viable development of international civil aviation that does not unduly harm the environment.

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Appendix A to Report on Agenda Item 4

STATUS OF STATES' RESPONSES WITH REGARD TO DEVELOPMENT OF NATIONAL PBN IMPLEMENTATION PLANS

STATE	RESPONDED TO QUESTIONNAIRE	USED APIRG TEMPLATE	REMARKS
BOTSWANA	YES	YES	Being developed as consultation with neighbouring 5 FIRs causes a challenge
ERITREA	YES	YES	
KENYA	NO	Under development	
SEYCHELLES	YES	NO	
ROBERTS FIR	YES	NO	
MAURITIUS	YES	NO	This was done before the template was developed
SWAZILAND	YES	YES	Being developed
SUDAN	NO	YES	Sent to RO and ATM Coordination meeting for Khartoum FIR and Juba operations
ASECNA STATES			
BENIN	YES	NO	
BURKINA FASO	YES	NO	
CAMEROON	YES	NO	
CENTRAL AFRICAN REPUBLIC	YES	NO	
CHAD	YES	NO	
COMOROS	YES	NO	
CONGO	YES	NO	
COTE D'IVOIRE	YES	NO	
EQUATORIAL GUNIEA	YES	NO	
FRANCE (REUNION)	YES	NO	
GABON	YES	NO	
GUINEA-BISSAU	YES	NO	
MADAGASCAR	YES	NO	
MALI	YES	NO	
MAURITANIA	YES	NO	
NIGER	YES	NO	
SENEGAL	YES	NO	
TOGO	YES	NO	

---- END ----

-HANDLING OF ACCIDENTS AND OCCURRENCES

1. TYPE OF EVENT					
❑ AIRPROX / ATS Incident ❑ TCAS ❑ GPWS ❑ STALL ❑ WINDSHEAR ❑ Mod / Severe Turbulence ❑ Loss of Airspeed ❑ COMMS Deficiencies ❑ AERODROME Deficiencies (VOR / ILS / Lights etc.) ❑ RWY / TWY Incursion or Excursion ❑ Deviation from Track ❑ < 45 min Fuel ❑ Control of Cargo / Livestock ❑ Air Rage / Hijack / Terrorist Activity ❑ EMERG Equipment / Procedures Used ❑ Injuries ❑ Crew Incapacitation ❑ Incorrect Load Sheets					
2. CAPTAIN		**3. CREWMEMBERS** (Names for feedback purposes only)			
Name:		**First Officer:** **Other Crew:**			
4. DATE OF EVENT	**5. TIME**	**6. SECTOR**	7. A / C TYPE	*8. REGISTR.*	**9. FLIGHT No.**
	: **Z** (DAY / NIGHT)	**---**			
10. POSITION (LAT-LONG or DIST-BRG)	**11. AIRWAY** or HDG (M)	**12. FL** or ALTIT UDE	**13. MACH No** or KIAS	**14.COUNTRY**	**15. FIR / TMA**
16. OPERATIONAL PHASES				**17. OPS CONSEQUENCES**	
❑ PARKED ❑ PUSHBACK ❑ START ❑ TAXI OUT ❑ TAKE OFF **❑ CLIMB ❑ CRUISE ❑ DESCEND ❑ HOLD ❑APPROACH** **❑ FINAL APP ❑ GO-AROUND ❑ LANDING ❑ TAXI IN ❑ OTHER:**				**❑ RTO ❑ CLIMB ❑ DESCEND** **❑ COURSE CHANGE** **❑ GO AROUND ❑ OTHER**	
18. MET	**19. WEATHER CONDITIONS**		**20. SIGNIFICANT WEATHER** (if applicable)		
❑ IMC **❑ VMC** VIZ : **m**	**WIND: /** **TEMP: ºC QNH:** **CLOUD: CEILING:**		**❑ NIL ❑ LIGHT ❑ MODERATE ❑ SEVERE** **❑ WINDSHEAR ❑ RAIN ❑ FOG ❑ SNOW ❑ ICE** **❑ THUNDERSTORM ❑ TURBULENCE: L / M / S**		
21. RUNWAY (if applicable)	**22. COMMS / AERODROME DEFICIENCY**			**23. TCAS or GPWS ALERT**	
RWY IN USE: **RVR:** **❑ DRY ❑ WET ❑ ICE ❑ SNOW ❑ SLUSH** **❑ CONTAMINATED**	**FREQUENCIES:** **SYSTEM or FACILITY:** **ATS CENTRE:** **Comms Deficiencies - pse complete 1-16 & 20,** **Aerodrome - No's 1-16 , 20 & 21**			**❑ GPWS ❑ TCAS ❑ OTHER** **TCAS: ❑ TRAFFIC ❑ TA ❑ RA o NIL** **TYPE OF RA / GPWS / OTHER:** **FOLLOWED? ❑ Yes ❑ No** **DEVIATION (NM/DEG): /**	
24. AIRPROX or ATS INCIDENT		**25. VIEWED FROM SIDE**		**26. VIEWED FROM ABOVE**	
MINIMUM SEPARATION AT CROSS: Vertical: **Ft** Horizontal: **Nm** **EVASIVE ACTION TAKEN** ❑ Yes ❑ No Vertical Deviation: **Ft** Horizontal Deviation: **Nm** **TRAFFIC** (Type / Callsign / Hdg / FL): ATC FREQ: ATC INSTRUCTIONS: REPORTED TO ATC? ❑ Yes ❑ No TRANSPONDER CODE:		VERTICAL SEPARATION (FT) ⇨ IFBP used? ❑ Yes ❑ No Used by Traffic? ❑ Yes ❑ No		HORIZONTAL SEPARATION (NM) ✈	

-HANDLING OF ACCIDENTS AND OCCURRENCES

27. EVENT DESCRIPTION
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28. ACTIONS / RECOMMENDATIONS – (Recommendations by the CREW welcomed!)
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JJT / ICAO ASR MASTER 2011

5B-1
ATM/AIM/SAR SG/12
Appendix B to Report on Agenda Item 5

AFI RVSM SAFETY POLICY

JULY 2011

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AFI REDUCED VERTICAL SEPARATION MINIMUM (RVSM) SAFETY POLICY

INTRODUCTION

This document, the AFI RVSM Safety Policy Document, sets out the Safety Policy and the Safety Objectives in order to guide the safe maintenance of the AFI RVSM system in the AFI Region.

The AFI RVSM Safety Policy Document is intended to provide a framework to facilitate the safety regulation process for the maintenance of AFI RVSM.

The AFI RVSM Safety Policy Document provides guidance to States to ensure that safety is continuously met, the aircraft approval process is effective, the target levels of safety are being met, operational errors do not increase and ATC procedures and equipment introduced to manage RVSM remain effective.

RVSM Operational APPLICATION

The application of AFI RVSM is maintaining the safe vertical separation minimum of, 1000 FT, between adjacent State CAA RVSM Approved aircraft between the Flight Levels FL290 and FL410 inclusive. This provides six additional cruising levels to air traffic, increases the capacity of the Air Traffic Management system and facilitates the task of Air Traffic Services in maintaining a safe, orderly and expeditious flow of traffic. The additional capacity and system benefits of AFI RVSM shall, by facilitating the Air Traffic Control function, also continue to enhance safety benefits.

AFI RVSM shall be applied between State CAA RVSM approved aircraft within the confines of the designated AFI RVSM airspace. Therefore, all operators proposing to operate across the lateral limits of the AFI RVSM airspace shall be required to indicate on Filed Flight Plans their RVSM status i.e. W. Non-RVSM approved aircraft, other than bone fide State aircraft, shall not be permitted to operate within RVSM airspace. Non-RVSM approved State aircraft shall indicate on their Flight Plans, STS: Non RVSM.

Uninterrupted climb through AFI RVSM airspace to FL430 or above by non RVSM approved aircraft will be permitted.

Uninterrupted descent through AFI RVSM airspace from FL430 or above by non RVSM approved aircraft will be permitted

There will be no RVSM Transition Airspace within the AFI Region.

AFI RVSM requires that specific training of aircrew and ATC staff shall be performed to ensure safe RVSM operations. ATC equipment and procedures shall be maintained in such a way that they ensure the maintenance of safe AFI RVSM.

AFI RVSM Safety MAINTENANCE

This Safety Policy has been established to meet the requirements of ICAO Standards, Recommended Practices, Global best practices and guidance material on managing collision risk consequent to safe AFI RVSM operations.

The following statements define the AFI RVSM Safety Policy:

(i) AFI RVSM applies an explicit, pro-active approach to safety management in maintaining continued safe RVSM operations.

(ii) The responsibility of management for the safe performance of AFI RVSM is recognised. Each States RVSM Program Manager is responsible for the overall management of RVSM within the State. The RVSM National Program Manager is responsible for liaison with the Regulatory Authority and ARMA.

(iii) AFI RVSM shall be conducted in accordance with ICAO provisions, Global best practices and guidelines as applicable.

(iv) 100% of aircraft operating within the designated AFI RVSM airspace shall be RVSM approved excluding bone fide non approved State aircraft;

(v) AFI RVSM shall minimise the contribution to RVSM related incidents by maintaining a safe RVSM system as far as is reasonably practicable.

RVSM MAINTENANCE Safety Objectives

AFI RVSM shall not contribute to an increase in incidents or accidents by ensuring that:

(i) In accordance with ICAO SARP's the management of vertical collision risk within RVSM airspace shall meet the Target Level of Safety of 5 x 10^{-9} fatal accidents per flight hour;

(ii) In accordance with ICAO SARP's, the risk of mid-air collision in the vertical dimension within RVSM airspace, due to technical height keeping performance, shall meet a Target Level of Safety of 2.5 x 10^{-9} fatal accidents per flight hour.

RVSM SAFETY DELIVERABLES

Collision Risk Assessment

A Collision Risk Assessment (CRA) shall be carried out annually in order to provide the evidence that the collision risk in RVSM airspace meets the Target Level of Safety required by ICAO.

Safety Management System Plans

Each State shall ensure that their SMS plan appropriately addresses all RVSM System elements. These elements shall be made available during routine safety audits for review.

6 STATE RVSM NATIONAL MANAGER

The State RVSM National Manager shall facilitate the overall application and maintenance of RVSM in accordance with the AFI RVSM safety policy within the States area of responsibility.

Each State shall ensure that the ARMA has the most current contact details for the nominated State RVSM Manager.

END

Submit Form

DEVELOPMENT AND PROMULGATION OF CONTINGENCY PLANS

(Reference: Annex 11 to the Chicago Convention, Section 2.30, AFI/7 Rec. 5/2 , APIRG Conclusion 17/66)

Kindly complete the form and return to ICAO Regional Office

STATE Completing the Form * Sélectionner l'Etat....

1 Has the State Developed a Contingency Plan? ◯ YES* ◯ NO* Remarks

* If the answer to 1. is "**NO**", please proceed to question 8 and 9. * If the answer is "**YES**" respond to questions 2 to 7 and 9.

If the state has developed a contingency plan,

2 Does the Contingency Plan developed by the State meet the provisions of Section 2.30 of Annex 11? ◯ YES ◯ NO Remarks

3 Was the guidance provided in Attachment C of Annex 11 followed in developing the Contingency Plan ◯ YES ◯ NO Remarks

4 Has the Contingency Plan been documented on the template adopted by APIRG/17? ◯ YES ◯ NO Remarks

5 In the development of the Contingency Plan, was coordination undertaken with all relevant parties including the following:

a) National stakeholders ◯ YES ◯ NO Remarks

b) Airspace users ◯ YES ◯ NO Remarks

a) Authorities responsible for ATS in adjacent Airspaces ◯ YES ◯ NO Remarks

6 Have agreements (LOA/LOP) with adjacent airspaces been updated to support coordination for contingency arrangements ? ◯ YES ◯ NO

States/Territories & Dates of latest update of agreements for Contingency Plans

STATE / TERRITORY	Sélectionner l'Etat...	Date		STATE / TERRITORY	Sélectionner l'Etat.....	Date	
STATE / TERRITORY	Sélectionner l'Etat.....	Date		STATE / TERRITORY	Sélectionner l'Etat.....	Date	

7 Has the Contingency Plan been forwarded to the ICAO Regional Office and receipt thereof acknowledged by ICAO? ◯ YES ◯ NO Remarks

8 If the answer to question 1. above is "No" please respond to (a) to (d) below.

a) Is drafting (of the contingency plan) based on ICAO template under way? ◯ YES ◯ NO **Remarks:**

Start Date of Drafting **End Date** of Drafting

b) When are consultations with national stakeholders scheduled?
National stakeholders include government organs (ministries/departments, corporations, etc.) which may play role or be directly affected by the contingency plan (e.g. military, national disaster management agency), non-governmental agencies involved in disaster coordination activities, and the like.
Start Date **End Date**

C) When are consultations with users scheduled? **Start Date** **End Date**

d) When are consultations with adjacent airspaces scheduled? **Start Date** **End Date**

Remarks:

Please complete and return this form to:

The Regional Director, ICAO ESAF Regional Office, Nairobi
Email : icao@icao.unon.org | Fax: +254 20 762 1092

Imprimer le formulaire

ELABORATION ET PROMULGATION DE PLANS DE MESURES D'EXCEPTION

(Référence: Annexe 11 à la Convention de Chicago, Section 2.30, Recommandation 5/2 d'AFI/7, Conclusion 17/66 d'APIRG)

Remplir ce formulaire et le retourner au Bureau Régional de l'OACI

ETAT remplissant le questionnaire * Select State....

1 L'Etat a-t-il élaboré un plan de mesures d'exception? ◯ OUI* ◯ NON* Remarques

* Si la réponse a la question 1 est "NON", bien vouloir allez aux questions 8 et 9. * Si la réponse est "OUI", répondre aux questions 2 - 7 et - la question 9.

Si l'Etat a élaboré un plan de mesures d'exception,

2 Est-ce que le plan de mesures d'exception élaboré par l'Etat est conforme aux dispositions de la Section 2.30 de l'Annexe 11? ◯ OUI* ◯ NON* Remarques

3 Est-ce que les éléments indicatifs contenus dans l'Appendice C à l'Annexe 11 ont été suivis lors de l'élaboration du plan de mesures d'exception? ◯ OUI* ◯ NON* Remarques

4 Le plan de mesures d'exception a- t-il été établi selon le modèle qui a été adopté par la réunion APIRG/17? OUI/NON/Remarques ◯ OUI* ◯ NON* Remarques

5 Lors de l'élaboration du plan de mesures d'exception, la coordination a- t-elle été assurée avec toutes les parties intéressées énumérées ci-après:

a) Parties prenantes au niveau national. ◯ OUI ◯ NON Remarques

b) Usagers de l'espace aérien. ◯ OUI ◯ NON Remarques

c) Autorités responsables des services ATS dans les espaces aériens adjacents. ◯ OUI ◯ NON Remarques

6 Les accords (lettres d'accord ou lettres d'entente opérationnelles ATS) ont-ils été mis à jour pour appuyer les arrangements du plan de mesures d'exception? ◯ OUI ◯ NON

Etats/Territoires et dates des dernières mises à jour du plan de mesures d'exception

ETAT/TERRITOIRE	Select State.....	Date		ETAT/TERRITOIRE	Select State.....	Date	
ETAT/TERRITOIRE	Select State.....	Date		ETAT/TERRITOIRE	Select State.....	Date	

7 Le plan de mesures d'exception a-t-il été transmis au Bureau régional de l'OACI avec accusé réception de la part de l'OACI? ◯ OUI ◯ NON Remarques

8 Si la réponse à la question 1 ci-dessus est "NON", bien vouloir répondre aux questions (a) à (d) ci-dessous.

a) Est-ce que la rédaction d'un plan de mesures d'exception conforme au modèle de l'OACI est en cours? ◯ OUI ◯ NON **Remarques:**

Date du début de la rédaction **Date de la fin de la rédaction**

b) Quand les consultations avec les parties prenantes auront-elles lieu au niveau national?
Les parties prenantes nationales comprennent les organes gouvernementaux (ministères/départements, corporations, etc.) qui sont susceptibles de jouer un rôle ou d'être directement affectes par le plan de mesures d'exception (par ex. militaires, agences de gestion des catastrophes naturelles), des agences non-gouvernementales impliquées dans les activités de coordination des désastres, et d'autres agences similaires.

Date du début **Date de la fin**

C) Quand les consultations avec les usagers auront-elles lieu? **Date du début** **Date de la fin**

d) Quand les consultations avec les espaces aériens adjacents auront-elles lieu? **Date du début** **Date de la fin**

9 Remarques:

Bien vouloir répondre et retourner le questionnaire au:

Directeur régional de l'OACI, Bureau Régional WACAF, Dakar
Email : **icaowacaf@dakar.icao.int** | Fax: +221 33 823 6926

TERMS OF REFERENCE (TOR) OF THE AFI AIR TRAFFIC MANAGEMENT/METEOROLOGY (AFI ATM/MET) TASK FORCE

1. Terms of Reference

1.1 Under guidance from ICAO Secretariat:

a) Evaluate the current and future requirements for MET in support of ATM in the AFI Region and update Regional Air Navigation Plan accordingly and provide guidance material to assist States to develop MET services to meet these requirements;

b) Assess aviation meteorological services, systems and architecture in the region and how they can integrate weather information into decision support tools;

c) Review and update the AFI Volcanic Ash Contingency Plan (VACP) and monitor VACP exercises;

d) Investigate sub-regional exchange of MET information and associated agreements that facilitate ATM operations particularly over busy routes that overlap different FIRs;

e) Promote coordination between MET and ATM communities in the AFI Region to enhance the level of understanding of MET requirements and capabilities in support of ATM;

f) Monitor global policy associated with source data and delivery of MET products for ATM;

g) Coordinate with MET/SG and ATM/AIS/SAR/SG on framework for contingency plan for specific phenomenon including volcanic ash, radioactive cloud, tropical cyclone and Tsunami with reference to developments made WMO scientific steering committee;

h) Report to the MET/SG Sub-group of APIRG for further co-ordination through the ICAO Secretariat with other relevant bodies.

1.2 The objective being to improve efficiency of ATM and airlines by providing tailored regional MET products needed to optimize flight routes in all weather conditions.

1.3 The Benefits will be to increase efficiency – save time and fuel as well as reduce carbon emissions.

2. Work Programme

2.1 The work to be addressed by the AFI ATM/MET Task Force includes:

a) Develop regional MET requirements for ATM by:
- ✓ conducting MET/ATM meetings (TF meetings, Seminars) to contribute in developing MET requirements for ATM;
- ✓ analyzing existing ATM/MET surveys and develop new surveys, when necessary, to determine regional ATM requirements for MET;
- ✓ recommending regional MET requirements for ATM to MET/SG Meetings;
- ✓ Determining regional MET requirements for ATM.

b) Developing methods to use weather information in decision support tools by:
- ✓ Developing methods to use weather information in decision support tools

c) Review and update the AFI Volcanic Ash Contingency Plan (VACP) by:
- ✓ Regularly updating the VACP through new requirements from the IAVWOPSG
- ✓ Conducting annual VACP exercises or AFI ATM/MET Volcanic Ash Exercises (VAEX/AFI);
- ✓ reporting on annual VAEX/AFI to MET/SG meetings.

d) Develop sub-regional exchange of MET information to facilitate ATM operations by:
- ✓ Encouraging States develop agreements on the exchange of MET information that provides benefits to ATM operations on sub-regional level;
- ✓ Encouraging States report developments to MET/ATM TF and MET/SG meetings;
- ✓ Developing sub-regional exchange of MET information to facilitate ATM operations in busy routes.

e) Develop regional implementation plan for Meteorological Service for Terminal Area (MSTA) by:
- ✓ Monitoring developments of MSTA (pending approval at conjoint ICAO/WMO Divisional meeting 2014);
- ✓ Monitoring ICAO Annex 3 developments (requirements for MSTA);
- ✓ Developing regional implementation plan for MSTA ;
- ✓ Monitoring regional implementation of MSTA;
- ✓ Reporting implementation progress to MET/SG.
- ✓ Developing regional implementation plan for Meteorological Services for the Terminal Area.

f) Monitor global policies associated with source data and delivery of MET products for ATM by:
- ✓ monitoring global policies associated with source data and delivery of MET products for ATM ;
- ✓ reporting results to MET/SG meetings;
- ✓ monitor global policies associated with source data and delivery of MET products for ATM.

3. Composition

3.1 The Task Force is composed of experts from:

a) South Africa, Senegal, France, Kenya, Gambia and Morocco.

b) Representatives of VAAC Toulouse, ASECNA, IATA, IFALPA and WMO are expected to participate in the work of the Task Force.

----- END -----

INTERNATIONAL CIVIL AVIATION ORGANIZATION

VOLCANIC ASH CONTINGENCY PLAN

AFI REGION

First Edition - April 2011

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FOREWARD

Within and adjacent to the Africa and Indian Ocean (AFI) Region there are areas of volcanic activities which are likely to affect flight in the AFI Region. The major volcanoes in the region are located in the following States: Algeria, Cameroon, Cape Verde Islands, Chad, Comoros Island, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, France (Reunion Island), Kenya, Madagascar, Mali, Niger, Nigeria, Rwanda, Sao Tome and Principe, Spain (Canary Islands, Madeira), Sudan, Tanzania and Uganda. The names of the concerned volcano are listed in **Attachment F** (source: Smithsonian Institution).

The AFI Volcanic Ash Contingency Plan sets out standardised guidelines for the alerting of aircraft when eruptions occur, and procedures to be followed.

Volcanic ash is a hazard for flight operations. Recent encounters with volcanic ash have resulted in one or more of the following and other problems:

- Engine failures and malfunctions;
- Subsequent failure of electrical, pneumatical and hydraulic systems;
- Blocking of sensors, resulting inter alia in erroneous airspeed indications;
- Smoke, dust and/or chemical pollution of cabin air; resulting in the need for aircrews to use oxygen masks;
- Communication problems;
- Loss of visibility through cockpit windows.

Regulatory authorities of States of the Operator[1], or State of Registry [2]as appropriate, should therefore prescribe appropriate operational procedures for flight crew to be followed in case of operation in or near airspaces that are contaminated by volcanic ash. Operators are required by ICAO Annex 6 to assess the risk of operation in volcanic ash and to implement appropriate mitigation measures in accordance with their Safety Management System as approved by the State of the Operator.

It should be noted that this document is an air traffic management (ATM) contingency plan including its interfaces with supporting services such as MET and AIS and that the Plan therefore primarily addresses the Provider States[3]. Where distinct actions by the Meteorological Watch Offices (MWOs) are described, these are additional procedures to be considered by MWOs. Where actions by Volcanic Ash Advisory Centre (VAAC) and Aircraft Operators are described, these are for clarification only.

Volcanic Ash can also affect the operation of aircraft on aerodromes. In extreme cases, aerodromes might no longer be available for operation at all, resulting in repercussions on the Air Traffic Management systems; e.g. diversions, revised traffic flow, etc.

These suggested procedures are not intended to establish or confirm a safe level of ash concentration. Operation through any area where volcanic ash is forecast is at the discretion of the operator.

NOTE: *All modeled ash concentrations are subject to a level of uncertainty relative to errors in the estimation of the eruption strength.*

Considering that a commercial aircraft will travel about 150 km (80 NM) in 10 minutes and that volcanic ash can rise to flight levels commonly used by turbine-engine aeroplanes in half that time, timely response to reports of volcanic ash is essential.

It is imperative that information on the volcanic activity is disseminated as soon as possible. In order to assist the staff in expediting the process in originating and issuing relevant messages (SIGMET, NOTAM, ASHTAM), a series of

[1] The term "State of the Operator" refers to the role of a Contracting State as the regulatory authority with regard to aircraft operators having been issued an Aircraft Operator's Certificate (AOC) by that` State.

[2] The term "State of Registry" refers to the State on whose register the aircraft is entered.

[3] The term "Provider State" refers to the role of a Contracting State as responsible for the provision of air navigation services within airspace over its territory and, as agreed by Regional Air Navigation Meeting, within defined airspace over the High Seas.

templates should be available for different stages of the volcanic activity. Examples of SIGMET, NOTAM and ASHTAM announcing volcanic activities in the different stages and operational measures are contained in **Attachment E**. ASHTAM is promulgated by service providers in the AFI Region, APIRG/16 Conclusion 16/52 refers.

A list of ICAO registered volcanoes should be available at the international NOTAM office with volcano name, number and nominal position. The volcanoes in the AFI region are listed in **Attachment F.**

In order to ensure the smooth implementation of the contingency plan in case of an actual volcanic eruption, annual AFI ATM/MET Task Force Volcanic Ash Exercises (VAEX/AFI) should be conducted.

Terminology

Area of Low Contamination: An airspace of defined dimensions where volcanic ash may be encountered at concentrations equal to or less than $2x10^{-3}$ g/m^3.

Area of Medium Contamination: An airspace of defined dimensions where volcanic ash may be encountered at concentrations greater than $2x10^{-3}$ g/m^3, but less than $4x10^{-3}$ g/m^3.

Area of High Contamination: An airspace of defined dimensions where volcanic ash may be encountered at concentrations equal to or greater than $4x10^{-3}$ g/m^3, or areas of contaminated airspace where no ash concentration guidance is available.

Note 1: Concentration areas are defined by the MET office co-located with the AFI VAAC: Toulouse MET Office.

Note 2: "defined dimensions" refers to horizontal and vertical limits.

The response to a volcanic event ***that affects air traffic*** has been divided into three distinct phases described briefly below. Volcanic activity at many locations is continuously monitored by the scientific community. Furthermore, flight crew are required to report observations of significant volcanic activity by means of a Special Air Report (Special AIREP). Arrangements are in place to ensure that such information is transferred without undue delay to the appropriate aeronautical institutions responsible for subsequent action:

ALERTING PHASE The initial response, "***raising the alert***", commences when a volcanic eruption is expected. Alerting information will be provided by SIGMET, NOTAM or ASHTAM as appropriate and disseminated to affected aircraft in flight by the most expeditious means. In addition to the normal distribution list, the NOTAM/ASHTAM will be addressed to meteorological and volcanological agencies.

If it is considered that the event could pose a hazard to aviation, a Danger Area[4] will be declared by NOTAM around the volcanic source. Normally, clearances will not be issued through the Danger Area.

REACTIVE PHASE The Reactive Phase commences at the outbreak of the volcanic eruption and entrance of volcanic ash into the atmosphere and mainly pertains to aircraft in flight. A "***Start of eruption SIGMET***" will be issued and a Danger Area will be declared by NOTAM. Clearances will not be issued through the Danger Area.

PROACTIVE PHASE The Proactive Phase commences with the issuance of the first Volcanic Ash Advisory (VAA) and Volcanic Ash Graphic (VAG) after completion of reactive responses. Supplementary modelled ash concentration charts may be available. The volcanic ash forecasts up to T+18 hours are to be used to prepare SIGMET. SIGMET shall be issued as soon as practicable but not more than 12 hours before the commencement of the period of validity, and shall be valid for up to 6 hours. The T+12 hours and T+18 hours (and further into the future, if available) volcanic

[4] Wherever this document discusses the possible establishment of Danger Areas, States are not prevented from establishing Restricted or Prohibited Areas over the sovereign territory of the State if considered necessary by the State concerned.

ash forecasts are to be used to prepare NOTAM/ASHTAM. Significant changes may result in a reversion to a temporary Reactive Phase situation and unscheduled issuance of VAA, VAG and ash concentration charts by Toulouse VAAC MET Office, SIGMET and NOTAM/ASHTAM. As appropriate, Danger Areas will be notified via NOTAM.

Note that where SIGMET and NOTAM are mentioned in this document, volcanic ash SIGMET and volcanic ash NOTAM are being referred to.

This document pays due respect to Standards and Recommended Practices in ICAO Annexes, WMO procedures, and guidance material contained in ICAO documents, including, but not limited to, the following:

ICAO Annex 3 – *Meteorological Services for International Air Navigation*; ICAO Annex 11 – *Air Traffic Services*; ICAO Annex 15 - *Aeronautical Information Services*; ICAO Doc 4444 – *Procedures for Air Navigation Services – Air Traffic Management;* ICAO Doc 8126 – *Aeronautical Information Services Manual*; ICAO Doc 8896 – *Manual of Aeronautical Meteorological Practice*; ICAO Doc 9691 – *Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds*; ICAO Doc 9766 – *Handbook on the International Airways Volcanic Watch*; ICAO Doc 9859 – *Safety Management Manual*; ICAO AFI *SIGMET Guide*; and WMO No.386 Volume I (*Manual of Global Telecommunications System*) Part II (*Operational Procedures for the Global Telecommunications System*).

1. ALERTING PHASE

1.1 This phase is characterised by a limited availability of information on the extent and severity of the volcanic event. The purpose of this phase is to ensure the safety of aircraft in flight and to promulgate information as a matter of urgency. Regardless of the extent of information available the alerting phase actions should be carried out for every event.

1.2 **ORIGINATING AREA CONTROL CENTRE (ACC) ACTIONS** (eruption in its own flight information region (FIR))

1.2.1 In the event of significant pre-eruption volcanic activity, a volcanic eruption occurring, or a volcanic ash cloud being reported which could pose a hazard to aviation, an ACC, on receiving information of such an occurrence, should carry out the following actions:

a) Define an initial Danger Area in accordance with established procedures, or if no such procedures have been established the danger area should be defined as a circle with a radius of 222 km (120 NM). If the eruption has not commenced or if no information on upper winds is available, the circle should be centred on the estimated location of the volcanic activity. If the eruption has started and predicted upper wind information is available, the circle should be centred 111 km (60 NM) downwind from while enclosing the volcano. The purpose of this initial Danger Area is to ensure safety of flight in the absence of any prediction from a competent authority of the extent of contamination.

b) Advise the associated Meteorological Watch Office (MWO) and the appropriate Volcanic Ash Centre (VAAC) (unless the initial notification originated from either of these entities). The VAAC will then inform the appropriate ACCs.

c) Alert flights already within the Danger Area and offer assistance to enable aircraft to exit the area in the most expeditious and appropriate manner. Aircraft that are close to the Danger Area should be offered assistance to keep clear of the area. Tactically re-clear flights which would penetrate the Danger Area onto routes that will keep them clear. The ACC should immediately notify other affected ACC's of the event and the location and dimensions of the Danger Area. It should also negotiate any re-routings necessary for flights already coordinated but still within adjacent flight information regions (FIRs). It is also expected that adjacent ACCs will be asked to reroute flights not yet coordinated to keep them clear of the Danger Area.

d) Ensure that a NOTAM/ASHTAM is originated. This must provide as precise information as is available regarding the activity of the volcano. The name (where applicable), reference number and position of the volcano should be included along with the date and time of the start of the eruption (if appropriate). It is imperative that this information is issued by the international NOTAM office and disseminated as soon as possible.

e) In order to assist the staff in expediting the process of composing the NOTAM/ASHTAM, a series of templates should be available for this stage of the volcanic activity. Example NOTAM and ASHTAM are provided in **Attachment E**.

1.2.2 In addition to sending the NOTAM/ASHTAM and any subsequent NOTAM/ASHTAM to the normal distribution list, it will be sent to the relevant meteorological agencies after adding the appropriate World Meteorological Organization (WMO) header. Example NOTAM and ASHTAM are provided in **Attachment E.**

1.3 ADJACENT ACC ACTIONS

1.3.1 During the Alerting Phase aircraft should be tactically rerouted to avoid the Danger Area. Any ash contamination should be contained within a limited area and disruption to traffic should not be excessive. Adjacent ACCs should take the following action to assist:

a) When advised, re-clear flights to which services are being provided and which will be affected by the Danger Area.

b) Unless otherwise instructed, continue normal operations except:

i) if one or more routes are affected by the Danger Area, stop clearing aircraft on these routes and take steps to reroute onto routes clear of the Danger Area; and

ii) initiate a running plot of the affected area.

2. REACTIVE PHASE

2.1 This phase commences at the outbreak of volcanic eruption. Major activities of the Reactive Phase are: Issuance of an eruption commenced SIGMET, eruption commenced NOTAM/ASHTAM and rerouting of airborne traffic. As appropriate, Danger Areas will be notified via NOTAM. This phase will last until such time as the Proactive Phase can be activated.

2.2 ORIGINATING ACC ACTIONS (eruption in its own FIR)

2.2.1 The ACC providing services in the FIR within which the volcanic eruption takes place should inform flights about the existence, extent and forecast movement of volcanic ash and provide information useful for the safe conduct of flights.

2.2.2 Rerouting of traffic commences immediately or may be in progress if the alerting time has been sufficient to facilitate activation of the Alerting Phase. The ACC should assist in rerouting aircraft around the Danger Area as expeditiously as possible. Adjacent ACCs should also take the Danger Area into account and give similar assistance to aircraft as early as possible.

2.2.3 During this phase the ACC should:

a) Maintain close liaison with its associated MWO. The MWO should issue a SIGMET message on the extent and forecast movement of the ash cloud based on appropriate sources of information.

b) Ensure a NOTAM is originated to define a Danger Area.

c) Ensure that reported differences between published information and observations (pilot reports, airborne measurements, etc.) are forwarded as soon as possible to the appropriate authorities.

d) Should significant reductions in intensity of volcanic activity take place during this phase and the airspace no longer is contaminated by volcanic ash, a NOTAMC cancelling the last active NOTAM shall be issued stating the cause for cancellation; new ASHTAM should be promulgated to update the situation. Otherwise, begin planning for the Proactive Phase in conjunction with the affected ACCs.

2.3 ADJACENT ACC ACTIONS

2.3.1 During the Reactive Phase the adjacent ACCs should take the following action:

a) Maintain close liaison with the originating ACC to design, implement and keep up to date measures which will enable aircraft to remain clear of Danger Areas.

b) In the event that tactical measures are required, the adjacent ACC should, in cooperation with the originating ACC, impose such measures. .

c) Maintain a running plot of the affected area.

d) Begin planning for the Proactive Phase in conjunction with the appropriate ACCs concerned.

3. PROACTIVE PHASE

3.1 The Proactive Phase commences with the issuance of the first VAA/VAG by Toulouse VAAC after completion of the reactive responses. The VAA/VAG will contain forecasts of the expected vertical and horizontal extent of the volcanic ash cloud, and its expected movement, at six-hourly time-steps for the period T+0 to T+18 hours. In addition, the meteorological office co-located with the VAAC will issue ash concentration forecasts to supplement the VAA/VAG information, at six-hourly intervals with a nominal validity time of 0000Z, 0600Z, 1200Z and 1800Z which will define Areas of Low, Medium and High Contamination.

3.2 Following the Reactive Phase, the VAA/VAG and (where available) ash concentration forecasts should be used to define airspace volumes encompassing the furthest extent of contamination predicted for that period. These volumes should be used to:

a) publish NOTAM indicating the extent of Danger Areas, indicating which areas of contamination are included therein;

b) issue SIGMET warning of potential hazard from areas of volcanic ash contamination;

c) publish NOTAM to separately indicate the extent of Areas of Medium Contamination if not included in a Danger Area.

3.3 Longer term forecasts (i.e. beyond T+6 hours) should be used to generate NOTAM in order to ensure that adequate information is available to support flight planning. These messages should differentiate between levels of contamination.

3.4 Operators should use the information published regarding Areas of Low, Medium and High Contamination to plan their flights in accordance with their regulatory requirements and the service that will be provided in the airspace concerned. Operators should be aware that, depending on the State concerned, Danger Areas may be established to contain an Area of High Contamination, Areas of Medium/High Contamination, or Areas of Low/Medium/High Contamination.

3.5 The volcanic ash may affect any combination of airspace; therefore, it is impossible to prescribe measures to be taken for any particular situation. Nor is it possible to detail the actions to be taken by any particular ACC. The following guidance may prove useful during the Proactive Phase but should not be considered mandatory:

a) ACCs affected by the movement of the ash should continue to originate NOTAM/ASHTAM at appropriate intervals. ACCs concerned should continue to publish details on measures taken.

b) Depending on the impact of the volcanic ash, the appropriate ACC may take the initiative to organise teleconferences to exchange latest information on the developments with Toulouse VAAC, ANSPs and MWO's and operators concerned.

c) During this phase the VAAC should endeavour to assess the vertical extent of the ash contamination and provide appropriate VAA/VAG to define the contaminated airspace as accurately as possible. For the purpose of flight planning, operators should treat the horizontal and vertical limits of the Danger Area to be over-flown as they would mountainous terrain. Operators are cautioned regarding the risk of cabin

depressurisation or engine failure resulting in the inability to maintain level flight above the Danger Area, especially where Extended Twin Operations (ETOPS) aircraft are involved.

d) Any reported differences between published information and observations (pilot reports, airborne measurements, etc.) should be forwarded as soon as possible to the appropriate authorities; and

e) When the airspace is no longer contaminated by volcanic ash, a NOTAMC cancelling the active NOTAM shall be promulgated. New ASHTAM should be promulgated to update the situation.

4. AIR TRAFFIC CONTROL PROCEDURES[5]

4.1 If volcanic ash is reported or forecast in the FIR for which the ACC is responsible, the following procedures should be followed:

a) relay all available information immediately to pilots whose aircraft could be affected to ensure that they are aware of the horizontal and vertical extent of the ash contamination;

b) if requested, suggest appropriate rerouting to assist flights to avoid areas of known or forecast ash contamination;

c) When appropriate, remind pilots that volcanic ash may not be detected by ATC radar systems;

d) If modelled ash concentration charts are available showing Areas of Low, Medium and High Contamination, the Provider State may establish Danger Areas. Depending on the State concerned, the Danger Areas will be established to contain an Area of High Contamination, Areas of Medium/High Contamination, or Areas of Low/Medium/High Contamination;

e) In the absence of ash concentration guidance, the entire area of forecast volcanic ash should be considered as an Area of High Contamination, for the purposes of applying ATC procedures, until ash concentration guidance is available;

f) Normally, ATC should not provide a clearance for an aircraft to enter or operate within a Danger Area. Assistance to enable an aircraft to exit a Danger Area in the most expeditious and appropriate manner should be provided;

g) If the ACC has been advised by an aircraft that it has entered an area of ash contamination and indicates that a distress situation exists:

   i) consider the aircraft to be in an emergency situation;

   ii) do not initiate any climb clearances to turbine-powered aircraft until the aircraft has exited the area of ash contamination; and

   iii) do not attempt to provide vectors without pilot concurrence.

4.2 Experience has shown that the recommended escape manoeuvre for an aircraft which has encountered volcanic ash is to reverse its course and begin a descent (if terrain permits). However, the final responsibility for this decision rests with the pilot.

[5] This information is adapted from the *Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds* (Doc 9691). Refer to this document for full details.

5. GENERAL GUIDANCE FOR THE DEVELOPMENT OF ATS CONTINGENCY PLANS FOR VOLCANIC ASH[6]

5.1 In a contingency plan relating to volcanic ash certain steps need to be taken to provide a coordinated and controlled response for dealing with an event of this nature. Responsibilities should be clearly defined for the manager in charge, supervisors and Air Traffic Controllers (ATCOs). The plan should also identify the officials who need to be contacted, the type of messages that are to be created, the proper distribution of the messages and how to conduct business.

5.2 ATCOs need to be trained and be made aware of the potential effects if aircraft encounter unsafe levels of volcanic ash.

5.3 Some particular points of guidance are as follows:

a) Volcanic ash clouds may extend for hundreds of miles horizontally and reach the stratosphere vertically;

b) Volcanic ash may block the pitot-static system of an aircraft, resulting in unreliable airspeed indications;

c) Braking conditions at airports where volcanic ash has recently been deposited on the runway will affect the braking ability of the aircraft. This is more pronounced on runways contaminated with wet ash. Pilots and ATCOs should be aware of the consequences of volcanic ash being ingested into the engines during landing and taxiing. For departure it is recommended that pilots avoid operating in visible airborne ash; instead they should allow sufficient time for the particles to settle before initiating a take-off roll, in order to avoid ingestion of ash particles into the engine. In addition, the movement area to be used should be carefully swept before any engine is started;

d) Volcanic ash may result in the failure or power loss of one or all engines of an aeroplane; and

e) Airports might have to be declared unsafe for flight operations. This might have consequences for the ATM system.

5.4 The ACC serves as the critical communication link between the pilot, dispatcher and meteorologists during a volcanic eruption. During episodes of volcanic ash contamination within the FIR, the ACC has two major communication roles. First and of greatest importance is its ability to communicate directly with aircraft en route which may encounter the ash. Based on the information provided in the volcanic ash SIGMET and VAAs and working with MWO, the ATCOs should be able to advise the pilot of which flight levels are affected by the ash and the projected trajectory and drift of the contamination. Through the use of radio communication, ACCs have the capability to coordinate with the pilot alternative routes which would keep the aircraft away from the volcanic ash.

5.5 Similarly, through the origination of a NOTAM/ASHTAM for volcanic activity the ACC can disseminate information on the status and activity of a volcano even for pre-eruption increases in volcanic activity. NOTAM/ASHTAM and SIGMET together with special AIREPs are critical to dispatchers for flight planning purposes. Operators need as much advance notification as possible on the status of a volcano for strategic planning of flights and the safety of the flying public. Dispatchers need to be in communication with pilots en route so that a coordinated decision can be made between the pilot, the dispatcher and ATC regarding alternative routes that are available. It cannot be presumed, however, that an aircraft which is projected to encounter ash will be provided with the most desirable route to avoid the contamination. Other considerations have to be taken into account such as existing traffic levels on other routes and the amount of fuel reserve available for flights which may have to be diverted to other routes to allow for the affected aircraft to divert.

5.6 The NOTAM/ASHTAM for volcanic activity provide information on the status of activity of a volcano when a change in its activity is, or is expected to be, of operational significance. They are originated by the ACC and issued through the respective international NOTAM office based on the information received from any one of the observing sources and/or advisory information provided by the Toulouse VAAC. In addition to providing the status of activity of

[6] This information is adapted from the *Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds* (Doc 9691). Refer to this document for full details.

a volcano, the NOTAM/ASHTAM also provides information on the location, extent and movement of the ash contamination and the air routes and flight levels affected. NOTAM can also be used to limit access to the airspace affected by the volcanic ash. Complete guidance on the issuance of NOTAM and ASHTAM is provided in Annex 15 — *Aeronautical Information Services*. Included in Annex 15 is a volcano level of activity colour code chart. The colour code chart alert may be used to provide information on the status of the volcano, with "red" being the most severe, i.e. volcanic eruption in progress with an ash column/cloud reported above flight level 250, and "green" at the other extreme being volcanic activity considered to have ceased and volcano reverted to its normal pre-eruption state. It is very important that NOTAM for volcanic ash be cancelled and ASHTAM be updated as soon as the volcano has reverted to its normal pre-eruption status, no further eruptions are expected by volcanologists and no ash is detectable or reported from the FIR concerned.

5.7 It is essential that the procedures which the ACC personnel, including supporting services such as MET and AIS should follow during a volcanic eruption/ash cloud event described in the foregoing paragraphs are translated into the local staff instructions (adjusted as necessary to take account of local circumstances). It is also essential that these procedures/instructions form part of the basic training for all MET, ATS and AIS personnel whose jobs would require them to take action in accordance with the procedures. Background information to assist the ACC or Flight Information Centre (FIC) in maintaining an awareness of the status of activity of volcanoes in their FIR(s) is provided in the ICAO monthly International Airways Volcano Watch (IAVW) website at: http://www2.icao.int/en/anb/met-aim/met/iavwopsg/Pages/default.aspx under Worldwide Weekly Volcanic Activity Reports webpage. The major AFI volcanoes are listed in **Attachment F**.

ATTACHMENT A - ANTICIPATED PILOT ISSUES WHEN ENCOUNTERING VOLCANIC ASH

1. Air Traffic Controllers (ATCOs) should be aware that flight crews will be immediately dealing with some or all of the following issues when they encounter volcanic ash:

a) smoke or dust appearing in the cockpit which may prompt the flight crew to don oxygen masks (could interfere with the clarity of voice communications);

b) acrid odour similar to electrical smoke;

c) multiple engine malfunctions, such as stalls, increasing Exhaust Gas Temperature (EGT), torching, flameout, and thrust loss causing an immediate departure from assigned altitude;

d) on engine restart attempts, engines may accelerate to idle very slowly, especially at high altitudes (could result in inability to maintain altitude or Mach number);

e) at night, St. Elmo's fire/static discharges may be observed around the windshield, accompanied by a bright orange glow in the engine inlet(s);

f) possible loss of visibility due to cockpit windows becoming cracked or discoloured, due to the sandblast effect of the ash;

g) cockpit windows could be rendered completely opaque; and/or

h) sharp distinct shadows cast by landing lights as compared to the diffused shadows observed in clouds (this affects visual perception of objects outside the aircraft).

2. Simultaneously, ATC can expect pilots to be executing contingency procedures. This may include a possible course reversal and/or an emergency descent.

ATTACHMENT B - ACTION TAKEN BY METEOROLOGICAL WATCH OFFICES (MWO) IN THE EVENT OF A VOLCANIC ERUPTION[7]

1. On receipt of information of a volcanic eruption and/or the existence of volcanic ash, the MWO will:

a) Notify, if necessary, the AFI VAAC (Toulouse) designated to provide VAA/VAG for the FIR for which the MWO is responsible that a volcanic eruption and/or ash has been reported. In the event that the MWO becomes aware, from a source other than an ACC, of the occurrence of pre-eruption activity, a volcanic eruption or ash from any other source , the information will be passed with all available relevant details on the extent, forecast movement and concentration of volcanic ash immediately to the ACC and to the designated VAAC;

b) Reported differences between ash encounters by aircraft and the information published in VAA/VAG, SIGMET or NOTAM/ASHTAM received by an ACC shall be made available as soon as possible to the respective MWO, preferably in the form of an AIREP. The MWO will relay the information to the respective originators of the published information;

c) Notify adjacent MWOs designated to provide SIGMET that a volcanic eruption and/or ash cloud has been reported, provide available relevant details on the extent, forecast movement and (if known) concentration of volcanic ash. In the event that any other MWO becomes aware of the occurrence of volcanic ash cloud from any source other than the VAAC, the information should be passed immediately to the VAAC and any adjacent MWO(s) downstream of the moving ash cloud;

d) As soon as practicable, advise the ACC and the VAAC whether or not the volcanic ash is identifiable from satellite images/data, ground based or airborne measurements or other relevant sources;

e) Issue SIGMET relating to the horizontal and vertical extent of volcanic ash cloud and its expected movement (provided in the VA from Toulouse VAAC) for a validity period of up to 6 hours. The SIGMET shall include an observed (or forecast) position of the ash cloud at the *start* of the period of validity, and a forecast position at the *end* of the period of validity. The SIGMET should be based on the advisory information provided by the VAAC. Include in the SIGMET distribution list the two Regional OPMET Databanks (RODBs) in Dakar and Johannesburg (Pretoria RODB). As well as inter-regional distribution, the RODBs will ensure dissemination of the SIGMET to ~~all~~ the VAAC, the London World Area Forecast Centre (WAFC) and the AFI Bulletin Compiling Centres (BCC);

f) provide information to assist with the origination of NOTAM by ACCs and maintain continuous coordination with ACCs, adjacent MWOs and the VAAC concerned to ensure consistency in the issuance and content of SIGMET and NOTAM/ASHTAM; and

g) provide, if possible, regular volcanic briefings, based on the latest available ash observations and forecasts, to ACCs, Airport Operators and aircraft operators concerned, giving an outlook for beyond T+12 hours.

[7] This information is adapted from the *Handbook on the International Airways Volcano Watch (IAVW)* (Doc 9766). Refer to this document for full details.

ATTACHMENT C - ACTION TO BE TAKEN BY THE AFI VAAC IN THE EVENT OF A VOLCANIC ERUPTION[8]

1. On receipt of information from a MWO or any other source, of significant pre-eruptive/eruption activity and/or a volcanic ash cloud observed, the VAAC should:

a) Initiate the volcanic ash computer trajectory/dispersal model in order to provide advisory information on volcanic ash trajectory to MWOs, ACCs and operators concerned;

b) Review satellite images/data and any available pilot reports of the area for the time of the event to ascertain whether a volcanic ash cloud is identifiable and, if so, its extent and movement;

c) Prepare and issue advisories on the extent, and forecast trajectory, of the volcanic ash contamination in message format for transmission to the MWOs, ACCs and operators concerned in the VAAC area of responsibility, and to the two Regional OPMET Data Banks (RODB) in Dakar and Pretoria. As well as inter-regional distribution, the RODBs will ensure dissemination of the advisory to all VAACs, the London World Area Forecast Centre (WAFC);

d) Monitor subsequent satellite information or other available observations to assist in tracking the movement of the volcanic ash;

e) Continue to issue advisory information (i.e. VAA/VAG), for validity periods T+0, T+6, T+12 and T+18 hours after data time, to MWOs, ACCs and operators concerned at least at 6 hour intervals, and preferably more frequently, until such time as it is considered that the volcanic ash is no longer identifiable from satellite data, no further reports of volcanic ash are received from the area and no further eruptions of the volcano are reported; and

f) Maintain regular contact with other VAACs and meteorological offices concerned, and, as necessary, the Smithsonian Institute Global Volcanism Network, in order to keep up to date on the activity status of volcanoes in the VAAC area of responsibility.

[8] This information is adapted from the *Handbook on the International Airways Volcano Watch (IAVW)* (Doc 9766). Refer to this document for full details.

ATTACHMENT D - PROCEDURES FOR THE PRODUCTION OF MODELLED ASH CONCENTRATION CHARTS

1. The following procedures are to be applied by the meteorological office of a Provider State, having accepted, by regional air navigation agreement, the responsibility for providing a VAAC within the framework of the International Airways Volcano Watch (IAVW).

2. All VAA and VAG information issued by a meteorological office under designation as a VAAC within the framework of the IAVW shall be prepared in accordance with ICAO provisions.

3. Additionally, where feasible, the meteorological office may issue modelled ash concentration charts and corresponding coordinate data files at 6-hourly intervals showing the different ash concentrations for the validity periods T+0, T+6, T+12 and T+18 hours after data time. These charts will show forecast ash distribution in terms of Areas of Low, Medium and High Contamination and be published at the same time, and with the same validity periods, as the VAA/VAG described above. Updated charts and data files should be distributed prior to the end of the validity time of those previously distributed.

4. These data may be used by Provider States to prepare SIGMET, NOTAM/ASHTAM and to establish Danger Areas as appropriate.

ATTACHMENT E - EXAMPLE SIGMET, NOTAM, ASHTAM

Guidance on WMO headers referred to in Alerting Phase, paragraph 1.2.2 refers can be found in WMO No.386 Volume I (*Manual of Global Telecommunications System)* Part II *(Operational Procedures for the Global Telecommunications System)*

NOTAM Offices are reminded that ASHTAM (or NOTAM for volcanic ash) should be distributed via AFTN to their associated MWO, the SADIS Gateway and all the VAAC, in accordance with guidelines contained in ICAO Doc 9766 Chapter 4 paragraph 4.3.

1. SIGMET

```
WVUK02 EGRR 180105
EGGX SIGMET 2 VALID 180105/180705 EGRR-
EGGX SHANWICK OCEANIC FIR VA ERUPTION MT KATLA PSN N6337 W01901 VA CLD OBS
AT 0100Z N6100 W02730 - N6100 W02230 - N5800 W01730 - N5630 W02000
FL200/350 MOV SE 35KT FCST 0705Z VA CLD APRX N5800 W02000 - N5730 W01200 -
N5500 W00910 - N5430 W01530 - N5800 W02000=
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Note: PSN replaces LOC as per Amendment 75 to Annex 3 (applicable 18 November 2010)

2. NOTAM alerting pre-eruptive activity

```
(A0777/10NOTAMN
Q) BIRD/QWWXX/IV/NBO/W/000/999/6337N01901WXXX
A) BIRD B) 1002260830 C) 1002261100  E) INCREASED VOLCANIC ACTIVITY,
POSSIBLY INDICATING IMMINENT ERUPTION, REPORTED FOR VOLCANO KATLA 1702-03
6337.5N01901.5W ICELAND-S. VOLCANIC ASHCLOUD IS EXPECTED TO REACH 50,000
FEET FEW MINUTES FROM START OF ERUPTION.AIRCRAFT ARE REQUIRED TO FLIGHT
PLAN TO REMAIN AT LEAST XXXNM CLEAR OF VOLCANO AND MAINTAIN WATCH FOR
NOTAM/SIGMET FOR AREA.
F) GND G) UNL)
```

Note: XXX is a distance established by the Provider State in accordance with paragraph 1.2.1 a)

3. NOTAM establishing Danger Area after initial eruption

```
(A0778/10 NOTAMR A0777/10
Q) BIRD/QWWXX/IV/NBO/W/000/999/6337N01901WXXX
A) BIRD
B) 1002260900 C) 1002261200
E) VOLCANIC ERUPTION REPORTED IN VOLCANO KATLA 1702-03 6337.5N01901.5W
ICELAND-S. VOLCANIC ASHCLOUD REPORTED REACHING FL500. AIRCRAFT ARE REQUIRED
TO REMAIN AT LEAST XXXNM CLEAR OF VOLCANO AND MAINTAIN WATCH FOR
NOTAM/SIGMET FOR BIRD AREA.
F) GND G) UNL)
```

Note: XXX is a distance established by the Provider State in accordance with paragraph 1.2.1 a)

4. NOTAM establishing Danger Area to include Area of High [or High/Medium or High/Medium/Low] Contamination

```
(A0503/10 NOTAMN
Q)EGGN/QWWXX/IV/NBO/AE/000/350
A) EGPX B) 1005182300 C) 1005190500
```

E) TEMPORARY DANGER AREA HAS BEEN ESTABLISHED FOR VOLCANIC ASH AREA OF HIGH CONTAMINATION IN AREA 5812N00611W 5718N00216W 5552N00426W 5629N00652W
F) SFC
G) FL350)

5. NOTAM to define Area of Medium Contamination for which a Danger Area has not been established

(A0207/10 NOTAMN
Q) EUEC/QWWXX/IV/AE/000/200
A) EIAA B) 1005190700 C) 1005191300
E) VOLCANIC ASH AREA OF MEDIUM CONTAMINATION FORECAST IN AREA 5243N00853W 5330N00618W 5150N00829W
F) SFC
G) FL200)

6. ASHTAM alerting pre-eruptive activity

VALI0021 LIRR 01091410
ASHTAM 005/10
A) ROMA FIR B) 01091350 C) ETNA 101-06 D) 3744N01500E
E) YELLOW ALERT
J) VULCANOLOGICAL AGENCY

7. ASHTAM alerting eruptive activity

VALI0024 LIRR 01151800
ASHTAM 015/10
A) ROMA FIR B) 01151650 C) ETNA 101-06 D) 3744N01500E
E) RED ALERT F) AREA AFFECTED 3700N01500E 3900N01600E 3800N001700W SFC/35000FT G) NE H) ROUTES AFFECTED WILL BE NOTIFIED BY ATC J) VULCANOLOGICAL AGENCY

8. ASHTAM alerting reduction in eruptive activity

VALI0035 LIRR 01300450
ASHTAM 025/10
A) ROMA FIR B) 01300350 C) ETNA 101-06 D) 3744N01500E
E) YELLOW ALERT FOLLOWING ORANGE J) VULCANOLOGICAL AGENCY

ATTACHMENT F – MAJOR VOLCANOES IN THE AFI REGION

MAJOR VOLCANOES IN THE AFI REGION

	Volcano Name	Volcano Type	Volcano Status	Location
1	TAHALRA VOLCANIC FIELD	Pyroclastic cones	Holocene	Algeria
2	ATAKOR VOLCANIC FIELD	Scoria cones	Holocene	Algeria
3	MANZAZ VOLCANIC FIELD	Scoria cones	Holocene	Algeria
4	IN EZZANE VOLCANIC FIELD	Volcanic field	*Holocene*	Algeria-Niger border
5	CAMEROON	Stratovolcano	Historical	Cameroon
6	TOMBEL GRABEN	Cinder cones	Holocene	Cameroon
7	MANENGOUBA	Stratovolcano	*Holocene*	Cameroon
8	OKU VOLCANIC FIELD	Stratovolcano	*Holocene*	Cameroon
9	NGAOUNDERE PLATEAU	Volcanic field	*Holocene*	Cameroon
10	LA PALMA	Stratovolcanoes	Historical	Canary Islands
11	HIERRO	Shield volcano	Radiocarbon	Canary Islands
12	TENERIFE	Stratovolcano	Historical	Canary Islands
13	GRAN CANARIA	Fissure vents	Radiocarbon	Canary Islands
14	FUERTEVENTURA	Fissure vents	Holocene	Canary Islands
15	LANZAROTE	Fissure vents	Historical	Canary Islands
16	FOGO	Stratovolcano	Historical	Cape Verde Islands
17	BRAVA	Stratovolcano	Holocene	Cape Verde Islands
18	SAO VICENTE	Stratovolcano	Holocene	Cape Verde Islands
19	TARSO TOH	Volcanic field	Holocene	Chad
20	TARSO TOUSSIDE	Stratovolcano	Holocene	Chad
21	TARSO VOON	Stratovolcano	Fumarolic	Chad
22	EMI KOUSSI	Pyroclastic shield	Holocene	Chad
23	LA GRILLE	Shield volcano	Holocene	Comore Island
24	KARTHALA	Shield volcano	Historical	Comore Island
25	KARISIMBI	Stratovolcano	Potassium-Argon	Democratic Republic Congo-Rwanda border
26	VISOKE	Stratovolcano	Historical	Democratic Republic Congo-Rwanda border
27	MAY-YA-MOTO	Fumarole field	Fumarolic	Democratic Republic of Congo
28	NYAMURAGIRA	Shield volcano	Historical	Democratic Republic of Congo
29	NYIRAGONGO	Stratovolcano	Historical	Democratic Republic of Congo
30	TSHIBINDA	Cinder cones	Holocene	Democratic Republic of Congo
31	ARDOUKOBA	Fissure vents	Historical	Djibouti
32	GARBES	Fumarole field	*Pleistocene-*	Djibouti
33	BOINA	Fumarole field	*Pleistocene-*	Djibouti-Ethiopia border
34	JALUA	Stratovolcano	Holocene	Eritrea
35	ALID	Stratovolcano	Holocene	Eritrea
36	DUBBI	Stratovolcano	Historical	Eritrea
37	NABRO	Stratovolcano	*Holocene?*	Eritrea
38	ASSAB VOLCANIC FIELD	Volcanic field	Holocene	Eritrea
39	GUFA	Volcanic field	Holocene	Eritrea-Djibouti border
40	DALLOL	Explosion craters	Historical	Ethiopia
41	GADA ALE	Stratovolcano	Holocene	Ethiopia
42	ALU	Fissure vents	Holocene	Ethiopia
43	DALAFFILLA	Stratovolcano	Historical	Ethiopia
44	BORALE ALE	Stratovolcano	Holocene	Ethiopia
45	ERTA ALE	Shield volcano	Historical	Ethiopia
46	ALE BAGU	Stratovolcano	Holocene	Ethiopia
47	HAYLI GUBBI	Shield volcano	Holocene	Ethiopia
48	ASAVYO	Shield volcano	Holocene	Ethiopia
49	MAT ALA	Shield volcano	Holocene	Ethiopia
50	TAT ALI	Shield volcano	Holocene	Ethiopia
51	BORAWLI	Stratovolcano	Holocene	Ethiopia
52	AFDERA	Stratovolcano	*Holocene?*	Ethiopia
53	MA ALALTA	Stratovolcano	Holocene	Ethiopia
54	ALAYTA	Shield volcano	Historical	Ethiopia
55	DABBAHU	Stratovolcano	Historical	Ethiopia

MAJOR VOLCANOES IN THE AFI REGION

	Volcano Name	Volcano Type	Volcano Status	Location
56	DABBAYRA	Shield volcano	Holocene	Ethiopia
57	MANDA HARARO	Shield volcanoes	Historical	Ethiopia
58	GROPPO	Stratovolcano	Holocene	Ethiopia
59	KURUB	Shield volcano	Holocene	Ethiopia
60	MANDA GARGORI	Fissure vents	Anthropology	Ethiopia
61	BORAWLI	Lava domes	Holocene	Ethiopia
62	DAMA ALI	Shield volcano	Historical	Ethiopia
63	GABILLEMA	Stratovolcano	Holocene	Ethiopia
64	YANGUDI	Complex volcano	Holocene	Ethiopia
65	AYELU	Stratovolcano	Holocene	Ethiopia
66	ADWA	Stratovolcano	Holocene	Ethiopia
67	HERTALI	Fissure vent	Holocene	Ethiopia
68	LIADO HAYK	Maars	*Holocene?*	Ethiopia
69	DOFEN	Stratovolcano	Holocene	Ethiopia
70	FENTALE	Stratovolcano	Historical	Ethiopia
71	BERU	Volcanic field	Holocene	Ethiopia
72	KONE	Calderas	Historical	Ethiopia
73	UNNAMED	Pyroclastic cones	Holocene	Ethiopia
74	BOSET-BERICHA	Stratovolcanoes	Holocene	Ethiopia
75	BISHOFTU VOLCANIC FIELD	Fissure vents	Holocene	Ethiopia
76	UNNAMED	Fissure vents	Holocene	Ethiopia
77	SODORE	Pyroclastic cones	Holocene	Ethiopia
78	GEDAMSA	Caldera	Holocene	Ethiopia
79	BORA-BERICCIO	Pumice cones	Holocene	Ethiopia
80	TULLU MOJE	Pumice cone	Anthropology	Ethiopia
81	UNNAMED	Fissure vents	Holocene	Ethiopia
82	EAST ZWAY	Fissure vents	Holocene	Ethiopia
83	BUTAJIRI-SILTI FIELD	Fissure vents	Holocene	Ethiopia
84	ALUTU	Stratovolcano	Radiocarbon	Ethiopia
85	O'A CALDERA	Caldera	Holocene	Ethiopia
86	CORBETTI CALDERA	Caldera	Holocene	Ethiopia
87	BILATE RIVER FIELD	Maars	Holocene	Ethiopia
88	TEPI	Shield volcano	Holocene	Ethiopia
89	HOBICHA CALDERA	Caldera	*Holocene?*	Ethiopia
90	CHIRACHA	Stratovolcano	*Holocene?*	Ethiopia
91	TOSA SUCHA	Cinder cones	Holocene	Ethiopia
92	UNNAMED	Cinder cones	Holocene	Ethiopia
93	KORATH RANGE	Tuff cones	*Holocene?*	Ethiopia
94	MALLAHLE	Stratovolcano	*Holocene?*	Ethiopia/Eritrea
95	SORK ALE	Stratovolcano	*Holocene?*	Ethiopia/Eritrea
96	MANDA-INAKIR	Fissure vents	Historical	Ethiopia-Djibouti border
97	MOUSA ALLI	Stratovolcano	Holocene	Ethiopia-Eritrea-Djibouti border
98	MEGA BASALT FIELD	Pyroclastic cones	Holocene	Ethiopia-Kenya border
99	NORTH ISLAND	Tuff cones	Holocene	Kenya
100	CENTRAL ISLAND	Tuff cones	Holocene	Kenya
101	SOUTH ISLAND	Stratovolcano	Historical	Kenya
102	MARSABIT	Shield volcano	*Holocene?*	Kenya
103	THE BARRIER	Shield volcano	Historical	Kenya
104	NAMARUNU	Shield volcano	Tephrochronology	Kenya
105	SEGERERUA PLATEAU	Pyroclastic cones	Holocene	Kenya
106	EMURUANGOGOLAK	Shield volcano	Radiocarbon	Kenya
107	SILALI	Shield volcano	Ar/Ar	Kenya
108	PAKA	Shield volcano	Ar/Ar	Kenya
109	BOGORIA	Shield volcano	*Pleistocene-Geysers*	Kenya

MAJOR VOLCANOES IN THE AFI REGION

	Volcano Name	Volcano Type	Volcano Status	Location
110	KOROSI	Shield volcano	Holocene	Kenya
111	OL KOKWE	Shield volcano	Holocene	Kenya
112	NYAMBENI HILLS	Shield volcano	Holocene	Kenya
113	MENENGAI	Shield volcano	Tephrochronology	Kenya
114	HOMA MOUNTAIN	Complex volcano	Holocene	Kenya
115	ELMENTEITA BADLANDS	Pyroclastic cones	Holocene	Kenya
116	OL DOINYO EBURRU	Complex volcano	Holocene	Kenya
117	OLKARIA	Pumice cones	Radiocarbon	Kenya
118	LONGONOT	Stratovolcano	Anthropology	Kenya
119	SUSWA	Shield volcano	Holocene	Kenya
120	CHYULU HILLS	Volcanic field	Anthropology	Kenya
121	HARUJ	Volcanic field	Holocene	Libya
122	WAU-EN-NAMUS	Caldera	*Holocene?*	Libya
123	AMBRE-BOBAOMBY	Volcanic field	Holocene	Madagascar
124	NOSY-BE	Cinder cones	Holocene	Madagascar
125	ANKAIZINA FIELD	Cinder cones	Holocene	Madagascar
126	ITASY VOLCANIC FIELD	Scoria cones	Radiocarbon	Madagascar
127	ANKARATRA FIELD	Cinder cones	Holocene	Madagascar
128	MADEIRA	Shield volcano	Radiocarbon	Madeira
129	TIN ZAOUATENE VOLCANIC FIELD	Volcanic field	Holocene	Mali
131	TODRA VOLCANIC FIELD	Cinder cones	Holocene	Niger
132	BIU PLATEAU	Volcanic field	*Holocene?*	Nigeria
133	PITON DE LA FOURNAISE	Shield volcano	Historical	Reunion Island
134	SAO TOME	Shield volcano	*Holocene?*	Sao Tome and Principe
135	JEBEL MARRA	Volcanic field	Radiocarbon	Sudan
136	KUTUM VOLCANIC FIELD	Scoria cones	*Holocene?*	Sudan
137	MEIDOB VOLCANIC FIELD	Scoria cones	Holocene	Sudan
138	BAYUDA VOLCANIC FIELD	Cinder cones	Radiocarbon	Sudan
139	JEBEL UMM ARAFIEB	Shield volcano	*Holocene?*	Sudan
140	OL DOINYO LENGAI	Stratovolcano	Historical	Tanzania
141	KILIMANJARO	Stratovolcano	Holocene	Tanzania
142	MERU	Stratovolcano	Historical	Tanzania
143	IGWISI HILLS	Tuff cones	Holocene	Tanzania
144	UNNAMED	Pyroclastic cone	Holocene	Tanzania
145	SW USANGU BASIN	Lava domes	Holocene	Tanzania
146	NGOZI	Caldera	Radiocarbon	Tanzania
147	IZUMBWE-MPOLI	Pyroclastic cones	Holocene	Tanzania
148	RUNGWE	Stratovolcano	Radiocarbon	Tanzania
149	KYEJO	Stratovolcano	Historical	Tanzania
150	FORT PORTAL	Tuff cones	Radiocarbon	Uganda
151	KYATWA	Tuff cones	*Holocene?*	Uganda
152	KATWE-KIKORONGO	Tuff cones	Holocene	Uganda
153	BUNYARUGURU	Maars	Holocene	Uganda
154	KATUNGA	Tuff cone	Holocene	Uganda
155	BUFUMBIRA	Cinder cones	*Holocene?*	Uganda
156	MUHAVURA	Stratovolcano	Holocene	Uganda-Rwanda border

- END -

(DRAFT) AFI STRATEGY FOR THE IMPLEMENTATION OF NEW ICAO FLIGHT PLAN FORMAT AND SUPPORTING ATS MESSAGES

Recognizing that:

The Global Air Traffic Management Operational Concept (Doc 9854) requires information management arrangements that provide accredited, quality-assured and timely information to be used to support ATM operations;

ATM Requirement 87 in the Manual of Air Traffic Management System Requirements (Doc 9882) provides that 4-D trajectories be used for traffic synchronization applications to meet ATM system performance targets, explaining that automation in the air and on the ground will be used fully in order to create an efficient and safe flow of traffic for all phases of flight;

The amended ICAO Flight Plan and associated ATS Message formats contained in Amendment 1 to the Fifteenth Edition of the PANS ATM (Doc 4444, applicable 15 November 2012) have been formulated to meet the needs of aircraft with advanced capabilities and the evolving requirements of automated air traffic management systems;

The complexities inherent in automated computer systems preclude the adoption of a single regional implementation date and transitions to the new flight plan format will therefore occur in accordance with the declared transition period described in this document.

All States shall implement all provisions of Amendment 1 to the Fifteenth Edition of the PANS ATM (Doc 4444, applicable 15 November 2012).

APIRG 17 established the AFI FPLT TF under Decision 17/61 to facilitate and guide the transition and implementation.

The AFI implementation of Amendment 1 to the PANS-ATM shall:

Ensure that all States and airspace users implement all the provisions of Amendment 1 from 15 November 2012, not just selected aspects of the Amendment;

Acknowledge that States, having taken all practical efforts to fully implement all the Amendment 1 provisions in accordance with guidelines, are obliged, in event of any non-implemented provisions, to inform ICAO about the “significant difference” in accordance with established ICAO procedures by 30 June 2011 and publish such difference in their State AIPs. However, that such action may not be taken before interested stakeholders including international organizations have been given an opportunity to intervene in pre-empting the “significant difference.”

Note: *The “significant difference” in this context does not relate to Standards and the obligation imposed by Article 38 of the Convention. It however, relates to provisions of Annex 15 to the Convention, inter alia, under section 4.1 thereof, regarding publication of significant differences between State practices and SARPs and procedures.*

Ensure that, from 15 November 2012, all States and airspace users accept and disseminate the ‘NEW’ flight plan and associated ATS message formats only, and capabilities for ‘PRESENT’ flight plan provisions are forthwith discontinued.

*(**Note:** In the context of the implementation, ‘PRESENT’ refers to the existing flight planning and ATS message formats as defined in the current version of the PANS-ATM and ‘NEW’ refers to the amended provisions as contained in Amendment 1 to the PANS-ATM.)*

The AFI transition to the PANS-ATM Amendment 1 provisions shall:

Comply with the regional guidance provided by APIRG's FPLT TF;

Preserve global consistency in implementation by basing implementation activities, to the extent possible, on Guidelines 1 to 6 described in the ICAO guidance material circulated under cover of State Letter AN 13/2.1-09/9 dated 6 February 2009;

Ensure that the FPLT TF undertakes coordination to facilitate harmonization with implementations in neighbouring regions;

Take all necessary measures to ensure that State specific constraints are reduced, if not eliminated;

Declare a transition period from 1 January 2012 until 14 November 2012, comprising;

- 1 January to 31 March 2012 - ANSPs software delivery and internal testing,
- 1 April to 30 June 2012 – ANSPs implementation, and
- 1 July to 14 November 2012 – airspace users testing and implementation.

Not withstanding paragraph 5 above, commence with implementation process as soon as practical, and not await the transition period;

Not implement 'NEW' capability by States before the commencement of the ANSPs external testing and implementation period.

Insofar as possible, complete ANSP implementation of 'NEW' capability by the end of the ANSPs external testing and implementation period.

Recognizing the risk to automated systems of having all airspace users simultaneously commencing 'NEW' on the common implementation date (15 November 2012), encourage users to take full advantage of the airspace users testing and implementation period to ensure operational readiness of flight planning systems;

Encourage States (ANSPs) and airspace users to coordinate appropriate implementation methodologies in order to ensure a staggered migration of airspace users to 'NEW' during the airspace users testing and implementation period (i.e. 1 July – 14 November 2012);

Encourage States (ANSPs) and airspace users to immediately commence preparations to implement Amendment 1 provisions in accordance with the declared transition period and report progress to the FPLT TF periodic meetings and to report to the Regional Offices quarterly (every three months, January, April, etc.)

Require States to inform the Regional Offices of scheduled transition dates immediately (not later than 30 June 2011);

Make necessary preparations in order to accommodate up to 120 hours prior to Estimated Off Blocks Time (EOBT) as of 15 November 2012; and

Require that States retain capability to simultaneously support 'PRESENT' and 'NEW' provisions (flight plan and ATS message format) from the activation of their 'NEW' capabilities until the end of the transition period (i.e. until and inclusive of 14 November 2012), at which point 'PRESENT' capability shall be discontinued.

FPLT TF/2 REPORT
Appendix 3B

Performance Objectives

ATM PERFORMANCE OBJECTIVES

REGIONAL PERFORMANCE OBJECTIVE - IMPLEMENTATION OF THE NEW ICAO FPL PROVISIONS BY 15 NOVEMBER 2012	
Benefits	
Environment	• reductions in fuel consumption
Efficiency	• ability of air navigation service providers t make maximum use of aircraft capabilities • ability of aircraft to conduct flights more closely to their preferred trajectories • facilitate utilization of advanced technologies thereby increasing efficiency • optimized demand and capacity balancing through the efficient exchange of information
Safety	• enhance safety by use of modern capabilities onboard aircraft

Strategy

Short term (2010-2012)

ATM OC COMPONENTS	TASKS	TIMEFRAME START-END	RESPONSIBILITY	STATUS
AUO SDM	• plan the transition arrangements to ensure that the changes from the current to the new ICAO FPL form occur in a timely and seamless manner and with no loss of service	2009-June 2011	States	Ongoing
	• ensure that the capabilities of local systems are fully adaptable to the changes envisaged in the new FPL form	2010	States	Ongoing
	• ensure the ability of FDPS's to parse information correctly to guarantee that misinterpretation of data does not occur	2010	States	Ongoing
	• analyze each individual data item within the various fields of the new flight plan form, comparing the current values and the new values to verify any issue regarding the provision of service by the flight planning facility itself or downstream units	2010	States	Ongoing
	• ensure that there are no individual State peculiarities or deviations from the flight plan provisions	2011	States	Ongoing

	• ensure that the accepting ATS Reporting Office accepts and disseminates all aircraft capabilities and flight intent to all the downstream ACCs as prescribed by the PANS-ATM provisions	2012	States	Ongoing
	• in order to reduce the change of double indications it is important that any State having published a specific requirement(s) which are now addressed by the amendment should withdraw those requirements in sufficient time to ensure that aircraft operators and flight plan service providers, after 15 November 2012, use only the new flight plan indications	2010-2012	States	Ongoing
	• inform on the implementation status to the ICAO regional offices on an ongoing basis	2010-2012	States	Ongoing
	• keep the Flight Plan Implementation Tracking System (FITS) up to date based on the information provided by the States	2010-2012	ICAO Regional Offices	Ongoing
linkage to GPIs	GPI/5 RNAV and RNP (Performance-based navigation) GPI-12 Functional integration of ground systems with airborne system GPI/18 Aeronautical Information			

FPLT TF/2 REPORT
Appendix 3C

ATM PERFORMANCE OBJECTIVES

NATIONAL PERFORMANCE OBJECTIVE - IMPLEMENTATION OF THE NEW ICAO FPL PROVISIONS BY 15 NOVEMBER 2012	
Benefits	
Environment **Efficiency**	• reductions in fuel consumption • ability of air navigation service providers to make maximum use of aircraft capabilities • ability of aircraft to conduct flights more closely to their preferred trajectories • facilitate utilization of advanced technologies thereby increasing efficiency • optimized demand and capacity balancing through the efficient exchange of information • increase airspace capacity
Safety	• enhance safety by use of modern capabilities onboard aircraft • enhance the success of SAR operations • generally enable PBN and other advanced navigation capabilities

Strategy Short term (2010-2012)

ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
AUO SDM	• **Negotiation and Approval** - Acceptance and agreement of the changes to the flight plan form	May 2010	States	Completed
	• **Assembly of Focus Team** o Composition of Team o Appoint Members o Issue Identification o	Until 31 December 2010	States / ANSP's	Complete
	• **Compilation of Action Plan** o GAP Analysis o Identify actions and assign responsibilities o Assign Target Dates & Milestones o	Until 31 December 2010	States / ANSP's	Completed

	• **Impact Assessment and Requirements** o Identify affected systems o Identify operational impact • Analyse impact and change required (operational & technical) o Determine critical path (Modify, upgrade, replace ?) o Identify training needs o Identify actions and assign responsibilities o Assign Target Dates & Milestones	2009 until June 2011	ANSP's	Work in Progress
	• Risk Assessment and mitigation			
	• Quality Control/Assurance			
	• **Ensure Regulatory compliance** o Identify Activities o Promulgate regulatory requirements to enable aspects of Amendment 1 as well as Regional Strategy o Identify actions and assign responsibilities o Update regulatory requirements including issue of AIC's as applicable o Ensure relevant plans are in place. o Development and implement an collaborative airspace design and management (CDM) (Close co-ordination between Regulator, ANSP) process of safety oversight. o Co-ordination of all Stakeholder and Regulator activities	2008 until June 2012 2009 till Dec 2011	States / ANSP's States (Regulator) States States	Ongoing Should have started
	• **Maintain awareness of impact of changes** o Regional task force meetings o Regional seminars and workshops o National awareness campaigns and stakeholder meetings			2009

	• **Solution Production** - Inventory of ATM Systems. - Audit the inventory of the ATM systems and identify those impacted and the changes required e.g. flight data processing systems (FDPs), AMHS, AFTN, Flight Planning etc - Solution identification - Determine specifications - Solution production - Factory Acceptance testing - Identify actions and assign responsibilities	Until 31 December 2011	States / ANSP's	Ongoing
	• **Solution Implementation and Testing** - Site Acceptance Test - Testing with interfaced systems (Internal and External) - Testing - Assign specific timelines to each activity - Identify actions and assign responsibilities - Verify that the systems implemented are compliant and that interoperability between internal and external systems are maintained. - The verification process should include but are not limited to: * Ensure that the accepting ATS Reporting Office accepts and disseminates all aircraft capabilities and flight intent to all the downstream ACCs as prescribed by the PANS-ATM provisions * Analyze each individual data item within the various fields of the new flight plan form, comparing the current values and the new values to verify any issue regarding the provision of service by the flight planning facility itself or downstream units (Note this list is far from exhaustive and should be expanded.)	January 2012 to March 2012	States / ANSP's ANSP's	Planning of activities to start as soon as possible Planning of activities to start as soon as possible

	• ~~Ensure that there are no individual State peculiarities or deviations from the flight plan provisions~~	~~2011~~	~~States~~	~~Ongoing~~
	• **ANSP Implementation** • Solution delivery and testing - Development - Offline - Training • Identify key translation entry criteria - Safety assurance - Training (ongoing beyond Mar 2012) - Documentation production. distribution - Operational interface checks - Transition rehearsals - Transition plans (Document) - Reversion plan development - Operational readiness demonstrations (ORD) (Note this list is far from exhaustive and should be expanded based on the GAP analysis)	Feb 2011 - 31 March 2012	States/ANSP's	Planning of activities to start as soon as possible
	• **Transition into operations**	1 April 2012 - 30 June 2012	States	
	• In order to reduce the change of double indications it is important that any State having published a specific requirement(s) which are now addressed by the amendment should withdraw those requirements in sufficient time to ensure that aircraft operators and flight plan service providers, after 14 November 2012, use only the new flight plan indications o withdraw requirements o issue notification of withdrawal	2010- December 2011	States/ANSP's	Ongoing
	• Review SUPPS and align (remove any items which have become obviated by Amendment 1) o Review Doc 7030 and identify procedures that need action o Identify recommendable implementation dates o Develop and circulate amendment proposal	Feb 2011 to June 2012	FPLT TF and Regional Offices	Review to start immediately.
	• Inform on the implementation status to the ICAO regional offices on an ongoing basis (Quarterly, at end of each quarter)	2010-2012	States/ANSP's	Ongoing

	• Keep the Flight Plan Implementation Tracking System (FITS) up to date based on the information provided by the States	2010-2012	ICAO Regional Offices	Ongoing
	• **Airspace users implementation (Present and New)**	1 July 2012 - 14 November 2012	Airspace users	
	• **Only filing of new flight plans**	15 November 2012 onwards.	States Airspace users	
Linkage to GPIs	GPI/5 RNAV and RNP (Performance-based navigation) GPI-12 Functional integration of ground systems with airborne system GPI/18 Aeronautical Information GPI/8 Collaborative Airspace Design and Management			

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7D-1
ATM/AIM/SAR SG/12
Appendix 7D to Report on Agenda Item 7

CONVERSION TABLE FOR NEW ITEMS 10 AND 18 TO PRESENT ITEMS 10 AND 18

The following table has used as a basis the attachment to State letter AN 13/2.1 – 09/9 providing **Guidance for implementation of flight plan information to support Amendment 1 of the P*rocedures for Air Navigation Services — Air Traffic Management,* Fifteenth Edition (PANS-ATM, DOC 4444).**

	NEW data in these columns		Converts to PRESENT data in these columns	
	Field 10a	**Field 18**	**Field 10a**	**Field 18**
COM / NAV	N		N	
	S		VOL	
	SF		S	
	A		Z	NAV/ GBAS
	B		Z	NAV/ LPV
	C		C	
	D		D	
	E1		Z	COM/ E1 RMK/FMC WP R ACARS
	E2		Z	COM/ E2 RMK/DFIS ACARS
	E3		Z	COM/ E3 RMK/PDC ACARS
	F		F	
	G	(NAV/nnnn)	G	(NAV/nnnn)
	H		H	
	I		I	
	J1		J[1]	DAT/ V COM/ J1
	J2		J	DAT/ H COM/ J2
	J3		J	DAT/ V COM/ J3
	J4		J	DAT/ V COM/ J4
	J5		J	DAT/ S COM/ J5
	J6		J	DAT/ S COM/ J6
	J7		J	DAT/ S COM/ J7
	K		K	
	L		L	
	M1		Z	COM/ M1 RMK/INMARSAT
	M2		Z	COM/ M2 RMK/MTSAT
	M3		Z	COM/ M3 RMK/IRIDIUM
	O		O	
	P1-P9	Reserved		
	R	PBN/ A1	R and Z	NAV/ A1 RMK/RNAV10 RNP10
		PBN/ B1	R	NAV/ B1 RMK/RNAV5
		PBN/ B2	R	NAV/ B2 RMK/RNAV5
		PBN/ B3	R	NAV/ B3 RMK/RNAV5
		PBN/ B4	R	NAV/ B4 RMK/RNAV5
		PBN/ B5	R	NAV/ B5 RMK/RNAV5
		PBN/ B6	R	NAV/ B6 RMK/RNAV5
		PBN/ C1	R and Z	NAV/ C1 RMK/RNAV2
		PBN/ C2	R and Z	NAV/ C2 RMK/RNAV2
		PBN/ C3	R and Z	NAV/ C3 RMK/RNAV2
		PBN/ C4	R and Z	NAV/ C4 RMK/RNAV2

[1] In Old format, the DAT/ element is compulsory if 'J' is present in Field 10a. However, the PRESENT DAT/ element can only contain the descriptors 'S', 'H', 'V', 'M'.

	NEW data in these columns		Converts to PRESENT data in these columns	
	Field 10a	**Field 18**	**Field 10a**	**Field 18**
		PBN/ D1	P and R	NAV/ D1 RMK/RNAV1
		PBN/ D2	P and R	NAV/ D2 RMK/RNAV1
		PBN/ D3	P and R	NAV/ D3 RMK/RNAV1
		PBN/ D4	P and R	NAV/ D4 RMK/RNAV1
		PBN/ L1	R and Z	NAV/ L1 RMK/RNP4
		PBN/ O1	P, R and Z	NAV/ O1 RMK/RNP1
		PBN/ O2	P, R and Z	NAV/ O2 RMK/RNP1
		PBN/ O3	P, R and Z	NAV/ O3 RMK/RNP1
		PBN/ O4	P, R and Z	NAV/ O4 RMK/RNP1
		PBN/ S1	G and Z	NAV/ S1 RMK/RNP APCH
		PBN/ S2	G and Z	NAV/ S2 RMK/RNP APCH BARO VNAV
		PBN/ T1	G and Z	NAV/ T1 RMK/RNP AR APCH RF
		PBN/ T2	G and Z	NAV/ T2 RMK/RNP AR APCH
	T		T	
	U		U	
	V		V	
	W		W	
	X		X	
	Y		Y	
	Z	COM/ nnnn	Z	COM/ nnnn
	Z	NAV/ nnnn	Z	NAV/ nnnn
	Z	DAT/ S, H, V, M or DAT/ nnnn	J and Z Z	DAT/ S, H, V, M COM/ nnnn[2]

[2] The NEW definition of DAT/ allows free text, the OLD definition does not. If the NEW DAT/ is compliant with the OLD definition it shall be retained within DAT/ and a 'J' added in Field 10a, if the NEW DAT/ contains free text it shall be translated into COM/.

	NEW data in these columns		Converts to PRESENT data in these columns	
	Field 10a	**Field 18**	**Field 10a**	**Field 18**
SUR/	N		N	
	A		A	
	C		C	
	E		S and D	COM/ E
	H		S	COM/ H
	I		I	
	L		S and D	COM/ L
	P		P	
	S		S	
	X		X	
	B1		D	COM/ B1
	B2		D	COM/ B2
	U1		D	COM/ U1
	U2		D	COM/ U2
	V1		D	COM/ V1
	V2		D	COM/ V2
	D1		D	COM/ D1
	G1		D	COM/ G1

Revised AFI Flight Plan Transition Task Force (FPLT TF)
Terms of Reference (TOR)

Terms of reference:

1) Conduct a comprehensive review of Amendment 1 to the Fifteenth Edition of the PANS ATM (Doc 4444, effective 15 November 2012) in order to identify, study and address implementation complexities arising from the adoption of amended PANS ATM Chapter 4, Chapter 11, Appendix 2 and Appendix 3 provisions relating to the ICAO Flight Plan and associated ATS Message formats;

2) Collect and analyze information on the status of AFI ANSP flight plan processing systems including ongoing upgrades to such systems;

3) On the basis of the above, and in accordance with relevant additional ICAO provisions and the SP AFI/8 RAN Recommendation 6/5, develop a coordinated AFI transition strategy and plan with associated timelines to enable the streamlined coordinated implementation of the amended Flight Plan and ATS Message provisions contained in Amendment 1 to the Fifteenth Edition of the PANS ATM; and

4) Periodically review the status of preparedness and propose solutions.

Considerations:

In addressing these terms of reference, the Task Force should consider, inter alia, the following aspects:

a) Likelihood that changes within the systems in the AFI Region could differ from systems in other ICAO Regions and accordingly provide recommendable Regional action with global goals;
b) Inter and intra regional issues;
c) Impact on inter-system co-ordination messaging (e.g. ATS AIDC);
d) Systems that transition early will need to be capable of handling both “NEW” and “PRESENT” instruction sets;
e) Inter-system exchanges need to take account of differing automation capabilities in order to avoid excessive message rejection;
f) Establishment of an Information Management system to track implementation timelines for various States/systems;
g) Management of Repetitive Flight Plans;
h) Implications for presentation formats, including paper & electronic flight progress strips;
i) Impacts to users (flight planning systems etc);
j) Appropriately timed withdrawal of existing State or Regional specific requirements to ensure consistency with new (global) instruction set; and
k) Existing ICAO guidance material.

Membership

Core members:

- ATM specialist and systems engineering experts (CNS) from AFI States and ANSPs with existing and planned automated flight plan processing systems
- ASECNA, IATA, IFALPA, IFATCA,

Note:
Algeria, Kenya, Senegal, Seychelles, South Africa, Sudan and Tanzania have offered their expertise as core members.

Other members

AFI States and ANSPs other than the above
Expertise from States, ANSPs outside the AFI Region that may be invited by the Task Force based on beneficial inputs they may contribute

Note:
Industry participation including systems providers, if required, is to be included under responsibility of State delegations. The Task Force may however, invite specific expertise from international organizations and relevant aviation industry entities (including vendor organizations) in order to enhance information available for the Task Force to progress its work. Such invitations shall be managed to exclude promotion of commercial interests.

Reporting

The Task Force shall report progress to the AFI ATM/AIM/SAR Sub-Group. However, owing to the limited time available for planning and in some cases acquisition of systems, valuable planning information emanating from the Task Force may, after coordination with Secretary of APIRG be provided to States without waiting for forthcoming meetings of the AFI ATM/AIM/SAR Sub-Group.

----- END -----

APPENDIX-A

a) Proposal for Amendment to the AFI Basic ANP (Doc 7474 Vol.II) for the introduction of a new Section related to eTOD

World Geodetic System – 1984 (WGS-84)

In order to ensure that quality (accuracy, resolution and integrity) and traceability requirements for the WGS-84 related geographical coordinate data are met, States must take measures to develop and introduce a quality system programme. This programme containing procedures, processes and resources should be in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards.

(Insert the following new Text)

Electronic Terrain and Obstacle Data (eTOD) Requirements

(FASID Table AIS 9)

i)Recognizing that significant safety benefits for international civil aviation will be provided by in-flight and ground-based applications that rely on quality electronic Terrain and Obstacle Data (eTOD), States should make every effort to implement the eTOD provisions in accordance with Chapter 10 of Annex 15 and Doc 9881.

ii) FASID Table AIS-X sets out the requirements for the provision of Electronic Terrain and Obstacle Data (eTOD) to be provided by States.

iii) The implementation of eTOD should involve different Administrations within and outside the Civil Aviation Authority i.e.: AIS, Aerodromes, Military, National Geographic and Topographic Administrations/Agencies, procedure designers, etc.

iv) States, while maintaining the responsibility for data quality and availability, should consider to which extent the provision of electronic terrain and obstacle data could be delegated to national geodetic Institutes/Agencies, based on Service Level Agreement reflecting such delegation.

v) States should consider carefully the required level of details of collected terrain and obstacle data with particular emphasis on obstacle data and associated cost.

vi) States should take into consideration the requirements for update/maintenance of data, especially related to obstacles.

vii) States should work co-operatively with regard to the cross-border issue, for the sake of harmonization and more efficient implementation of eTOD.

APPENDIX-B

FASID TABLE AIS-X — eTOD REQUIREMENTS

EXPLANATION OF THE TABLE

1 Name of the State, territory or aerodrome for which electronic Terrain and Obstacle Data (eTOD) are required with the designation of the aerodrome use:

RS — international scheduled air transport, regular use RNS — international non-scheduled air transport, regular use RG — international general aviation, regular use
AS — international scheduled air transport, alternate use

2 Runway designation numbers

3 Type of each of the runways to be provided. The types of runways, as defined in Annex 14, Volume 1, Chapter I, are:

NINST — non-instrument runway;
NPA — non-precision approach runway
PA1 — precision approach runway, Category I; PA2 — precision approach runway, Category II; PA3 — precision approach runway, Category III.

4 Requirement for the provision of Terrain data for Area 1, shown by an ‘‘X’’ against the State or territory to be covered.

5 Requirement for the provision of Terrain data for Area 2 (TMA), shown by an ‘‘X’’ against the aerodrome to be covered.

6 Requirement for the provision of Terrain data for Area 2 (45 Km radius from the ARP), shown by an ‘‘X’’ against the aerodrome to be covered.

7 Requirement for the provision of Terrain data for Area 3, shown by an ‘‘X’’ against the aerodrome to be covered.

8 Requirement for the provision of Terrain data for Area 4, shown by an ‘‘X’’ against the runway threshold to be covered.

9 Requirement for the provision of Obstacle data for Area 1, shown by an ‘‘X’’ against the State or territory to be covered.

10 Requirement for the provision of Obstacle data for Area 2 (TMA), shown by an ‘‘X’’ against the aerodrome to be covered.

11 Requirement for the provision of Obstacle data for Area 2 (45 Km radius from the ARP), shown by an ‘‘X’’ against the aerodrome to be covered.

12 Requirement for the provision of Obstacle data for Area 3, shown by an ‘‘X’’ against the aerodrome to be covered.

13 Remarks (timetable for implementation)

Note: For Columns 4 to 12 use the following symbols:

X- Required but not implemented
XI- Required and implemented

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
ALGERIA													
DAUA ADRAR/Touat RS	04 22	**NPA**											
DAAG ALGER/Houari Boumediene RS	05 23 09 27	NPA PA2 PA1 NPA											
DABB ANNABA/El Mellah RS	01 19 05 23	NPA PA1 NPA NINST											
DABC CONSTANTINE/Mohamed Boudiaf RS	 14 32 16 34	NPA PA1 NPA PA1											
DAUG GHARDAIA/Noumérate RS	12 30	NPA PA1 NINST											
DAUH HASSI-MESSAOUD/Oued Irara RS	18 36 1 01 19	PA1 NPA											
DAUI IN-SALAH/ AS	05 23	NPA NPA											
DAOO ORAN/Es Sénia RS	07 25	NPA PA2											
DAAT TAMANRASSET/Aguennar AS	02 20 08 26	NPA PA1 NPA											
DABS TEBESSA/Tébessa RS	11 29 12 30	NPA NPA NPA NINST											

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
DAON TLEMCEN/Zénata RS	09 27	NPA NPA											
DAUZ ZARZAITINE/In Amenas RS	05 23 15 33	NPA NPA											
ANGOLA													
FNHU HUAMBO/Albano Machado RS	11 29	NPA NPA											
FNLU LUANDA/4 de Fevereiro RS	05 23 07 25	NPA PA1											
BENIN													
DBBB COTONOU/Cadjehoun RS	06 24	NPA PA1											
BOTSWANA													
FBFT FRANCISTOWN/ Francistown RS	11 29	NINST NINST											
FBSK GABORONE/Sir Seretse Khama Intl RS	08 26	PA1 NPA											
FBKE KASANE/Kasane RS	08 26	NPA NINST											
FBMN MAUN/Maun RS	08 26	NINST NINST											
FBSP SELEBI-PHIKWE/Selebi-Phikwe RS	12 30	NINST PA1 NINST											

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
BURKINA FASO													
DFOO BOBO-DIOULASSO/Bobo-Dioulasso RS	06 24	PA1 NPA											
DFFD OUAGADOUGOU/Ouagadougou RS	04L 22R	PA1 NPA											
BURUNDI													
HBBA BUJUMBURA/Bujumbura RS	18 36	PA1 NPA											
CAMEROON													
FKKD DOUALA/Douala RS	12 30	NPA PA2											
FKKR GAROUA/Garoua RS	09 27	PA1 NPA											
FKKL MAROUA/Salak RS	13 31	NPA NINST											
FKKN N'GAOUNDERE/N'Gaoundere AS	03 21	NPA NINST											
FKYS YAOUNDE/Nsimalen RS	01 19	NINST PA2											
CAPE VERDE													
GVFM PRAIA/Francisco Mendes RS	**04** **22**	NPA NINST											
GVAC SAL I./Amilcar Cabral RS	**01** **19** **07** **25**	PA1 NPA											

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
CENTRAL AFRICAN REPUBLIC													
FEFF BANGUI/M'Poko RS	17 35	NPA PA1											
FEFT BERBERATI/Berberati RS	17 35	NPA NINST											
CHAD													
FTTJ N'DJAMENA/N'Djamena RS	05 23	PA1 NPA											
COMOROS													
FMCV ANJOUAN/Ouani RS	10 28	NPA NPA											
FMCZ DZAOUDZI/Pamanzi, Mayotte I. RS	16 34	NINST NPA											
FMCH MORONI/Prince Said IbrahimHahaia RS	02 20	PA1 NPA											
CONGO													
FCBB BRAZZAVILLE/Maya-Maya RS	06 24	PA1 NPA											
FCPP POINTE NOIRE/Agostino Neto RS	17 35	NPA NPA											
COTE D'IVOIRE													
DIAP ABIDJAN/Felix Houphouet Boigny Intl RS	03 21	NPA PA2											
DIBK BOUAKE/Bouake RS	03 21	NPA PA1											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
DEMOCRATIC REPUBLIC OF THE CONGO													
FZNA GOMA/Goma RS	**18** **36**	NINST NPA											
FZAA KINSHASA/N'Djili RS	**06** **24**	NPA PA1											
FZIC KISANGANI/Bangoka AS	**13** **31**	NPA NPA											
FZQA LUBUMBASHI/Luano AS	**07** **25**	PA1 NPA											
FZWA MBUJI MAYI/Mbuji Mahi AS	**17** **35**	NPA NINT											
DJIBOUTI													
HDAM DJIBOUTI/Ambouli RS	**09** **27**	NPA PA1											
EGYPT 21													
HEBL ABU-SIMBEL/Abu-Simbel RS	**15L** **33R** **15L** **33R**	NPA NPA NPA NPA											
HEAX ALEXANDRIA/Alexandria RS	**04** **22** **18** **36**	NPA NPA NPA NPA											
HESN ASWAN/Aswan RS	**17** **35**	NPA PA1											
HECA CAIRO/Cairo Intl RS	**05L** **23R** **05R** **23L** **16** **34**	PA2 PA2 PA2 PA2 NPA NPA											
HEGN HURGHADA/Hurghada RS	**16** **34**	NPA PA1											

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
HELX LUXOR/Luxor RS	**02 20**	NPA PA1											
HEMM MERSA-MATRUH/Mersa-Matruh RS	**15 33**	NPA NPA											
HESH SHARM EL SHEIKH/Sharm El Sheikh RS	**04L 22R 04R 22L**	PA1 NINST											
HESC ST. CATHERINE/St. Catherine RS	**17 35**	NPA NINST											
HETB TABA/Taba RS	**04 22 14 32**	NINST NPA											
EQUATORIAL GUINEA													
FGSL MALABO/Malabo RS	**05 23**	PA1 NPA											
ERITREA													
HHAS ASMARA/Asmara Intl RS	**07 25 12 30**	PA1 NPA											
HHSB ASSAB/Assab RS	**12 30**	NPA NINST											
ETHIOPIA													
HAAB ADDIS ABABA/Bole Intl RS	**07 25**	NPA PA1											
HADR DIRE DAWA/Dire Dawa Intl RS	**15 33**	NINST NPA											
FRANCE (ILE DE LA REUNION)													
FMME SAINT-DENIS/Gilot La Reunion RS	**12 30 14 32**	NINST NPA PA1 NINST											

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
GABON													
FOON RS FRANCEVILLE/M'Vengue	**15 33**	PA1 NPA											
FOOL RS LIBREVILLE/Leon M'Ba	**16 34**	PA1 NPA											
FOOG RS PORT GENTIL/Port Gentil	**03 21**	NPA PA1											
GAMBIA													
GBYD RS BANJUL/Banjul Intl	**14 32**	NPA PA1											
GHANA													
DGAA RS ACCRA/Kotoka Intl	**03 21**	NPA PA1											
DGSI RS KUMASI/Kumasi	**02 20**	NPA NPA											
DGLE RS TAMALE/Tamale	**05 23**	NPA NPA											
GUINEA													
GUCY RS CONAKRY/Gbessia	**06 24**	PA1 NPA											
GUXN RS KANKAN/Diankana	**10 28**	NPA NINST											
GULB RS LABE/Tata	**06 24**	NINST NINST											
GUNZ RS N'ZEREKORE/Konia	**18 36**	NPA NINST											

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
GUINEA-BISSAU													
GGOV BISSAU/Osvaldo Vieira Intl RS	**03 21**	NPA PA1											
KENYA													
HKEL ELDORET/Eldoret Intl RS	**08 26**	PA2 NPA											
HKMO MOMBASA/Moi Intl RS	**03 21 15 33**	NPA PA1											
HKJK NAIROBI/Jomo Kenyatta Intl RS	**06 24**	PA2 NPA											
LESOTHO													
FXMM MASERU/Moshoeshoe I. Intl RS	**04 22**	NINST PA1											
LIBERIA													
GLRB MONROVIA/Roberts Intl RS	**04 22**	PA2 NPA											
LIBYAN ARAB JAMAHIRIYA													
HLLB BENGHAZI/Benina RS	**15L 33R 15R 33L**	PA1 NPA NPA PA1											
HLLS SEBHA/Sebha RS	**13 31**	PA1 NPA											
HLLT TRIPOLI/Tripoli Intl RS	**06 24 09 27 18 36**	PA1 PA2											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
MADAGASCAR													
FMMI ANTANANARIVO/Ivato RS	11 29	PA1 NPA											
FMNA ANTSIRANANA/Arrachart RS	13 31	NPA NINST											
FMNM MAHAJANGA/Amborovy RS	14 32	NPA NINST											
FMNN NOSY-BE/Fascene RS	05 23	NPA PA1											
FMMS SAINTE-MARIE/Sainte-Marie RS	01 19	NPA NPA											
FMMT TOAMASINA/Toamasina RS	01 19	NPA PA1											
FMSD TOLAGNARO/Tolagnaro RS	07 25	NPA NPA											
MALAWI													
FWCL BLANTYRE/Chileka RS	10 28	PA1NPA NPA											
FWLI LILONGWE/Lilongwe Intl RS	14 32	PA1 NPA											
MALI													
GABS BAMAKO/Senou RS	06 24	PA1 NPA											
GAGO GAO/Gao RS	07 25	NPA NINST											
GAKY KAYES/Kayes RS	08 26	NPA NINST											
GAKL KIDAL/Kidal RS	10 28	NPA NINST											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
GAMB MOPTI-BARBE/Mopti-Barbe RS	**05 23**	NPA NINST											
GANR NIORO/Nioro RS	**08 26**	NPA NINST											
GATB TOMBOUCTOU/ Tombouctou RS	**07 25**	PA1 NPA											
MAURITANIA													
GQPA ATAR/Atar RS	**04 22**	NPA NINST											
GQNI NEMA/Nema RS	**10 28**	NINST NPA											
GQPP NOUADHIBOU/Nouadhibou RS	**03 21**	PA1 NPA											
GQNN NOUAKCHOTT/Nouakchott RS	**05 23**	PA1 NPA											
GQPZ ZOUERATE/Zouerate RS	**28 10**	NPA NPA											
MAURITIUS													
FIMP MAURITIUS/Sir Seewoosagur Ramgoolam Intl RS	**14 32**	PA1 NPA											
MOROCCO													
GMAD AGADIR/Al Massira RS	**10 28**	NPA PA1											
GMTA AL HOCEIMA/Cherif Al Idrissi RS	**18 36**	PA1 NINST											
GMMN CASABLANCA/Mohammed V RS	**17 35**	NPA PA2											
GMFK ERRACHIDIA/Moulay Ali Cherif AS	**13 31**	NPA PA1											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
GMFF FES/Saïss RS	10 28	NPA PA1											
GMMX MARRAKECH/Ménara RS	10 28	PA1 NPA											
GMMZ OUARZAZATE/Ouarzazate RS	12 30	NPA PA1											
GMFO OUJDA/Angads RS	06 24	PA1 NINST											
GMME RABAT/Salé RS	04 22	PA1 NPA											
GMTT TANGER/Ibnou-Batouta RS	10 28	NPA PA1											
GMAT TAN-TAN/Plage Blanche RS	14 22	NPA NINST											
GMTN TETOUAN/Saniat-Rimel RS	06 24	NPA NINST											
MOZAMBIQUE													
FQBR BEIRA/Beira RS	12 30 06 24	PA1 NPA											
FQMA MAPUTO/Maputo Intl RS	05 23	NPA PA1											
NAMIBIA													
FYKT KEETMANSHOOP/Keetmanshop RS	04 22 18 36	NPA NPA											
FYWB WALVIS BAY/Walvis Bay RS	09 27 12 30	NPA NPA											
FYWH WINDHOEK/Hosea KutakoWindhoek RS	08 26 16 34	PA1 NPA											

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
NIGER													
DRZA AGADES/Sud RS	**07 25**	NPA NINST											
DRRN NIAMEY/Diori Hamani Intl RS	**09R 27L 09L 27R**	PA1 NPA											
DRZR ZINDER/Zinder AS	**06 24**	NPA NINST											
NIGERIA													
DNAA ABUJA/Nnamdi Azikiwe RS	**04 22**	NPA PA1											
DNCA CALABAR/Calabar RS	**03 21**	NPA PA1											
DNIL ILORIN/Ilorin AS	**05 23**	PA1 NPA											
DNKA KADUNA/Kaduna RS	**05 23**	PA1 NPA											
DNKN KANO/Mallam Aminu Kano Intl RS	**06 24 05 23**	PA2 PA2											
DNMM LAGOS/Murtala Muhammed RS	**01L 19R 01R 19L**	PA2 PA2 NPA PA2											
DNMA MAIDUGURI/Maiduguri RS	**05 23**	PA2 NPA											
DNPO PORT HARCOURT/Port Harcourt Intl RS	**03 21**	NPA PA1											
DNSO SOKOTO/Abubakar Saddiq III Intl RS	**08 26**	PA1 NPA											
RWANDA													
HRYR KIGALI/Gregoire Kayibanda RS	**10 28**	NPA PA1											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
SAO TOME AND PRINCIPE													
FPST SAO TOME/Sao Tomé RS	**11** **29**	PA1 NPA											
SENEGAL													
GOGS CAP SKIRING/Cap Skiring RS	**15** **33**	NINST NPA											
GOOY DAKAR/Leopold Sedar Senghor Intl RS	**18** **36** **03** **21**	PA2 NPA											
GOSS SAINT LOUIS/Saint Louis RS	**18** **36**	NPA NINST											
GOTT TAMBACOUNDA/Tambacounda RS	**06** **24**	NPA NPA											
GOGG ZIGUINCHOR/Ziguinchor RS	**10** **28**	NINST NPA											
SEYCHELLES													
FSIA MAHE/Seychelles Intl RS	**13** **31**	NPA PA1											
SIERRA LEONE													
GFLL FREETOWN/Lungi RS	**12** **30**	NPA PA1											
SOMALIA													
HCMI BERBERA/Berbera AS	**05** **23**	NINST NINST											
HCMV BURAO/Burao RS	**13** **31**	NINST NINST											
HCMH HARGEISA/Hargeisa RS	**06** **24**	NPA NPA											

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STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
HCMK KISIMAYU/Kisimayu AS	**05** **23**	NPA PA1											
HCMM MOGADISHU/Mogadishu RS	**05** **23**	NPA PA1											
SOUTH AFRICA													
FAAB ALEXANDER BAY/Alexander Bay RS	**01** **19** **07** **25** **11** **29**	NPA NINST											
FABL BLOEMFONTEIN/Bloemfontein AS	**02** **20** **12** **30**	PA1 NPA NINST NINST											
FACT CAPE TOWN/Cape Town RS	**01** **19** **16** **34**	PA1 NPA											
FADN DURBAN/Durban RS	**05** **23**	NPA PA1											
FAJS JOHANNESBURG/Johannesburg RS	**03L** **21R** **03R** **21L** **15** **33**	PA2 MINST PA2 PA2 NINST NINST											
FAGM JOHANNESBURG/Rand RS	**18** **36**	NPA NPA											
FALA LANSERIA/Lanseria RS	**06L** **24R** **06R** **24L** **17** **35**	NPA NINST											
FAUP UPINGTON/Upington RS	**01** **19** **08** **26**	NPA NPA											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
SPAIN													
GCLP GRAN CANARIA/Gran Canaria, Canary I. RS	**03L** **21R** **03R** **21L**	PA1 NPA NINST NINST											
GCHI HIERRO/Hierro, Canary I. RS	**16** **34**	NPA NINST											
GCLA LA PALMA/La Palma, Canary I. RS	**01** **19**	NPA NINST											
CGRR LANZAROTE/Lanzarote, Canary I. RS	**04** **22**	NPA NPA											
GEML MELILLA/Melilla RS	**15** **33**	NPA NINST											
GCFV FUERTEVENTURA/ Fuerteventura, Canary I. RS	**01** **19**	PA1 NPA											
GCXO TENERIFE NORTE/Los Rodeos, Canary I. RS	**12** **30**	NPA NPA											
GCTS TENERIFE SUR/Reina Sofia, Canary I. RS	**08** **26**	PA1 NPA											
SUDAN													
HSSJ JUBA/Juba RS	**13** **31**	PA1 NINST											
HSKA KASSALA/Kassala AS	**02** **20**	NINST NINST											
HSSS KHARTOUM/Khartoum RS	**18** **36**	PA1 NPA											
HSPN PORT SUDAN/Port Sudan Intl RS	**18** **36**	NPA PA1											
SWAZILAND													
FDMS MANZINI/Matsapha RS	**07** **25**	NPA NINST											

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
TOGO													
DXXX LOME/Tokoin RS	**05 23**	NPA PA1											
DXNG NIAMTOUGOU/Niamtougou RS	**03 21**	PA1 NPA											
TUNISIA													
DTTJ DJERBA/Zarzis RS	**09 27**	PA1 NPA											
DTMB MONASTIR/Habib Bourguiba RS	**08 26**	PA1 NPA											
DTTX SFAX/Thyna RS	**15 33**	NPA NPA											
DTKA TABARKA/7 NOVEMBRE RS	**09 27**	NPA PA1											
DTTZ TOZEUR/Nefta RS	**09 27**	PA1 NPA											
DTTF GAFSA/Ksar RS	**05 23**	PA1 NPA											
DTTA TUNIS/Carthage RS	**01 19 11 29**	NPA PA1 NPAIN ST PA1NP A											
UGANDA													
HUEN ENTEBBE/Entebbe Intl RS	17 35	PA1 NPA											
UNITED REPUBLIC OF TANZANIA													

Appendix 8B to Report on Agenda Item 8

STATE, TERRITORY OR AERODROME FOR WHICH eTOD IS REQUIRED			TERRAIN DATA REQUIRED					OBSTACLE DATA REQUIRED					REMARKS
CITY/AERODROME	RWY No	RWY TYPE	Area 1	Area 2		Area 3	Area 4	Area 1	Area 2		Area 3	Area 4	
				TMA	45 Km				TMA	45Km			
HTDA DAR-ES-SALAAM/Dar-Es-Salaam RS	**05** **23**	PA1 NPA											
HTKJ KILIMANJARO/Kilimanjaro Intl RS	**09** **27**	PA1 NPA											
HTZA ZANZIBAR/Zanzibar RS	**18** **36**	NINST NPA											
WESTERN SAHARA													
GSAI EL AAIUN/El Aaiun RS	**04** **22**	NPA PA1											
GSMA SMARA/Smara RS	**17** **35**	NINST NINST											
GSVO VILLA CISNEROS/Villa Cisneros RS	**04** **22**	NINST NPA											
ZAMBIA													
FLLI LIVINGSTONE/Livingstone Intl RS	**10** **28** **15** **33**	NPA PA1 NPA											
FLLS LUSAKA/Lusaka Intl RS	**10** **28**	PA1 NPA											
FLMF MFUWE/Mfuwe RS	**08** **26**	NPA NPA											
FLND NDOLA/Ndola RS	10L 28R 10R 28L	NPA PA1 NPA											
ZIMBABWE													
FVBU BULAWAYO/Bulawayo RS	13 31	NPA NPA											
FVHA HARARE/Harare RS	06 24	PA1 PA1											
FVFA VICTORIA FALLS/Victoria Falls RS	12 30	PA1 NINST											

Appendix-C to Report on Agenda Item 8

AFI Region
E-TOD IMPLEMENTATION PLAN
Updated Timelines

Timelines:

GLOBAL 

REGIONAL 

NATIONAL 

AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Terrain Data for Area 1**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
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	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Obstacle Data for Area 1**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
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	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Terrain Data for Area 2**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
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	Comoros																	
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	Democratic Republic of Congo																	
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	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Obstacle Data for Area 2**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
	Chad																	
	Comoros																	
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	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Terrain Data for Area 3**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
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	Comoros																	
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	Sao Tome and Principe																	
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	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Obstacle Data for Area 3**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
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	Congo																	
	Cote d'Ivoire																	
	Democratic Republic of Congo																	
	Djibouti																	
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	Guinea Bissau																	
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	Nigeria																	
	Rwanda																	
	Sao Tome and Principe																	
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	Sierra Leone																	
	Somalia																	
	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Terrain Data for Area 4**																	
States	Angola																	
	Benin																	
	Burkina Faso																	
	Botswana																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
	Chad																	
	Comoros																	
	Congo																	
	Cote d'Ivoire																	
	Democratic Republic of Congo																	
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	Guinea Bissau																	
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	Liberia																	
	Madagascar																	
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	Mauritanie																	
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	Somalia																	
	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

AFI REGION - E-TOD Implementation Timelines																		
		2000	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Global	**Provision of Obstacle Data for Area 4**																	
States	Angola																	
	Benin																	
	Botswana																	
	Burkina Faso																	
	Burundi																	
	Cape Verde																	
	Central African Republic																	
	Chad																	
	Comoros																	
	Congo																	
	Cote d'Ivoire																	
	Democratic Republic of Congo																	
	Djibouti																	
	Equatorial Guinea																	
	Eritrea																	
	Ethiopia																	
	Gabon																	
	Gambia																	
	Ghana																	
	Guinea																	
	Guinea Bissau																	
	Kenya																	
	Lesotho																	
	Liberia																	
	Madagascar																	
	Malawi																	
	Mali																	
	Mauritanie																	
	Mauritius																	
	Mozambique																	
	Namibia																	
	Niger																	
	Nigeria																	
	Rwanda																	
	Sao Tome and Principe																	
	Senegal																	
	Seychelles																	
	Sierra Leone																	
	Somalia																	
	South Africa																	
	Swaziland																	
	Togo																	
	Uganda																	
	United Republic of Tanzania																	
	Zambia																	
	Zimbabwe																	

X = Implemented
N = Non Implemented
P = Plan Implementation

APPENDIX-D-1

AIM PERFORMANCE OBJECTIVES (AIS-AIM Transition)

REGIONAL PERFORMANCE OBJECTIVES / NATIONAL PERFORMANCE OBJECTIVES TRANSITION FROM AIS TO AIM				
Benefits				
Environment **Efficiency** **Safety**	. reductions in fuel consumption; . improved planning and management of flights; . efficient use of airspace; . improved safety			
KPI	Status of implementation of the AIRAC system in the AFI Region Status of implementation of QMS in the AFI Region Status of implementation of AIS Automation in the AFI Region			
Proposed Metrics	Number of States complying with the AIRAC procedures Number of Posting of AIS information on the ICAO AFI Forum Number of States having developed and signed service Level Agreements between AIS and data Originators Number of States having organized QMS awareness campaigns and training programmes Number of States having implemented QMS Number of States having developed eAIP Number of States having developed a National Plan for the transition from AIS to AIM			
Strategy Short term (2010) Medium term (2011 – 2015)				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
AUO, ATM SDM	• Improve the compliance with the AIRAC system	Ongoing	States & AFI AIMTF	Valid
	• Use of the internet, including the ICAO AFI Forum, for the advance posting of the aeronautical information considered of importance to users;	2009 – 2011	States & ICAO	Valid
	• Signature of service Level Agreements between AIS and data originators;	2009 – 2011	States	Valid
	• Foster the implementation of AFI QMS based on the AFI Region Methodology for the implementation of QMS ;	2009 – 2011	ICAO & AFI AIMTF & States	Valid
	• Monitor the implementation of QMS until complete	2008 - 2013	ICAO & AFI AIMTF	Valid

	implementation of the requirements by all AFI States;			
	• Foster the development of eAIPs by AFI States;	2009 - 2013	States & AFI AIMTF	Valid
	• Monitor the implementation of AIS automation in the AFI Region in order to ensure availability, sharing and management of electronic aeronautical information;	2008 -2013	ICAO & AFI AIMTF	Valid
	• Foster the development of National/regional AIS databases;	2010 – 2015	ICAO & AFI AIMTF & States	Valid
Linkage to GPIs	GPI-5: performance-based navigation; GPI-11: RNP and RNAV SIDs and STARs; GPI-18: Aeronautical Information			

Abbreviations used in the Global ATM Operational Concept:

AO	Aerodrome Operations
AOM	Airspace Organization and Management
ATM SDM	ATM Service Delivery Management
AUO	Air User Operations
CM	Conflict Management
DCB	Demand and Capacity Balancing
TS	Traffic Synchronization

APPENDIX-D-2

AIM PERFORMANCE OBJECTIVES

NATIONAL PERFORMANCE OBJECTIVE - IMPLEMENTATION OF WGS-84 AND eTOD				
Benefits				
Environment **Efficiency** **Safety**	• none • WG8 -84 is a prerequisite for perforrnance-based navigation, benefits described in performance objectives for PBN. • support approach and departure procedure design and implementation • improve aircraft operating limitations analysis • support aeronautical chart production and on-board databases • improve situational awareness • support determination of emergency contingency procedures • support technologies such as ground proximity and minimum safe altitude warning systems • see benefits described in performance objectives for PBN			
Strategy ***Short term (2010)*** ***Medium term (2011 - 2015)***				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
ATM CM	***Electronic terrain and obstacle data (eTOD)*** • share experience and resources in the implementation of eTOD through the establishment of an eTOD working group • report requirements and monitor implementation status of Etod using a new AIS Table of the AFI FASID (Ref. Appendix B) • develop a high level policy for the management of a national eTOD programme	2008-2011 2008-ongoing 2008-~~2009~~2011	APIRG States APIRG States States	e-TOD WG has been established APIRG/17 for amendment of FASID APIRG/17 for endorsement of e-TOD WG proposals
ATM AUO	**WGS-84** • establish WGS-84 implementation goals in coordination with the national PBN implementation plan • report requirements and monitor implementation status of WGS-84 using the AIS-5 Table of the AFI FASID and take remedial action if required	2008-~~2009~~2011 Ongoing	States APIRG States	APIRG/17 RO AIS/MAP executed a region implementation survey
Linkage to GPIs	GPI-5: Performance-based navigation; GPI-9: Situational awareness; GPI-ll: RNP and RNAV SIDs and STARs; GPI-18: Aeronautical Information; GPI-20: WGS-84; GPI-2l: Navigation systems			

APPENDIX-D-3

AIS/MAP PERFORMANCE OBJECTIVES

ELIMINATION OF IDENTIFIED AIS/MAP DEFICIENCIES **(implementation of WGS-84 coordinates, publication of aeronautical charts and timely publication and updating of AIS/MAP documents, i.e. NOTAMs, AIPs, AICs, etc.)**					
Benefits					
Efficiency	•	improved collaborative decision-making through sharing aeronautical data information			
Safety	•	enhance safety by timely exchange air safety data, i.e. electronically and wider distribution of such data			
Strategy ***Short term (2010)*** ***Medium term (2011 - 2015)***					
ATM OC COMPONENTS	**TASKS**		**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
AIS/MAP	•	publication of relevant aeronautical charts.	2008 - ~~2009~~2011	States/ANSPs	Survey for APIRG/17
	•	publication of WGS-84 coordinates for en-route waypoints and use for GNSS coordinates for terminal approaches and departure procedures	2008 - ~~2009~~2011	States/ANSPs	Survey for APIRG/17
	•	publication of AIPs, NOTAMs and AICs using standards formats.		States/ANSPs	
	•	States concerned to develop action plan to eliminate the deficiencies	2008 -~~2009~~2011	States/ANSPs	Survey for APIRG/17
Linkage to GPIs	GPI/18: Aeronautical information; GPI/20: WGS-84				

APPENDIX-E-1

Table AIM-1
Responsibility for the provision of AIM Services

EXPLANATION OF THE TABLE

Column:

1	Name of the State or territory
2	Designated international NOTAM Office (NOF)
3	Designated State for AIP production
4	Designated State for aeronautical charts (MAP) production
5	Remarks

FASID TABLE AIM-1
Responsibility for the provision of AIM Services

State	**NOF**	**AIP**	**MAP**	**Remarks**
1	2	3	4	**5**

APPENDIX-E-2

Table AIM-2
Integrated Aeronautical Information Database (IAID)

EXPLEXPLANATION OF

THE TABLE Column:

1) Name of the State or territory.
2) Requirement for the establishment of an integrated aeronautical information database (IAID), based on a standard aeronautical conceptual and data exchange model, shown by:
N – National database
R – Regional/Sub Regional database
Note.— The European AIS Database (EAD) is an example of a Sub Regional integrated aeronautical information database.
3) Requirement for an IAID driven AIP production, shown by:
FC – Fully compliant (eAIP: Text, Tables and Charts)
PC – Partially compliant
NC – Not compliant
Notes.— 1.AIP production includes, production of AIP, AIP Amendments and AIP Supplements
Note : 2. Information providing detail of "PC" should be given in the Remarks column
4) Requirement for an IAID driven NOTAM production, shown by:
FC – Fully Compliant NC – Not compliant
5) Requirement for an IAID driven PIB production, shown by:
FC – Fully compliant NC – Not compliant
6) Requirement for an IAID driven Procedure design, shown by:
I – Implemented
PI – Partially Implemented
NI – Not implemented
7) Requirement for an IAID driven ATS automated systems, shown by:
I – Implemented
PI – Partially Implemented
NI – Not implemented
Note.— A TS automated systems include A TC automation system and Flight Planning system.
8) Action Plan — short description of the State's Action Plan with regard to the establishment and use of an IAID.
9) Remarks — additional information, as appropriate.

FASID TABLE AIM-2 (IAID)

STATE	Integrated IAID	AIP	NOTAM	PIB	PROCEDURE DESIGN	ATS	ACTION PLAN	REMARKS
1	2	3	4	**5**	**6**	**7**	**8**	**9**

- **END** -

APPENDIX-E-3

Table AIM-3
Terrain and Obstacles datasets and Airport Mapping Database (AMDB)

EXPLANATION OF THE TABLE

1)Name of the State or territory for which aeronautical charts are required.
2)Compliance with requirement for the provision of Terrain datasets, shown by:
FC – Fully compliant (Fully automated)
PC – Partially compliant
NC – Not compliant

3)with requirement for the provision of Obstacle datasets,
Fully compliant (Fully automated) Partially compliant
Not compliant

4)Implementation of a AMDB, shown by:
I – Implemented
NI – Not implemented
5)Action plan — information providing detail of "PC" and "NC" chart requirements and planned date(s) of full compliance.
6)Remarks— additional information, as appropriate.

FASID TABLE AIM-3
Terrain and Obstacle datasets and Airport Mapping Database (AMDB)

State	Terrain Datasets	Obstacle datasets	AMDB	Action Plan	Remarks
1	2	3	4	5	6

APPENDIX-E-4

Table AIM-4
Aeronautical data Quality

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory.

2 Compliance with the requirement for implementation of QMS for Aeronautical Information Services, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant
Note.— Please provide in the Remarks column detail of "PC" and "NC" QMS requirements (Not started, planning stage or ongoing/partially implemented).

3 Compliance with the requirement for the establishment of Letters of agreement concerning data quality with approved data originators (SLAs), shown by:
FC – Fully compliant
PC – Partially compliant NC
– Not compliant
Note.— Please provide in the Remarks column detail of "PC" and "NC" SLAs requirements (Not started or ongoing/partially implemented).

4 Compliance with the requirement for the collection of metadata, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

5 Compliance with the requirements related to aeronautical data quality (accuracy, resolution, timeliness, completeness), shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

6 Compliance with the requirements related to aeronautical data integrity, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

7 Compliance with the requirements related to the AIRAC adherence, shown by:
FC – Fully compliant
PC – Partially compliant NC
– Not compliant

8 Action Plan — short description of the State's Action Plan with regard to aeronautical data quality requirements implementation, including planned date(s) of full compliance, as appropriate.

9 Remarks — additional information, as appropriate.

FASID TABLE AIM-4
Aeronautical data quality

State	Status of Implementation of QMS	Establishment of SLAs	Metadata	Data quality monitoring	Data Integrity Monitoring	AIRAC Adherence	Action Plan	Remarks
1	2	3	4	5	6	7	8	9

- END -

APPENDIX-E-5

Table AIM-5
World Geodetic System-1984 (WGS-84)

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory for which implementation of WGS-84 is required.

2 Compliance with the requirements for implementation of WGS-84 for FIR and Enroute points, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note.— Please provide in the Remarks column detail of "PC" and "NC" WGS-84 requirements.

3 Compliance with the requirements for implementation of WGS-84 for Terminal Areas (arrival, departure and instrument approach procedures), shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note.— Please provide in the Remarks column detail of "PC" and "NC" WGS-84 requirements.

4 Compliance with the requirements for implementation of WGS-84 for Aerodrome, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note.— Please provide in the Remarks column detail of "PC" and "NC" WGS-84 requirements.

5 Compliance with the requirements for implementation of Geoid Undulation reference to EGM-96, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note.— Please provide in the Remarks column detail of "PC" and "NC" Geoid Undulation requirements.

6 Action Plan — short description of the State's Action Plan with regard to WGS-84 implementation, including planned date(s) of full compliance, as appropriate.

7 Remarks — additional information, as appropriate.

FASID TABLE AIM-5
WGS-84

State	FIR/ENR	Terminal	AD	GUND	Action Plan	Remarks
1	2	3	4	5	6	7

- END –

Appendix 8E-6

Table AIM-6
AERONAUTICAL CHARTS (Enroute & Terminal)

EXPLANATION OF THE TABLE

Column

1	Name of the State or territory for which aeronautical charts are required.
2	Compliance with requirement for the Enroute Chart — ICAO (ENRC) and the ATC Surveillance Minimum Altitude Chart — ICAO (ATCSMAC), shown by FC – Fully Compliant, PC – Partially Compliant, or NC – Not Compliant, against the State or territory to be covered.
3	Compliance with requirement for charts related to terminal areas (IAC, ARC, SID, STAR, VAC) shown by FC – Fully Compliant, PC – Partially Compliant, or NC – Not Compliant, against the State or territory to be covered.
4	Compliance with the requirement for Aerodrome charts (ADC, ADGMC and APDC), shown by: FC – Fully compliant PC – Partially compliant NC – Not compliant
5	Compliance with requirement for Obstacle Charts (AOC-A, PATC, AOC-E) shown by: FC – Fully compliant) PC – Partially compliant NC – Not compliant
6	Compliance with requirement for WAC, shown by: FC – Fully compliant PC – Partially compliant NC – Not compliant
7	Production process: FA – Fully automated PA – Partially automated M – Manual
8	Action plan — information providing detail of "PC" and "NC" chart requirements and planned date(s) of full compliance.
9	Remarks— additional information, as appropriate.

FASID TABLE AIM-6 Aeronautical Charts

State	ENR	Charts related to Terminal Areas	AD Charts	Obstacle Charts	WAC	Production Process	Action Plan	Remarks
1	2	3	4	5	6	7	8	9

APPENDIX-E-7

FASID Table AIM-7

PRODUCTION RESPONSIBILITY FOR SHEETS OF
THE WORLD AERONAUTICAL CHART - ICAO 1:1 000 000

EXPLANATION OF THE TABLE

Column

1. Name of the State accepting production responsibility

2. World Aeronautical Chart — ICAO 1:1 000 000 sheet number(s) for which production responsibility is accepted.

   Note.— When Aeronautical Charts — ICAO 1:500 000 or Aeronautical Navigation Charts — ICAO Small Scale, are made available instead of the 1:1 000 000 chart, this is to be indicated in the remarks column.

3. Remarks.

State	Sheet number(s)	Remarks
1	**2**	**3**

Notes. ***-*** *In those instances where the production responsibility for certain sheets has been accepted by more than one State, these States by mutual agreement should define limits of responsibility for those sheets.*

APPENDIX-E-8

Table AIM-8
Pre-Flight Information Services

EXPLANATION OF THE

TABLE Column:

1 Name of the State or territory.

2 Compliance with the requirements for the provision of Pre-Flight Information Bulletins (PIB), shown by:
FC – Fully compliant, against each type of PIB
PC – Partially compliant, against each type of PIB
NC – Not compliant, against each type of PIB

Note — AD: Aerodrome type bulletins
Area: Area type bulletins (FIR or group of FIRs or States)
FIR route: FIR route specific bulletin
Narrow route: Narrow path route specific bulletin

3 Compliance with the requirements for the availability of the elements of the Integrated Aeronautical Information Publications (IAIP), maps and charts to the flight operations personnel, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

4 Requirement for a common point of access to aeronautical information and meteorological information briefings, shown by:
I – Implemented
PI – Partially Implemented
NI – Not implemented

5 Action Plan — short description of the State's Action Plan with regard to Pre-Flight Information Services, with clear timelines.

6 Remarks — additional information, as appropriate, including detail of "PC", "NC", "PI" and "NI".

FASID TABLE AIM-8
Pre-Flight Information Services

State	PIB				IAIP	Aeronautical Information and meteorological information Integrated Briefing	Action Plan	Remarks
	AD	Area	FIR route	Narrow route				
1	2				3	4	5	6

APPENDIX-E-8

Table AIM-8
Pre-Flight Information Services

EXPLANATION OF THE

TABLE Column:

1 Name of the State or territory.

2 Compliance with the requirements for the provision of Pre-Flight Information Bulletins (PIB), shown by:
FC – Fully compliant, against each type of PIB
PC – Partially compliant, against each type of PIB
NC – Not compliant, against each type of PIB

Note — AD: Aerodrome type bulletins
Area: Area type bulletins (FIR or group of FIRs or States)
FIR route: FIR route specific bulletin
Narrow route: Narrow path route specific bulletin

3 Compliance with the requirements for the availability of the elements of the Integrated Aeronautical Information Publications (IAIP), maps and charts to the flight operations personnel, shown by:
FC – Fully compliant
PC – Partially compliant
NC – Not compliant

4 Requirement for a common point of access to aeronautical information and meteorological information briefings, shown by:
I – Implemented
PI – Partially Implemented
NI – Not implemented

5 Action Plan — short description of the State's Action Plan with regard to Pre-Flight Information Services, with clear timelines.

6 Remarks — additional information, as appropriate, including detail of "PC", "NC", "PI" and "NI".

FASID TABLE AIM-8
Pre-Flight Information Services

State	PIB				IAIP	Aeronautical Information and meteorological information Integrated Briefing	Action Plan	Remarks
	AD	Area	FIR route	Narrow route				
1	2				3	4	5	6

APPENDIX-E-9

Table AIM-9
AIM Certification

EXPLANATION OF THE TABLE

Column:

1 Name of the State or territory for which implementation of AIM Certification is required.

2 Availability of AIM Regulations, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note.— Please provide in the Remarks column detail of "PC" and "NC".

3 Compliance with the requirements for the establishment of a Safety Oversight System for ensuring the effective implementation of safety-related policy and procedures in the area of AIM, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note 1.— Please provide in the Remarks column detail of "PC" and "NC".

Note 2.— A Safety Oversight System is based on the eight (8) Critical Elements (CEs) as defined in the ICAO Safety Oversight Manual (Doc 9734, Part A).

Note 3.— As part of the Safety Oversight System, States should, in particular:

a) establish an entity responsible for the safety oversight of the AIS/AIM service provider(s)(not necessarily limited to the safety oversight of AIM) with clearly defined functions and responsibilities, or delegate this function to a Regional/Sub-Regional Organization;

b) ensure the availability of sufficient number of qualified AIM inspectors;

c) establish minimum qualifications and experience for the AIM inspectorate staff ;

d) establish detailed job descriptions reflecting all the regulatory and safety oversight tasks for the AIM inspectorate staff;

e) establish the necessary procedures for the AIM inspectorate staff;

f) establish and implement a formal surveillance programme for the continuing supervision of the AIS/AIM service provider(s) and ensure that safety oversight is effectively conducted; and

g) *establish and implement a mechanism/system for the elimination of deficiencies identified by the AIM inspectora*te staff.

4 Compliance with the requirements for implementation of AIM certification, shown by:

FC – Fully compliant
PC – Partially compliant
NC – Not compliant

Note 4.— AIM Certification may be performed within the framework of ANS Certification

5 Action Plan — short description of the State's Action Plan with regard to the implementation of the different requirements of AIM certification, including planned date(s) of full compliance, as appropriate.

6 Remarks — additional information, including detail of "PC" and "NC", as appropriate.

DRAFT

FASID TABLE AIM-9
AIM Certification

State	AIM Regulations	AIM Safety Oversight	AIM Certification	Action Plan	Remarks
1	2	3	4	5	6

DRAFT

APPENDIX-F

Proposal for Amendment to the AFI Basic FASID (Doc 7474 Vol.II) for the inclusion of materials related to transition from AIS to AIM

Amendment of the AIS Parts of the AFI Basic ANP and FASID in order to introduce/develop Planning material related to the transition from AIS to AIM consisting of new AIM Tables. This amendment proposal to Doc. 7474 (Vol. I and II) relates to the requirement for an overview of the Air Navigation Plan and the requirements for FASID tables, along with amendments to text which will be relevant to operations within the AFI/ EUR corridor areas of responsibility.

(Insert the following new Text)

1. INTRODUCTION

1.1 In accordance with an overview of the Air Navigation Plan and the requirements for FASID tables, the following objectives were set by the by the APIRG AFI AIM TF/1 Meeting:

a) development of guidance material in the FASID related to AIM implementation to complement the material contained in the basic ANP
b) decision on the FASID tables needed
c) development of the agreed FASID tables
d) fine-tuning of the AIM part of the Basic ANP

1.2 The TF reviewed the existing FASID tables and agreed to retain the elements deemed necessary in the new tables.

2. GENERAL

2.1 The meeting reviewed the assigned Tasks to the TF and the progress achieved.

2.1.1 The meeting reviewed and finalized the following 9 FASID Tables:

i) Table AIM-1 – Responsibility for the provision of AIM Services;
ii) Table AIM-2 – Provision of AIM products and services based on the Integrated Aeronautical Information Database (IAID);
iii) Table AIM-3 – Terrain and Obstacles datasets and Airport Mapping Database (AMDB);
iv) Table AIM-4 – Aeronautical Data Quality;
v) Table AIM-5 – World Geodetic System-1984 (WGS-84);
vi) Table AIM-6 – Aeronautical Charts;
vii) Table AIM-7 – Production responsibility for sheets of the World Aeronautical Chart - ICAO 1:1 000 000;

viii) Table AIM-8 – Pre-Flight Information Services; and
ix) Table AIM-9 – AIM Certification.

2.2 The meeting assigned tasks related to the development of the guidance material to be included in the Preface/Introduction of the FASID Part and the fine tuning of the text of the Basic ANP Part related to AIM to its members.

2.3 During the brainstorming, the following draft FASID tables and explanatory notes were developed (see Appendix):

i) Table AIM-1 - Responsibility for the provision of AIM Services;
ii) Table AIM-2 - Integrated Aeronautical Information Database (IAID);
iii) Table AIM-3 - Terrain and Obstacles datasets and Airport Mapping Database (AMDB);
iv) Table AIM-4 - Aeronautical Data Quality;
v) Table AIM-5 - World Geodetic System-1984 (WGS-84);
vi) Table AIM-6 – Aeronautical Charts;
vii) Table AIM-7 - production responsibility for sheets of the world aeronautical chart - ICAO 1:1 000 000;
viii) Table AIM-8 - Pre-Flight Information Services.
ix) Table AIM-9 – AIM Certification.

2.4 During the discussion, it was agreed that the following important points would be reflected in the preface to the FASID tables:

- AFI ANP FASID tables would reflect both planning and performance requirements.
- Several tables related to the planning (e.g. tables 2 and 3) would reflect the data-driven approach in AIM.

2.5 A clarification should be included in respect to the requirement of compliance with the recommended practices e.g. “in case of notification of a difference with regard to a specific Recommended Practice, the Full Compliance is subject to the availability of a Safety Case which ensures that safety is not compromised”

2.6 The TF also considered the inclusion of a requirement for the certification of the AIS/AIM that is in line with CMA requirements for the certification of the ANSP.

3. Action by AFI States

3.1 States are urged to take action on the necessary amendment to Doc 7474 Vol.I and II, in order to maintain the currency of the information contained within the document.

APPENDIX-G

Insert Logo Here Organisation 1 **Insert Logo Here Organisation 2** **Insert Logo Here Organisation 3**

Service Level Agreement Template

Edition	**:**	**0.5**
Edition Date	**:**	**13th September**
Status	**:**	**Proposed Issue**

Template Version: 0.5
Issue Date: 13th September 2006

DOCUMENT APPROVAL

The following table identifies all management authorities that have successively approved the present issue of this document.

In witness whereof, the undersigned have executed this Agreement as of the date previously mentioned in this Agreement.

[Insert authority names below as appropriate]

AUTHORITY	NAME AND SIGNATURE	DATE
Aeronautical Information Services		
Data Originator		
Regulator		

DOCUMENT CHANGE RECORD

The following table records the complete history of the successive editions of the present document.

EDITION	DATE	REASON FOR CHANGE	SECTIONS PAGES AFFECTED
0.5	13th September		

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1. INTRODUCTION

1.1 Scope

This Service Level Agreement (SLA) documents the agreed provision of service for the supply of aeronautical information (Data) by **[organisation name]** (The Data Originator) to **[organisation name]** (The AISP) and the agreed standards to which the said information shall be published by the AISP. **This SLA is overseen and managed by the [organisation name] (The Regulator).**

1.2 Benefits Gained from an SLA

An SLA is a contract between parties that defines the services provided, the indicators associated with these services, acceptable and unacceptable service levels, liabilities on the part of the service provider and the customer, and actions to be taken in specific circumstances.

In the scope of this SLA only modes of operation are discussed and formalised and financial components are not considered.

The basic objectives of an SLA are as follows:

- **Better communication. It facilitates two-way communication between the parties. This communication starts at the beginning of the process to establish an SLA and continues throughout the life of the arrangement. The parties involved come together in order to understand each other's needs, priorities and concerns, and to gain an insight into the problems which may be faced by each party through the failure of each party to fulfil their obligations.**

- **Guards against expectation creep. It is not uncommon for one party's expectations of another to be higher than that which may be considered reasonable. Discussing these expectations and the resource commitments necessary to meet them is one activity undertaken in the establishment of an SLA. The process facilitates the identification and discussion of expectations. As a result, it helps identify service levels that are considered acceptable by each party and which are attainable and achievable.**

- **Mutually agreed standard. It sets an agreed standard against which performance may be measured. It identifies customer expectations, defines the boundaries of the service provision and clarifies responsibilities. In the absence of a shared understanding about needs and priorities, it is easy for conflicts to arise between parties. An SLA and the communication process involved in establishing it help to minimise the conflicts between the parties and provides a means for conflict resolution should a problem arise.**

- **A process for gauging service effectiveness. As the SLA defines standards against which the service may be measured and evaluated, it provides the basis for performing an assessment of the effectiveness of the service.**

1.3 Parties to the Agreement

The following table describes and names the legal entities and their representatives who have reviewed and approved this SLA.

Entity [Insert Regulator details here]	Address	Re presentative
[Insert AISP details here]		
[Insert Data Originator details here]		

Table 1: Parties to Agreement

1.4 Perspective – Regulative Environment

A number of documents specify the regulatory requirements for the provision of information by Data Originators and its subsequent processing by AIS. These include:

- ICAO Annex 4 “Aeronautical Charts”;
- ICAO Annex 5 “Units of Measurement to be Used in Air and Ground Operations”;
- ICAO Annex 11 “Air Traffic Services”;
- ICAO Annex 14 “Aerodromes”;
- ICAO Annex 15 “Aeronautical Information Services”.

These documents are further supported by guidance material, including:

- ICAO Doc 8126 “AIS Manual”;
- ICAO Doc 8697 “Aeronautical Chart Manual”;
- ICAO Doc 9674 “WGS-84 Manual”;
- Operating Procedures for AIS Dynamic Data (OPADD).

[Add any State applicable regulation here]

1.5 Term

The term of this SLA shall be as follows:

Start Date: **[Insert start date here]**

End Date: **[Insert end date here]**

Duration: **[Insert duration here]**

Once agreed The AISP and The Data Originator cannot withdraw from all or part of this agreement within the above dates.

[Add any other agreed constraints of / specification for the scope here.]

1.6 Conventions

Within this SLA, the following conventions are used:

1.6.1 Time

1.6.2 Presentation of Date and Time in All-numeric Form

This SLA uses Co-ordinated Universal Time (UTC) as described in Attachment D of Annex 5.

This SLA uses the procedures for writing the date and time in all-numeric form as described in Attachment E of Annex 5.

Times expressed as a number of “Office hours” include the hours from 8:00 to 16:00 Dutch local time (Monday to Friday).

Times expressed as a number of “Office hours” include business hours, Monday through Friday, excluding designated holidays.

Unless specifically mentioned otherwise, all durations specified are in working days.

1.6.3 Quality Attributes / Definitions

Accuracy: A degree of conformance between the estimated or measured value and the true value.

AIRAC System: A system aimed at advance notification based on common effective dates, of circumstances that necessitate significant changes in operating practices.

NOTAM System: A system of distributing notices by means of telecommunication, that contain information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

Resolution: A number of units or digits to which a measured or calculated value is expressed and used.

Integrity: A degree of assurance that an aeronautical data item and its value have not been lost or altered since its origination or authorised amendment.

Timeliness: A characteristic by which either data is provided or actions performed, with sufficient time remaining so as not to impact later actions and possibly jeopardise the achievement of the required result within due time.

1.6.4 Data Categories

The following data classifications are used within this document:

Routine: There is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

The permitted maximum error rate is 1 in 1000, providing an integrity level of 1×10^{-3}.

Essential: There is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

The permitted maximum error rate is 1 in 100,000, providing an integrity level of 1×10^{-5}.

Critical: There is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

The permitted maximum error rate is 1 in 100,000,000, providing an integrity level of 1×10^{-8}.

1.7 Entities Involved for Data Provision

The following entities categories involved are used within this document:

1. Civil Aviation Authority (CAA)

   The national body responsible for the overall supervision of aviation-related activities.

2. **[Insert Organisation Name Here]**

   The organisation responsible for the provision of Air Navigation Services for the State.

3. Aeronautical Information **Management**/Services **(AIM/AIS)**

   The unit of the ANSP responsible for the provision of Aeronautical Information Services (AIS) for the State.

4. **Data Originator**

   Describe the data originator body here.

5. National Supervisory Authority (NSA)

   The body responsible for the certification of services under the Single European Sky.

2. SERVICES AND SERVICE LEVELS

2.1 Service Description

The Data Originator will provide the AISP with the Data for which it is responsible as listed in Table 2, below.

Data Entity	Description
X	
Y	
Z	

Table 2: Data to be Provided

The AISP will, in turn, publish the information within the National Publication and in accordance with ICAO and National regulations.

2.1.1 Regulation

[Detail here the regulation that applies to this SLA]

2.2 Optional Services

[Detail any further services required here]

2.3 Exclusions

[Detail any further services required here]

2.4 Limitations

[Detail any further services required here]

2.5 Entities Involved

[Detail any the entities involved here]

2.6 Service Levels

2.6.1 Data Originator

All Data shall be provided in accordance with the following criteria:

1. The Data shall include its effective date.
2. The Data shall include its period of validity.
3. The Data shall be provided with the requested publication.
4. The Data shall be prepared in accordance with the following standards:

   a. [List standards here]

Additionally, the Data Originator shall provide each of the identified Data items in Table 2, in accordance with the following specific criteria:

2.6.1.1 Data Item x – Repeat for each data item.

The Data shall be provided at least **[insert timeliness requirement]** days prior to the effective date.

The Data shall be provided by **[insert delivery requirement]** means.

The Data shall be provided in **[insert required format of delivery].**

The Data shall be provided with the following quality attributes:

Attribute	Accuracy	Resolution	Inte grity Level	Note
X'1	20 m	1 second	Critical	
X'2	1 ft	0.1 ft	Essential	
X'3	n/a	n/a	Routine	Textual data

Table 3: Data Attributes – Entity X

The Data shall be provided by with the following mete-data:

1. **[insert meta-data requirement].**

[Add more requirements for the provision of information]

2.6.2 AISP

The AISP shall process the Data upon receipt.

The AISP shall present a draft publication including the Data for approval by **[insert approver]** at least **[insert timeliness requirement]** days prior to the effective date.

The AISP shall publish the Data within the requested publication unless otherwise agreed, in writing, with the Data Originator.

[Add more requirements for the publication of information]

2.7 Service Level Indications

The following measures will be used to assess the performance of the service:

Measure	Description	Target date[1]. Late provision must be alerted to the AIM as soon as known. The publication of this information will then be the subject of negotiation.
Format	The Data is provided by the Data Originator to the AIM, without errors in presentation or content, in the format detailed within this SLA.	95%
Draft Publication	The AIM will present a draft publication to the Data Originator for approval within the specified timeframe.	95% by required due date[2]. 100% within one day following due date[2].
Publication	The AIM will publish the Data within the required period (e.g. in compliance with the AIRAC cycle).	95% by required due date.
Quality of Publication	The IAIP product prepared will be provided in accordance with the applicable standards.	95%
Add and amend indications as required.		

Due date is used to mean the number of days in advance of the effective date that the information is to be provided to the AIS. This period is defined in section 2.6.1.

Measure	Description	Target
Quality of Data	The Data is delivered by the Data Originator to the AIM with the required quality levels.	100%
Timeliness	The Data is delivered by the Data Originator to the AIM within the specified timeframe.	95% by required due date[1]. 100% within three days following due

Table 4: Service Level Indications

[2] Due date is used to mean the number of days in advance of the effective date that the draft publication is to be provided to the Data Originator.

3. MANAGEMENT ELEMENTS

3.1 Rewards and Remedies

[Detail rewards and remedies here]

3.2 Escalation Procedures

[Detail any escalation procedures here]

3.3 SLA Lifecycle

3.3.1 Reporting

[Detail any reporting here]

3.3.2 Reviews

[Detail any reviews here]

3.3.3 Change Process

[Detail the change process here]

3.4 Points of Contact

The following points of contact for execution of the SLA are:

Organisation	Primary Contact	Secondary Contact
[Insert Regulator details here]	[Insert Primary Contact details here, including name, role/job title, address, telephone, fax and email]	[Insert Secondary Contact details here, including name, role/job title, address, telephone, fax and email]
[Insert AISP details here]	[Insert Primary Contact details here, including name, role/job title, address, telephone, fax and email]	[Insert Secondary Contact details here, including name, role/job title, address, telephone, fax and email]
[Insert Data Originator details here]	[Insert Primary Contact details here, including name, role/job title, address, telephone, fax and email]	[Insert Secondary Contact details here, including name, role/job title, address, telephone, fax and email]

Table 5: Points of Contact

4. FUTURE INTENTIONS

4.1 General

Although outside the scope of this SLA, AIM and the **[Data Originator]** have a number of intentions for improvement which may have a consequential impact on this SLA.

The following sections outline these and should be considered during the review of the SLA, once it is in operation.

4.2 Describe future intentions here

5. REFERENCES

5.1 Refer to docs and add a short description.

End of Document

APPENDIX-H

State AIS AIM Transition Table

Phase 1
P-03 —AIRAC adherence monitoring
P-04 —Monitoring of States'differences to Annex 4 and Annex 15
P-05 —WGS-84 implementation
P-17 —Quality
Phase 2
P-01 —Data quality monitoring
P-02 —Data integrity monitoring
P-06 —Integrated aeronautical information database
P-07 —Unique identifiers
P-08 —Aeronautical information conceptual model
P-11—Electronic AIP
P-13 —Terrain
P-14 —Obstacles
P-15—Aerodrome mapping
Phase 3
P-09 —Aeronautical data exchange
P-10—Communication networks
P-12 —Aeronautical information briefing
P-16 —Training
P-18 —Agreements with data originators
P-19 —Interoperability with meteorological products
P-20 —Electronic aeronautical charts
P-21 —Digital NOTAM

Status report against the 21 steps of the ICAO Roadmap for the transition from AIS to AIM

Date Last

Amended:

	Phase 1 Consolidation				Phase 2 Going Digital									Phase 3 Information Management							
	P~03	P~04	P~05	P~17	P~01	P~02	P~06	P~07	P~08	P~11	P~13	P~14	P~15	P~09	P~10	P~12	P~16	P~18	P~19	P~20	P~21
Angola																					
Benin																					
Burkina Faso																					
Burundi																					
Cape Verde																					
Central African Republic																					
Chad																					
Comoros																					
Congo																					
Cote d'Ivoire																					
Democratic Republic of																					
Djibouti																					
Equatorial Guinea																					
Eritrea																					
Ethiopia																					
Gabon																					
Gambia																					
Ghana																					
Guinea																					
Guinea Bissau																					
Kenya																					
Lesotho																					
Liberia																					
Madagascar																					
Malawi																					

Mali																					
Mauritanie																					
Mauritius																					
Mozambique																					
Namibia																					
Niger																					
Nigeria																					
Rwanda																					
Sao Tome and Principe																					
Senegal																					
Seychelles																					
Sierra Leone																					
Somalia																					
South Africa																					
Swaziland																					
Togo																					
Uganda																					
United Republic of Tanzania																					
Zambia																					
Zimbabwe																					

X= Implemented
N= Non Implemented
P= Plan Implementation

APPENDIX-I

NOTAM Templates related to the operational impact and limited access of airspace and routes affected by volcanic ash

NOTAM Templates

General

Structure of NOTAM content

For each operational area, a short description is given for in which situations the examples can be used. It follows by a description of the structure of the NOTAM text, providing the sequence of the free text information to be inserted in item E). The structure of the information is in accordance with a dedicated digital NOTAM event scenario.

Filling instructions and NOTAM codes

The NOTAM examples include some instructions in completion of the qualifier line, the recommended NOTAM code and instruction in how to describe a published airspace in item E).

Navigation warnings

Type of operational impact/event

These templates apply for the issuance of navigation warnings for potential volcanic activity:

a) pre-eruption notification and outbreak of a volcano including detailed information regarding the activity,

b) volcano ash contamination areas forecast spread and movement, for which an area restriction has not been established

Structure of information

The examples follow the structure of the digital NOTAM event scenario *Ad-hoc special activity area:*

airspace type – activity/reason – location note (ex. name of volcano) – geometry (horizontal/vertical) – note(s);

The structure of the information is illustrated by color coding in the NOTAM example 2.2.3.1 with the following meaning:

Red = airspace type
Blue =activity/reason for the area establishment
Green =location note of the activity
Purple = Geometry
Orange = airspace activity note #1(there may be as many Notes as necessary)
Brown = airspace activity note #2 (there may be as many Notes as necessary)

NOTAM examples

Pre-eruptive volcanic alert

(A0777/10 NOTAMN
Q) BIRD/QWWLW*/IV/NBO/W/000/999/6337N01901Wxxx**
A) BIRD B) 1002260830 C) 1002261100

E) PRE-ERUPTIVE ACTIVITY ALERT FOR VOLCANIC ACTIVITY, POSSIBLY INDICATING IMMINENT ERUPTION (VOLCANO KATLA 1702-03 ICELAND-S) AS FOLLOWS: CIRCLE WITH CENTRE 6337.5N 01901.5W AND RADIUS OF XXXNM***. VOLCANIC ASH CLOUD IS EXPECTED TO REACH 50.000 FEET AMSL FEW MINUTES FROM START OF ERUPTION. AIRCRAFT ARE REQUIRED TO FLIGHT PLAN TO REMAIN AT LEAST XXXM CLEAR OF VOLCANO AND MAINTAIN WATCH FOR NOTAM/SIGMET FOR AREA
F) GND G) UNL
*) *Recommended NOTAM code: QWWLW "Significant volcanic activity will take place…(specify)".*
***) A radius shall be included in the qualifier line in a way that encompasses the total area of influence of the NOTAM.*
****) XXX is a distance established by the Provider State and shall correspond to the radius in the qualifier line.*

Reporting on outbreak of volcanic eruption

(A0778/10 NOTAMR A0777/10
Q) BIRD/QWWLW/IV/NBO/W/000/999/6337N01901Wxxx
A) BIRD B) 1002261000 C) 1002261300
E) VOLCANIC ERUPTION CONFIRMED IN VOLCANO KATLA 17-2-03 ICELAND-S. CIRCLE WITH CENTRE 6337.5N 01901.5W AND RADIUS OF XXXNM. VOLCANO ASH CLOUD IS EXPECTED TO REACH 50 000 FEET AMSL. AIRCRAFT ARE REQUIRED TO REMAIN AT LEAST XXXNM CLEAR OF VOLCANO AND MAINTAIN WATCH FOR NOTAM/SIGMET FOR BIRD AREA.
F) GND G) UNL

Reporting on forecasted volcanic ash area [of Medium or High, High/Medium or High/Medium/Low contamination]

(A0207/10 NOTAMN
Q) EIAA/QWWLW/IV/NBO/W /000/200/xxxxNxxxxxE (orW)/xxx*)
A)EIAA B) 1005190700 C) 1005191300
E) VOLCANIC ASH AREA OF MEDIUM CONTAMINATION FORECAST AS FOLLOWS:
5243N 00853W - 5330N 00618W - 5150N 00829W - 5243N 00853W**)
F)SFC G) FL200
*) *The geographical reference (coordinates lat/long) shall represent the approximate centre of a circle whose radius encompasses the whole area of influence. A radius shall be included in a way that encompasses the total area of influence of the NOTAM.*
**) *Definition of the area should be done by radius/circle or coordinates only. Definition of airspace by the use of geographical or administrative features such as State borders, rivers, sea shores etc) is not supported by the digital NOTAM event scenario and is therefore not recommended. If operational necessary, this can be defined by providing a simplified polygon larger than the area and excluding a neighbouring FIR, for example.*
Coordinates defining the lateral limits of the area (polygon) should be enumerated in clockwise order, each point separated by space-hyphen-space. The last and the first points of the list shall be the same.

Airspace restrictions

Type of operational impact/event

These templates apply for established temporary airspace restrictions for areas affected by volcanic activity:

a) temporary airspace restriction due to outbreak of volcanic eruption,

b) temporary airspace restrictions based on forecast ash contamination areas spread and movement

Structure of information

The examples follow the structure of the digital NOTAM event scenario *Ad-hoc special activity area:*
airspace type – activity/reason – location note (ex. name of volcano) – geometry (horizontal/vertical) – note(s);

The structure of the information is illustrated by color coding in the NOTAM example 2.3.3.1 with the following meaning:
Red = airspace type
Blue =activity/reason for the area establishment
Green =location note of the activity
Purple = Geometry
Orange = airspace activity note #1(there may be as many Notes as necessary)
Brown = airspace activity note #2 (there may be as many Notes as necessary)

NOTAM examples

Established temporary airspace restriction for confirmed volcanic eruption

(A0255/11 NOTAMN
Q) BIRD/QRDCA*/IV/NBO/W/000/500/6337N01901Wxxx**
A) BIRD B) 1103260800 C) 1103261200
E) TEMPORARY DANGER AREA ESTABLISHED FOR CONFIRMED VOLCANIC ERUPTION VOLCANO KATLA 1702-03 ICELAND-S AS FOLLOWS: CIRCLE WITH CENTRE 6337.5N 01901.5W AND RADIUS OF XXXNM*** VOLCANIC ASH CLOUD REPORTED REACHING FL500. AIRCRAFT ARE REQUIRED TO REMAIN CLEAR OF AREA AND MAINTAIN WATCH FOR NOTAM/SIGMET FOR BIRD AREA.
F) SFC G) FL500
**) Recommended NOTAM code: QRTCA "Temporary restricted area activated", QRDCA "Danger area activated" and QRPCA " Prohibited area activated", based on States decision on established restriction.*
***) A radius shall be included in the qualifier line in a way that encompasses the total area of influence of the NOTAM.*
****) XXX is a distance established by the Provider State and shall correspond to the radius in the qualifier line*

Established airspace restriction including volcanic ash area of High [or High/Medium or High/Medium/Low] contamination

(A0503/10 NOTAMN
Q) EGGN/QRTCA/IV/NBO/W/000/350/xxxxNxxxxxW (or E)xxx*
A)EGPX B)1005182300 C)1005190500
E)TEMPORARY RESTRICTED AREA ESTABLISHED FOR VOLCANIC ASH AREA OF HIGH CONTAMINATION AS FOLLOWS: 5812N 00611W - 5718N 00216W - 5552N 00426W - 5629N 00652W - 5812N 00611W**)
F)SFC G) FL350

(A0886/10 NOTAMR A0884/10
Q) BIRD/QRDCA/IV/NBO/W/000/250/xxxxNxxxxxW(orE)xxx*
A) BIRD B) 1011301214 C) 1011301814
E) TEMPORARY DANGER AREA ESTABLISHED FOR VOLCANIC ASH AREA OF MEDIUM AND HIGH CONTAMINATION AS FOLLOWS:
7134N 00843W - 7134N 00801W - 6931N 00508W - 6606N 00732W - 6208N 01334W - 6254N 01419W - 6823N 00925W - 7134N 00843W**)
F)SFC G)FL250

**) The geographical reference (coordinates lat/long) shall represent the approximate centre of a circle whose radius encompasses the whole area of influence. A radius shall be included in a way that encompasses the total area of influence of the NOTAM.*
***) Definition of the area should be done by radius/circle or coordinates only. Definition of airspace by the use of geographical or administrative features such as State borders, rivers, sea shores etc) is not supported by the digital NOTAM event scenario and is therefore not recommended. If operational necessary, this can be defined by providing a simplified polygon larger than the area and excluding a neighboring FIR, for example.*
Coordinates defining the lateral limits of the area (polygon) should be enumerated in clockwise order, each point separated by space-hyphen-space. The last and the first points of the list shall be the same.

Aerodrome/heliport closure

Type of operational impact/event

These templates cover the event of a temporary closure of an airport/heliport. The closure can be total (any traffic is forbidden) or partial (with the exception of particular operations, flight or aircraft categories).

Structure of information

The proposed structure of data items in the examples follow the digital NOTAM event scenario *Airport/Heliport closure*:
designator - operational status - forbidden operation - permitted operation – reason - start closure - end closure – note(s)
The structure of the information is illustrated by color coding in the NOTAM example 2.3.3.1, with the following meaning:

Red = designator
Blue =operational status (closure/limitation)
Green = forbidden operation (flight/aircraft)
Purple = permitted operation (flight/aircraft) and PPR details
Orange = reason for aerodrome/heliport closed
Indigo = start closure
Pink = end closure, schedule
Brown = further instructions concerning the airport closure Note (there may be as many Notes as necessary)

NOTAM examples

Aerodrome/Heliport closed for all traffic

(A1340/10 NOTAMN
Q)EFIN/QFALC/IV/NBO/A/000/999/6455N01252E/010
A)EFOU B) 1012151600 C) 1012151900EST
E) AD*) EFOU CLOSED FOR ALLTRAFFIC DUE TO VOLCANIC ASH AREA OF HIGH CONTAMINATION FORECAST FOR INFO CALL + 35885207700

*) *If the designator concerns a heliport, the word "HELIPORT" shall be included.*

Aerodrome/Heliport closed for IFR traffic

(A0468/10 NOTAMN
Q)EFIN/QFALT/I/NBO/A/000/999/6455N012521E/010
A)EFOU B) 1003211000 C) 1003211300EST
E) AD EFOU CLOSED FOR IFR TRAFFIC DUE TO VOLCANIC ASH AREA OF MEDIUM CONTAMINATION FOR INFO CALL + 35885207700

Restrictions on route portions/flight levels

Type of operational impact/event

These templates cover the event of a temporary closure of one or more route portions (could be on different routes) due to a common cause, such as the activation of a temporary restricted area.
If more than one route portion is concerned, the eventual vertical layers and schedules specified by the data originator are assumed to apply identically to all route portions (routes); if one route portion has different layers or schedules, it shall be considered a separate event and a separate NOTAM shall be issued.

Structure of information

The proposed structure of data items in the examples follow the digital NOTAM event scenario *Route portion closure*:
route availability - route designator - start point - end point - direction - lower level - upper level - start time - end time - schedule - reason - note(s)
The structure of the information is illustrated by color coding in the NOTAM example 2.5.3.1 with the following meaning:
Red = route availability
Blue =route designator
Green = start point (designator of the significant point, and the type in case of a navaid)
Purple = end point (designator of the significant point and the type in case of a navaid)

Indigo = lower level/upper level
Orange = start time/end time/schedule
Pink = reason (explanation of the situation that triggered the closure of the route)
Brown = further instructions concerning the route portion closure Note (there may be as many Notes as necessary)
:

NOTAM examples

Area Navigation (RNAV) routes portion closure with vertical layer

(A0515/10 NOTAMN
Q) ENOR/QANLC/I/NBO/E/285/400/6230N00300E/085
A)ENOR B) 1004151200 C) 1004151400EST
E) RNAV ROUTE SEGMENTS CLSD
UM 996 ISVIG – VIGRA DVOR/DME (VIG)
UL727 ISVIG – FLORO DVOR/DME (FLO)
UP607 INGAL – FLORO DVOR/DME (FLO)
FROM FL285 TO FL400
DUE TO VOLCANIC ASH AREA OF HIGH CONTAMINATION FORECAST

*ATS route *) portion closure with vertical layer*

A0515/10 NOTAMN
Q) LFFF/QARLC/IV/NBO/E/200/400/4920N0015E/060
A)LFFF B) 1011030800 C) 1011031000EST
E) ATS ROUTE SEGMENTS CLSD UL612 XAMAB – RESMI FROM FL 200 TO FL 400
03 NOV 2010 08:00 TO 03 NOV 2010 10:00EST DUE TO TEMPORARY ESTABLISHED DANGER AREA FOR VOLCANIC ASH AREA OF MEDIUM AND HIGH CONTAMINATION.

**)The second and third NOTAM code letters AR apply for conventional ATS routes, TACAN routes and routes other than Area Navigation routes.*

ATM PERFORMANCE OBJECTIVES

NATIONAL PERFORMANCE OBJECTIVE - IMPLEMENTATION OF THE NEW ICAO FPL PROVISIONS BY 15 NOVEMBER 2012				
Benefits				
Environment **Efficiency** **Safety**	• reductions in fuel consumption • ability of air navigation service providers t make maximum use of aircraft capabilities • ability of aircraft to conduct flights more closely to their preferred trajectories • facilitate utilization of advanced technologies thereby increasing efficiency • optimized demand and capacity balancing through the efficient exchange of information • enhance safety by use of modern capabilities onboard aircraft			
Strategy ***Short term (2010-2012)***				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
AUO SDM	• plan the transition arrangements to ensure that the changes from the current to the new ICAO FPL form occur in a timely and seamless manner and with no loss of service;	2009-June 2011	States	Ongoing
	• ensure that the capabilities of local systems are fully adaptable to the changes envisaged in the new FPL form;	2010	States	Ongoing
	• ensure the ability of FDPS's to parse information correctly to guarantee that misinterpretation of data does not occur;	2010	States	Ongoing
	• analyze each individual data item within the various fields of the new flight plan form, comparing the current values and the new values to verify any issue regarding the provision of service by the flight planning facility itself or downstream units;	2010	States	Ongoing
	• ensure that there are no individual State peculiarities or deviations from the flight plan provisions;	2011	States	Ongoing
	• ensure that the accepting ATS Reporting Office accepts and disseminates all aircraft capabilities and flight intent to all the downstream ACCs as prescribed by the PANS-ATM provisions.	2012	States	Ongoing

	• in order to reduce the change of double indications it is important that any State having published a specific requirement(s) which are now addressed by the amendment should withdraw those	2010-2012	States	Ongoing
	• requirements in sufficient time to ensure that aircraft operators and flight plan service providers, after 15 November 2012, use only the new flight plan indications;			
	• inform on the implementation status to the ICAO regional offices on an ongoing basis;	2010-2012	States	Ongoing
	• keep the Flight Plan Implementation Tracking System (FITS) up to date based on the information provided by the States.	2010-2012	ICAO Regional Offices	Ongoing
Linkage to GPIs	GPI/5 RNAV and RNP (Performance-based navigation) GPI-12 Functional integration of ground systems with airborne system GPI/18 Aeronautical Information			

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NATIONAL PERFORMANCE OBJECTIVES FOR PBN

AFI REGIONAL PERFORMANCE OBJECTIVES/NATIONAL PERFORMANCE OBJECTIVES OPTIMIZATION OF THE ATS ROUTE STRUCTURE IN EN-ROUTE AIRSPACE				
Benefits				
Environment **Efficiency** **Safety**	• reduction in gas emissions • ability of aircraft to conduct flight more closely to preferred trajectories • increase in airspace capacity • facilitate utilization of advanced technologies (e.g., FMS-based arrivals) and ATC decision support tools (e.g., metering and sequencing), thereby increasing efficiency			
Strategy ***Short term (2010)*** ***Medium term (2011-2015)***				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
AOM	***En-route airspace***	2008		
	• develop regional implementation plan	2008-2009	AFI PBN TF	Completed
	• develop regional action plan	2009-2010	AFI PBN TF	Completed
	• establish collaborative decision making (CDM) process	2010	States	Continuous
	• develop airspace concept based on AFI PBN regional implementation plan, in order to design and implement a trunk route network, connecting major city pairs in the upper airspace and for transit to/from aerodromes, on the basis of PBN, e.g. RNAV 10 and RNAV 5, and taking into account interregional harmonization	2009-2012	AFI PBN TF/States	In progress
	• harmonize national and regional PBN implementation plans	2010-2016	AFI PBN TF/States	On-going
	• develop performance measurement plan	2010-2012	States	In progress
	• formulate safety plan	2010-2012	States	To be developed
	• publish national regulations for aircraft and operators approval using PBN manual as guidance material	2010-2011	States	To be developed
	• identify training needs and develop corresponding guidelines	2010-2011	States	In progress
	• identify training programmes and develop corresponding guidelines	2010-2011	AFI PBN TF/States	in progress
	• formulate system performance monitoring plan	2010-2011	AFI PBN TF/States	To be developed
	• implementation of en-route ATS routes	2010-2012	AFI PBN TF/States	In progress
	• monitor implementation progress in accordance with AFI PBN implementation plan and State implementation plan	2010 and beyond	AFI PBN TF/States	On-going

AFI REGIONAL PERFORMANCE OBJECTIVES/NATIONAL PERFORMANCE OBJECTIVES OPTIMIZATION OF THE ATS ROUTE STRUCTURE IN TERMINAL AIRSPACE				
Benefits				
Environment **Efficiency** **Safety**	• reduction in gas emissions • ability of aircraft to conduct flight more closely to preferred trajectories • increase in airspace capacity • improved availability of procedures • facilitate utilization of advanced technologies (e.g., FMS based arrivals) and ATC decision support tools (e.g., metering and sequencing), thereby increasing efficiency			
Strategy ***Short term (2010)*** ***Medium term (2011-2015)***				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
AOM	***Terminal airspace***	2008		
	• develop regional implementation plan	2009	AFI PBN TF	Completed
	• develop regional action plan	2009-2010	AFI PBN TF	Completed
	• develop State PBN implementation plan	2009 (see note1)	States	In progress (X States have completed)
	• establish collaborative decision making (CDM) process	2010	States	In progress
	• develop airspace concept based on AFI PBN roadmap, in order to design and implement an optimized standard instrument departures (SIDs), standard instrument arrivals (STARs), holding and associated instrument flight procedures, on the basis of PBN and, in particular RNAV 1 and Basic-RNP 1	2009-2012	PBN TF/States	In progress
	• develop performance measurement plan	2010-2012	States	In progress
	• formulate safety plan	2010-2012	States	To be developed
	• publish national regulations for aircraft and operators approval using PBN manual as guidance material	2010-2011	States	To be developed
	• identify training needs and develop corresponding guidelines	2010-2011	States	In progress
	• identify training programmes and develop corresponding guidelines	2010-2011	AFI PBN TF	To be developed
	• formulate system performance monitoring plan	2010-2012	AFI PBN TF/States	In progress
	• develop a regional strategy and work programme implementation of SIDs and STARs	2009-2012	AFI PBN TF/States	In progress
	• monitor implementation progress in accordance with AFI PBN implementation roadmap and State implementation plan	2010 and beyond	AFI PBN TF/States	On going
Linkage to GPIs	GPI/5: performance-based navigation; GPI/7: dynamic and flexible ATS route management; GPI/8: collaborative airspace design and management; GPI/10: terminal area design and management; GPI/11: RNP and RNAV SIDs and STARs; GPI/12: FMS-based arrival procedures.			

OPTIMIZATION OF VERTICALLY GUIDED RNP APPROACHES				
Benefits				
Environment **Efficiency** **Safety**	• reduction in gas emissions • increased accessibility to aerodromes, including continuity of access • increased runway capacity • reduced pilot workload • availability of reliable lateral and vertical navigation capability			
Strategy				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
AOM	***Terminal airspace***	2008		
	• develop regional implementation plan	2008 – 2009	AFI PBN TF	Completed
	• develop regional action plan	2009-2010	AFI PBN TF	Completed
	• develop State PBN implementation plan	2009 (*)	States	In progress
	• establish collaborative decision making (CDM) process	2010	States	In progress
	• develop airspace concept based on AFI PBN implementation plan, in order to design and implement RNP APCH with Baro-VNAV or LNAV only (see note 1) in accordance with relevant Assembly resolutions , and RNP AR APCH where beneficial	2009 – 2012	AFI PBN TF/States	In progress
	• develop performance measurement plan	2010-2012	States	In progress
	• formulate safety plan	2010-2012	States	To be developed
	• publish national regulations for aircraft and operators approval using PBN manual as guidance material	2010-2011	States	To be developed
	• identify training needs and develop corresponding guidelines	2010-2011	States	In progress
	• identify training programmes and develop corresponding guidelines	2010-2011	AFI PBN TF/States	To be developed
	• implementation of APV procedures	2010 - 2016	AFI PBN TF/States	In progress
	• Formulate system performance monitoring plan	2010-2012	AFI PBN TF/States	in progress
linkage to GPIs	GPI/8: collaborative airspace design and management; GPI/10: terminal area design and management; GPI/11: RNP and RNAV SIDs and STARs; GPI/12: FMS-based arrival procedures			

(*)States that have not already done so should complete their national PBN implementation plans as soon as possible.

Note 1: where altimeter setting does not exist or aircraft are not suitably equipped for APV

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AFI REGIONAL PERFORMANCE OBJECTIVES/NATIONAL PERFORMANCE OBJECTIVES FOR SEARCH AND RESCUE (SAR)

ESTABLISHMENT OF SUB-REGIONAL SAR ARRANGEMENTS				
Benefits				
Efficiency and Safety	• cost-efficient use of accommodation and RCC equipment on a shared basis • service provision more uniform across a geographic area defined by risk • proficient services provided near and within States with limited resources. • harmonization of aviation / maritime procedures • inter-operability of life-saving equipment • development of a pool of experienced SAR mission coordinators skilled across both aviation and maritime domains thus reducing coordination and fragmentation			
Strategy				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
N/A	• conduct Southern African regional SAR workshop	2010	ICAO	2-3 June Workshop in Niger.
	• establish collaborative decision making process	2011 – 2012	ICAO/States	Not started
	• develop needs assessment and gap analysis	2011 – 2012	APIRG	Not started
	• develop Southern African regional action plan	2011 – 2012	APIRG	Not started
	• conduct regional SAR Administrators training and SAR Mission Coordinators training	2011 – 2012	ICAO	Not started
	• determine regional organisation, functions and responsibilities, accommodation and equipment needs.	2011 – 2012	APIRG	Not started
	• produce draft legislation, regulations, operational procedures, letters of agreement SAR plans and safety management policies for regional SAR provision using IAMSAR manual as guidance.	2010 – 2012	APIRG	Implementation on a continuous basis
	• determine future training needs and develop training plans	2010 – 2011	APIRG	Implementation on a continuous basis

	• develop ➢ alerting procedures ➢ resource databases ➢ interface procedures with aerodrome emergency procedures and generic disaster response providers ➢ RCC check lists ➢ staffing, proficiency and certification plans ➢ preventive SAR programmes ➢ quality programmes ➢ education and awareness programmes ➢ in-flight emergency response procedures	2011 – 2012	States	Not started
	• conduct training as required	2010 – Permanent	States	Implementation on a continuous basis
	• conduct SAR exercises required	2012 - Permanent	States	Not started
	• monitor implementation process	As appropriate	ICAO/States	Not started
Linkage to GPIs	N/A			

---- END ----

PERFORMANCE FRAMEWORK FORMS FOR WGS-84 AND E-TOD IMPLEMENTATION
AIM PERFORMANCE OBJECTIVES

NATIONAL PERFORMANCE OBJECTIVE **IMPLEMENTATION OF WGS-84 AND ELECTRONIC TERRAIN AND OBSTACLE DATA**				
Benefits				
Environment	none			
Efficiency	required by Performance Based Navigation support approach and departure procedure design and implementation improve aircraft operating limitations analysis support aeronautical chart production and on-board databases			
Safety	improve situational awareness support determination of emergency contingency procedures support technologies such as ground proximity and minimum safe altitude warning systems			
KPI Status of implementation of WGS-84 in the AFI Region Status of implementation of eTOD in the AFI Region (for areas 1 & 4)				
Proposed Metrics: Number of States having implemented WGS-84 Number of States having implemented a number of PBN components (based on WGS-84) Number of States having organized eTOD awareness campaigns and training programs Number of States having implemented eTOD for Areas 1 & 4				
Strategy **Short term (2010)** **Medium term (2011 - 2015)**				
ATM OC COMPONENTS	**TASKS**	**TIMEFRAME START-END**	**RESPONSIBILITY**	**STATUS**
ATM CM	Electronic terrain and obstacle data (eTOD) Share experience and resources in the implementation of eTOD through the establishment of an eTOD working group.	2008-2011	APIRG States	Valid
	Report requirements and monitor implementation status of eTOD using a new AIS Table of the AFI FASID (Ref. Appendix B). Develop e-TOD implementation plan as per the implementation template endorsed by the AFI e-TOD WG/1 Meeting.	2009-ongoing	APIRG States	valid
	Develop a high level policy for the management of a national eTOD Programme.	2008- 2011	States	valid
	Provide terrain and obstacle data for Area 1;	2008-2010	States	valid
	Provide terrain and obstacle data for Area 4;	2008-2010	States	valid
	Provide terrain and obstacle data for Area 2;	2015	States	valid
	Provide terrain and obstacle data for Area 3;	2015	States	valid
ATM AUO	WGS-84 Report requirements and monitor implementation status of WGS-84 using the AIS-5 Table of the AFI FASID.	Ongoing	APIRG States	Valid
Linkage to GPIs	GPI-9: Situational awareness;GPI-11: RNP and RNAV SIDs and STARs; GPI-18: Aeronautical Information;GPI-20: WGS-84;GPI-21: Navigation Systems			

10A-1
ATM/AIM/SAR SG/12
APPENDIX 10A to Report on Agenda Item 10

MINIMUM CNS/ATM DEFICIENCIES REPORTING LIST
TEMPLATE

Item No	Deficiencies				Corrective Action			
	ICAO Reference Document & GPIs	**Description**	**Date first reported**	**Remarks/ Impact of non-implementation**	**Action by States**	**Action taken/planned by State (including timelines/target dates)**	**Identified implementation impediment and action thereon**	**Status**
CLASSIFICATION OF AIRSPACES [Annex 11, 2.6]								
1.	[Annex 11 Para 2.3] [AFI/7 Rec. 5/21] GPI-4	**Lack of provision of area control service**		**Inefficient and unsafe provision of ATS**				
PERFORMANCE-BASED NAVIGATION [Annex 11, 2.7] [A37 Resolution]								
2.	[Annex 11, Para 2.7] AFI/7 Rec. 6/9	**Lack of implementation of PBN**		Will not achieve targets set as part of Global PBN implementation goals				

MINIMUM CNS/ATM DEFICIENCIES REPORTING LIST
TEMPLATE

Item No	Deficiencies				Corrective Action			
	ICAO Reference Document & GPIs	**Description**	**Date first reported**	**Remarks/ Impact of non-implementation**	**Action by States**	**Action taken/planned by State (including timelines/target dates)**	**Identified implementation impediment and action thereon**	**Status**
3.	**[A37 Resolution]** [AFI/7 Conc. 5/7] **GPI-5, GPI-11, GPI-21**	**Implementation of RNAV and RNP operations**						
4.	[A37 Resolution] **GPI-5, GPI-14, GPI-21**	**Implementation of approach procedures with vertical guidance (APV)**						
5.	[A37 Resolution] **GPI-5, GPI-14, GPI-21**	**Implementation of LNAV only procedures**						
6.	[AFI/7, Rec 5/16] GPI-5	State database of approval status						

MINIMUM CNS/ATM DEFICIENCIES REPORTING LIST
TEMPLATE

Item No	Deficiencies				Corrective Action			
	ICAO Reference Document & GPIs	**Description**	**Date first reported**	**Remarks/ Impact of non-implementation**	**Action by States**	**Action taken/planned by State (including timelines/target dates)**	**Identified implementation impediment and action thereon**	**Status**
7.	[Annex 11, 2.27.1]	States Safety Plan (SSP)						
8.	[Annex 11, 2.27.3] [PANS-ATM, Chapter 2]	**Safety management system (SMS)**		Cannot achieve or guarantee acceptable level of safety in the provision of ATS				
LANGUAGE PROFICIENCY [Annex 11, 2.29]								
9.	[Annex 1 Annex 11] [A37-10 Resolution] [AFI/7 RAN]	Language proficiency						

MINIMUM CNS/ATM DEFICIENCIES REPORTING LIST
TEMPLATE

Item No	Deficiencies				Corrective Action			
	ICAO Reference Document & GPIs	**Description**	**Date first reported**	**Remarks/ Impact of non-implementation**	**Action by States**	**Action taken/planned by State (including timelines/target dates)**	**Identified implementation impediment and action thereon**	**Status**
10.	[PANS-ATM Chapter 12]	Non use of appropriate language for ATS provision		Can result in confusion and misinterpretation of instructions which can impact on safety of air navigation				
AIRSPACE MANAGEMENT (ASM)								
11.	[AFI/7, Rec. 5/1] GPI-7	**Cooperative approach to airspace management**		Lack of safe, orderly and expeditious flow of air traffic Lack of efficiency in upper airspace management				
12.	[Annex 11 Para 2.12]	**Non standard use of ATS Route designators**		Confusion/misinterpretation of ATC requirements for position reports that can affect situation awareness and lead to provision of non standard separation minima by ATC Units.				

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Item No	Deficiencies				Corrective Action			
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13.	[PANS-ATM Chapter 2]	**Uncoordinated use of waypoints (5LNCs)**		Conflicting waypoints (having same name but different coordinates Similar pronunciation of waypoints located within close proximity				
14.	[AFI/7, Rec. 5/3] **[Annex 11 Para 2.17, 2.30]** GPI-1	Civil/military coordination		Lack of effective civil/military coordination resulting in unsafe and inefficient use of airspace				
15.	[Annex 11 Para 2.12]	Non implementation of Table of ATS 1		Lack of route continuity across the region Inefficient use of airpsce				

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16.	[AFI/7, Rec. 5/2] [Annex 11]	**Contingency planning**		Uncoordinated and unsafe operation of aircraft during disruption of ATS within affected airspace(s).				
17.	[LIM AFI, Rec. 2/1] **GPI-3, GPI-4**	Plane of division between the lower and upper airspace		Non applicability of uniform division between lower and upper airspace across FIRs and ICAO Regions				
18.	[AFI/7, Rec. 5/5]	Publication of interception of civil aircraft information in aeronautical information publications		Lack of clear procedures applicable for interception of civil aircraft				
19.	[AFI/7, Rec. 5/10] [Annex 11] [Doc 9426] GPI-11	Establishment of standard departure and arrival routes		Lack of safe, orderly and expeditious flow of air traffic				

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20.	[AFI/7, Rec. 5/4]	Ratification of Article 3 *bis* of the Convention on International Civil Aviation						
AIR TRAFFIC SERVICES (ATS)								
21.	[Annex 11 Chapter 3,4&5]	Implementation of ATS provisions		Unsafe provisions of ATS				
22.	[Annex 11 Para 2.3] [AFI/RAN Rec 5/21]	Lack of provision of area control service		Inefficient and unsafe provision of ATS				
23.	[AFI/7 RAN Rec 14/7] [Annex 1]	Lack of trained and competent personnel in the provision of ATS		Unsafe provision of ATS				

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24.	[PANS ATM Chapter 10]	Operational Letters of Agreements between ATS units		Unsafe operation of traffic due to outdated LOAs Unsafe operation of traffic due to lack of LOAs				
25.	[AFI/7, Rec. 5/6]	Operational Letter of Agreement between ATS and military units		Lack of uniformity in application of ICAO standards relating to interception of civil aircraft				
26.	[PANS-ATM Chapter 4]	Poor ATC proficiency and lack of proper ATC procedures		Inconsistent and unsafe provision of ATS				
27.	[AFI/7, Rec. 5/22]	Repetitive flight plans						
28.	[AFI/7, Rec. 5/26]	Reporting and analysis of ATS incidents						
29.	GPI-2	RVSM approvals and monitoring		Lack of updated information on RVSM approved aircraft				

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30.	[APIRG Conc.17/43]	**Application of strategic lateral offset procedures (SLOP)**		Lack of direct routings Lack of efficiency in aircraft operations				
31.	[PANS-ATM] [Doc 7030]	RVSM flight levels restriction		Non-efficient use of RVSM airspace				
32.	[AFI/6, Rec. 7/11]	Compliance with standard radiotelephony phraseologies and procedures		Lack of applicability of standard radiotelephony phraseologies and procedures can create confusion and impact on safety of air navigation				
33.	[PANS-ATM Chapter 5]	Use of non- standard separation minima		Increased potential for air traffic incidents including accidents				
34.	[SP/RAN] [Annex 11 Para 3.3.5.1]	Non provision of RMA data		Insufficient data results in incomplete safety assessment by ARMA				

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35.	[Annex 11 Chapter 7]	Non provision of Met information at ATS units		Lack of provision of timely and accurate met information to pilots can affect operational decisions and safety of operations				
FLIGHT INFORMATION SERVICE (FIS)								
36.	[AFI/6, Rec. 6/12]	**Provision of aerodrome flight information service**		Lack of AFIS can impact on safety of air navigation				
37.	[AFI/7, Rec. 5/12] GPI-22	**Implementation of VHF radio coverage**		Non availability of two-way communication between ATS units and aircraft				
38.	[AFI/6, Rec. 6/15] GPI-4	Air traffic advisory service						

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ATS REQUIREMENTS FOR AERONAUTICAL FIXED SERVICE COMMUNICATIONS								
39.	[LIM AFI, Rec. 10/36] GPI-22	Implementation of ATS direct speech circuits						
40.	[AFI/7, Rec. 5/24] GPI-22	**Improvement of communications**						
AERONAUTICAL INFORMATION MANAGEMENT (AIM)								
41.	[Annex 15 Para 3.7.1]	**Non implementation of WGS-84**		Unable to implement basic PBN requirements				
42.	[Annex 15 Para 4.1- 4.2]	**Non standard format of AIP**		Difficulty to locate essential safety information relevant to conditions of services				

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43.	[Annex 15 Para 5]	**Lack of regular and effective updating of AIP**		Lack of updated information can lead to safety of air navigation being compromised				
44.	[Annex 15, Para 3.1.1.2, 3.1.4, 3.1.6, 3.2.1 & 4.1]	**AIP containing conflicting/misleading information within the different sections**		Can cause confusion as to the accuracy and reliability of information that can be utilised by users				
45.	[Annex 15, Para 5]	**Lack of implementation of AIRAC system**		Publication of critical aeronautical information will not follow standard procedure and can impact on safety of air navigation				
46.	[Annex 15, Para 5]	**Lack of timely issuance of notams**		Non- availability of critical aeronautical information via notams				
47.	Annex 4, [Para 3.2, 7.2, 13.2 & 16.2] [Annex 15, Para 4.2.3]	**Non production of aeronautical charts appropriate to the State**		Lack of critical information essential for safety of air navigation				

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48.	[Annex 4]	**Non use of standard units of measurement**		Can impact on safety of air navigation				
49.	[Annex 15, Para 3.2]	**Non implementation of AIS Quality Management System (QMS)**		Cannot guarantee quality and accuracy of aeronautical data being published in the AIP				
50.	[Doc 8126, Para 3.2.2 & 3.3]	**Lack of effective AIS system**		Processes and procedures relating to AIS will not be reliable and standardised				
51.	[Annex 15, Para 3.6.5]	**Lack of AIS automation**		Increases the chance of human errors during processing of aeronautical information and reduces efficiency of AIS				
52.	[Annex 15, Para 8.1]	**Non provision of pre-flight information service at international airports**		Lack of pre-flight information can affect flight planning by users and safety of air navigation				
53.	[Annex 15, Para 8.1]	**Lack of AIS Aerodrome Units at International Airports**		Cannot guarantee provisions of AIS				

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54.	[Annex 15, Para 3.2]	**Lack of adequate training of AIS personnel**		Inadequate human resources to sustain the provision of AIS				
ATS REQUIREMENT FOR OPERATIONAL FLIGHT INFORMATION								
55.	[AFI/7, Rec. 5/14] GPI-19, GPI-22	**HF and VHF VOLMET broadcasts**						
COMMUNICATIONS								
56.	[AFI/7, Rec. 9/7] GPI-22	**Aeronautical fixed telecommunication network (AFTN)**						
57.	[AFI/7, Rec. 9/5] GPI-22	AFTN COM centre management						

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58.	[AFI/7, Rec. 9/4] GPI-22	AFTN circuits/performance						
59.	[AFI/7, Rec. 9/3] GPI-22	**AFTN efficiency**						
60.	[AFI/6, Rec. 12/26] GPI-22	**AFS personnel training**						
61.	[LIM AFI, Rec. 7/13] GPI-22	**Liaison visits by communication centre personnel**						
62.	[AFI/7, Rec. 9/10] GPI-19, GPI-22	**Satellite broadcast**						

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63.	[AFI/6, Rec. 13/4] GPI-22, GPI-23	**Provision of SELCAL**						
64.	[LIM AFI, Rec. 8/5] GPI-22, GPI-23	Elimination of interference on AMS frequencies						
65.	[LIM AFI, Rec. 8/6] GPI-22, GPI-23	Measures to reduce harmful interference from carrier systems						
66.	GPI-22, GPI-23	VHF frequency utilization list						
67.	[AFI/6, Rec. 13/13] GPI-22, GPI-23	Notification of frequency assignments						

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68.	[AFI/6, Rec. 13/14] GPI-22, GPI-23	**VHF channels for aerodrome and approach control**						
69.	[Annex 11, Chapter 6]	**Lack of essential communication facilities to support the provisions of ATS (internal and external)**		Lack of coordination of flights Unsafe operation of flights with increased risks of incidents				
70.	[APIRG Conc. 13/18] GPI-22, GPI-23	Frequency stability and effective adjacent channel rejection characteristic in the VHF mobile						
71.	[AFI/6, Rec. 13/3]	Improved use of the aeronautical mobile service (HF)						

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72.	[APIRG Conc.17/25] GPI-17, GPI-22	**Implementation of controller-pilot data link communications (CPDLC)**		Congestion in communication No assurance of two-way communications between ATS and aircraft where VHF/HF communication is not available or unreliable				
73.	[AFI/6, Rec. 13/12, FASID Table ATS 2] GPI-19, GPI-22	**HF VOLMET broadcasts**						
NAVIGATION (FASID Table CNS 3)								
74.	GPI-21, GPI-23	Planning principles for radio navigation aids						

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75.	[AFI/6, Rec. 14/1] GPI-21	Testing of radio navigation aids						
76.	[AFI/6, Rec. 14/3] GPI-21	Reliability of operation of radio navigation aids						
77.	[AFI/6, Rec. 14/4] GPI-21, GPI-23	**Notification of frequency assignments to radio navigation aids**						
78.	[AFI/7, Conc. 10/1] GPI-21	**Flight checking of radio navigation aids**						
79.	[AFI/7, Rec. 10/2] GPI-21, GPI-23	Geographical separation criteria for VOR and/or VOR/DME installations in the AFI region						

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80.	[AFI/7, Rec. 10/3] GPI-21, GPI-23	**Geographical separation criteria for ILS installations in the AFI region**						
81.	[LIM AFI, Rec. 9/3] GPI-23	**Frequency utilization lists LF/MF, 108 MHz to 117.975 MHz and 960 MHz to 1 215 MHz bands**						
82.	GPI-23	Geographical separation criteria for VHF air-ground communications						
SURVEILLANCE (FASID Tables CNS 4A and 4B)								
83.	[APIRG Conc.17/31] GPI-9, GPI-17	**Implementation of automatic dependent surveillance (ADS-C)**						

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84.	[AFI/7, Conc. 11/2] GPI-9, GPI-17	Application of procedures for 24-bit aircraft address assignment						
85.	[PANS-ATM Chapter 8]	Lack of essential surveillance facilities to support the provisions of ATS		Ineffective and inefficient surveillance facilities can impact on outcome of emergencies				
SEARCH AND RESCUE (SAR)								
86.	[Annex 12, Chapter 3] AFI/7 Rec. 6/3	Lack of Search and Rescue Agreements between neighboring States		Lack of SAR agreements can be detrimental to safety of persons in distress where searches overlap national boundaries.				

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87.	[Annex 12, Section 4.3]	Search and rescue units		Lack of adequately trained search and rescue units and adequate survival and medical supplies can seriously affect the conduct and outcome of SAR operation				
88.	[Annex 12, Section 4.4]	Search and rescue exercises		Lack of regular training of search and rescue personnel and conduct of regular search and rescue exercises can prevent achievement of maximum efficiency in search and rescue operation.				
89.	AFI/7 Rec. 6/1 AFI/7 Rec. 6/2	Satellite aided search and rescue	2006	Lack of implementation will result in difficulty in detection, identification and location of activated 406 Mhz ELTs and loss of valuable time for SAR				
REDUCED VERTICAL SEPARATION MINIMA (RVSM)								

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90.	AFI/RAN 8 Rec. 5/21	No safety data		No contribution to CRA	CAAs/ACCs to periodically submit data to ARMA	Target date: 1/8/2011		
91.	Annex 6	No records of Approvals/ Withdrawals	2006	RVSM safety reduction in separation	RVSM Approvals/Withdrawals to be submitted to ARMA (F2, F3)	Target date: 1/8/2011		
92.	Annex 6	No or limited Height Monitoring	2006	No monitoring of ASE	CAAs to comply with Height Monitoring Plan	Target date: 1/8/2011		

Note: ICAO Council definition of a Deficiency:

A deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation.

REVISED TERMS OF REFERENCE (TOR) OF THE AIR TRAFFIC MANAGEMENT/AERONAUTICAL INFORMATION MANAGEMENT/ SEARCH AND RESCUE SUB-GROUP (ATM/AIM/SAR/ SG)

1. TERMS OF REFERENCE

a) Support the implementation of a performance based transition to the ATM system envisaged in the Global ATM Operational Concept, the Global Air Navigation Plan and in accordance with the regional performance objectives,

b) Ensure that the planning and implementation of ATM systems in the AFI Region, is coherent and facilitates the objective of achieving seamlessness in the air navigation system, interoperability and harmonization within the Region and with other Regions.

c) Keep under review the adequacy of requirements in the fields of Air Traffic Management, Search and Rescue, PANS-OPS, Aeronautical Information Services, as well as Aeronautical Charts, taking into account, *inter alia,* changes in user requirements, the evolution in operational requirements and technological developments.

d) Identify, State by State, those specific deficiencies and problems that constitute major obstacles to the provision of efficient air traffic management, aeronautical information services and search and rescue services and recommend specific measures to eliminate them.

2. WORK PROGRAMME

No.	Task Description	Priority	Target Date
1.	Analyse the operational implications of the introduction of CNS/ATM systems in the fields of ATM, SAR and AIM/MAP and propose any required actions with a view to ensuring their smooth integration in the operational environment.	A	ongoing
2.	Consider problems and make specific recommendations relating to ATM interface issues with other regions.	B	ongoing
3.	Monitor achievements and progress in the implementation of RVSM, provide recommendations improvement and support the functions of the ARMA.	A	ongoing
4.	Identify deficiencies in RVSM implementation, propose solutions and monitor correction actions	A	ongoing
5.	Review the Regional requirements air traffic control service and surveillance, monitor and support implementation	B	Oct 10
6.	Taking into consideration the Regional performance objectives relating to PBN implementation, Review the existing ATS route network (including RNAV routes) on a systematic basis with a view to achieving an optimum flow of air traffic while keeping flight distances of individual flights to a minimum. (AFI/7 Rec.5/8) (SP AFI RAN)	A	Complete user requirement by Oct 10 PRND TF agreement Apr 11
7.	Monitor and support the development and update of ATM contingency arrangements	B	ongoing

No.	Task Description	Priority	Target Date
8.	Monitor trends on unsatisfactory condition (including incidents) reports through the TAG, IATA AIAG and similar mechanisms recommend action as appropriate	A	ongoing
9.	Develop standard auditing and proficiency maintenance procedures to be used by States to assess the capability/competence of any ATS unit as well as monitor the implementation of uniform proficiency assessment for ATS personnel. (AFI/7 Conc 5/27) (Comment – *Perhaps this needs to be developed and finished ASAP. A Working Group could draft & circulate)*	C	Oct 10
10.	Review the requirements and monitor the implementation of Search and Rescue Services	B	First Revision Oct 10
11.	Support the development of sub-regional SAR bodies	B	ongoing
12.	Promote and support States' efforts in the development of SAR agreements.	A	Review progress every Apr/May
13.	Taking into considering the Regional performance objectives that have been formulated by the SP AFI RAN 2008: – Develop further the Regional performance objectives using the Performance Framework Forms – Update the Regional performance objectives, particularly with regard to identification of and assignment of detailed tasks, and identifying deliverables with deadlines – Monitor implementation	A	Initial development by Oct 10
14.	Review the requirements and monitor the implementation of AIM and MAP services	~~B~~ (A)	ongoing
15.	Analyse, review and monitor shortcomings and deficiencies in the fields of ATM/SAR, PANS-OPS and AIM/MAP, propose measures to eliminate the shortcomings	A	ongoing

Priority:

A. High priority tasks, on which work should be speeded up;
B. Medium priority tasks, on which work should be undertaken as soon as possible, but without detriment to priority A tasks;
C. Lesser priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A and B tasks.

3. **COMPOSITION**

Algeria, Angola, Burkina Faso, Cameroon, Congo, Democratic Republic of Congo (DRC), Côte d'Ivoire, Egypt, Ethiopia, France, Gabon, Ghana, Guinea, Kenya, Madagascar, Malawi, Mauritania, Morocco, Niger, Nigeria, Rwanda, Senegal, Spain, South Africa, Sudan, Uganda, Tanzania, Togo, Tunisia, Zambia, Zimbabwe, ASECNA, IATA, IFALPA and IFATCA.

PROVISIONAL AGENDA FOR ATM/AIM/SAR SG/13

Strategic Objective	Agenda Item No.	Subject
A	**1**	Adoption of provisional agenda and Election of the Chairperson and Vice Chairperson
A	**2**	Follow-up on SP AFI RAN Recommendations, Conclusions and Decisions within the Framework of APIRG relevant to the ATS/AIS/SAR SG
A	**3**	APIRG Performance Objectives
A	**4**	CNS/ATM Coordination Issues
A	**5**	RVSM operations and monitoring
A	**6**	Performance Based Navigation (PBN) and AFI ATS Route Network
A	**7**	ATS Safety Management Systems
A	**8**	Contingency Arrangements
A	**9**	Search and Rescue (SAR) and Civil/Military Coordination
A	**10**	Transition to new ICAO Flight Plan content
A	**11**	AIS/MAP issues
A	**12**	Review of Air Navigation deficiencies in the AIS, ATM, MAP and SAR fields
A	**13**	Sub-Group Appellation and Future Work Programme
A	**14**	Any other business

----- END -----