

INTERNATIONAL CIVIL AVIATION ORGANIZATION



**AFI PLANNING
AND IMPLEMENTATION REGIONAL GROUP (APIRG)**

**REPORT OF THE THIRD MEETING OF THE
AFI OPMET MANAGEMENT TASK FORCE (AFI MTF/3)**

(Dakar, Senegal, 27- 28 June 2011)

Prepared by the Secretary of AFI MTF/3

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TABLE OF CONTENTS

LIST OF RECOMMENDATIONS	iv
LIST OF DECISIONS	v
PART 1 - HISTORY OF THE MEETING.....	1
1.1 Date and Venue of the Meeting	1
1.2 Officers and Secretariat	1
1.3 Attendance	1
1.4 Working Languages.....	1
1.5 Agenda	2
1.6. Documentation and Working Language.....	2
1.7 Recommendations	2
PART II REPORT ON AGENDA ITEMS.....	3
Agenda Item 1: Election of Chairman and Vice-Chairman of the Subgroup	3
Agenda Item 2: Review of MTF/2 Recommendations, MET/SG/9 and APIRG/17 Conclusions and Decisions related to OPMET	4
Agenda Item 3a): Review of AFI Regional SIGMET Guide.....	5
Agenda Item 3 b): Review of the AMBEX Handbook	7
Agenda Item 3 c): AFI Interface Contrôle Document	11
Agenda Item 3 d) : OPMET Requirements.....	12
Agenda Item 4 : Future Developments with regard to OPMET Information	13
Agenda Item 5 : Terms of Reference, Compositions and Future Work Programme.....	14
Agenda Item 6: Any other business.....	15
 APPENDIX	
Appendix A: List of participants.....	A-1
Appendix B: List of Documents	B-1
Appendix C: Status of Implementation of MTF/2 Recommendations/Conclusion	C-1
Appendix D: Africa and Indian Ocean (AFI) Regional SIGMET GUIDE	D-1
Appendix E: Summary of Dakar RODB Implementation Status	E-1
Appendix F: AFI MET Bulletin Exchange (AMBEX) Handbook	F-1
Appendix G: AFI OPMET DB Catalogue Section 1	G-1
Appendix H: Proposed Amendment to OPMET Information.....	H-1
Appendix I: Deleted Aerodromes MET 2A	I-1
Appendix J: Terms of Reference, Work programme and composition of the AFI OPMET (MTF).....	J-1
Appendix K: Work Programme	K-1

LIST OF RECOMMENDATIONS

Number		Page
3/2	Provision of WS SIGMET advisory information by Pretoria RODB during AFI SIGMET tests	5
3/3	Amendment to the AFI Regional SIGMET Guide	6
3/4	Implementation of a AFTN Circuit between Dakar and Pretoria RODB	7
3/7	Amendment Proposals to the AMBEX HANDBOOK	8
3/10	EUR SIGMET monitoring	9
3/11	Exchanging Routing Tables between AFI IROG and ROC Toulouse	10
3/12	Review of the OPMET routing by the AFI IROGs	10
3/13	AFI OPMET data catalogue	10
3/14	Adaptation of the DMG Time Validation Criteria	11
3/15	Revision of OPMET Data Requirements	12
3/16	Preparation of AFI XML Transition Plan	14

LIST OF DECISIONS

Number		Page
3/1	Status of Implementation of OPMET related Recommendations, Decisions and Conclusions	4
3/5	Compilation and Distribution of Bulletins as per Appendix C to the AMBEX Handbook	7
3/6	Updating of the AFI Interface Control Document	8
3/8	Designating a Coordinator and setting up of the due date	9
3/9	AFTN Adresses of adjacent IROG in the AMBEX Handbook	9
3/17	Future work programme of the MTF	11

PART 1 - HISTORY OF THE MEETING

1.1 Date and Venue of the Meeting

1.1.1 The Third Meeting of the AFI OPMET Management Task Force (MTF/3) was held from 27 to 28 June 2011 at the new premises of the ICAO Western and Central African (WACAF) Regional Office located at Leopold Sedar Senghor International Airport, Dakar, Senegal.

1.2 Officers and Secretariat

1.2.1 Mr. Gnang Evalou, Acting ICAO Regional Director, WACAF Office, Dakar, opened the meeting. In his remarks, he welcomed all the participants on behalf of the Dakar Regional Director Mr. Mam Sait Jallow, for the Third AFI OPMET Management Task Force Meeting (OPMET MTF/3) being organized under the aegis of ICAO. He expressed his appreciation to the participants attending the third meeting of the MTF, and highlighted the tasks to be accomplished during the meeting.

1.2.2 Mr. Gnang recalled that the OPMET MTF was established by APIRG during its 16th meeting with the objective to enhance operational meteorological (OPMET) information exchange in the AFI region and adjacent regions by regularly reviewing the OPMET exchange scheme and developing proposals for their optimization, developing monitoring and management procedures related to the AFI MET Bulletin Exchange (AMBEX) scheme and other exchange of OPMET information, and updating the regional guidance material related to OPMET exchange, in the interest of safety, efficiency and economy of civil aviation.

1.2.3 He stated that he was convinced that this Task Force would provide substantial material for the Tenth Meeting of the Meteorology Sub-Group (MET/SG/10) which would be held back to back with the MTF/3 Meeting.

1.2.4 The MTF/3 meeting was chaired by Mr Rakotoriamna Nirison, Director General of the Civil Aviation Authority of Madagascar. The secretary of the Meeting was Mr. Okossi A. Benoit, Regional Officer, Aeronautical Meteorology for the ICAO Western and Central African (WACAF) Office, Dakar, Senegal, assisted by Mr. Vitalis Ahago, Regional Officer, Aeronautical Meteorology for Eastern and Southern African (ESAF) Office, Nairobi and Mrs Diagne Coumba, Assistant to RO/MET, WACAF.

1.3 Attendance

1.3.1 The meeting was attended by Twenty Two (22) participants from Eight (8) Member States/Organisations including DMG and ASECNA.

1.3.2 The list of participants is at [Appendix A](#).

1.4 Working Languages

1.4.1 The discussions were conducted in the English language only as per APIRG procedures concerning the Task Force.

1.5 Agenda

1.5.1 The following Agenda was adopted:

- Agenda Item 1: Election of Chairman and Vice-Chairman of the Task Force and Adoption of the Agenda
- Agenda Item 2: Review of MTF/2 Recommendations, MET/SG/9 and APIRG/17 Conclusions and Decisions related to OPMET
- Agenda Item 3: Review of regional material on OPMET Exchange
- a) AFI Regional SIGMET Guide
 - b) AMBEX Handbook
 - c) AFI ICD
 - d) OPMET related FASID Tables
- Agenda Item 4: Future Developments with regards to OPMET Information
- Agenda Item 5: Terms of reference, work programme and composition of the AFI OPMET MTF
- Agenda Item 6 : Any other business

1.6 Documentation and Working Language

1.6.1 The working language of the Meeting as well as all documentation were in English.

1.6.2 Eighteen (18) Working Papers and three (3) Information Papers were presented at the Meeting. The List of Papers is included at **Appendix B** to this Report.

1.7 Recommendations

1.7.1 The OPMET MTF recorded its action in the form of recommendations and decisions, with the following significance:

- Decisions deal with matters of concern only to the OPMET MTF;
- Recommendations, when reviewed by the MET/SG, became Draft Conclusions for matters which in accordance with the APIRG Terms of Reference, merit the attention of States or on which further action will be initiated by ICAO in accordance with established procedures, or Draft Decisions, when approved by MET/SG, deal with matters of concern only to the MET/SG.

PART II REPORT ON AGENDA ITEMS

Agenda Item 1: Election of Chairman and Vice-Chairman of the Subgroup

1.1 In accordance with the relevant provisions contained in the APIRG Procedural Handbook, the Sub-group elected its Chairperson and Vice-Chairperson. Mr. RAKATORIMANA Nirison, Director General Civil Aviation Authority (CAA), Madagascar and Mr. Gicheru Winstone Njugunan Chief Aeromet Inspector, Kenya, were elected Chairperson and Vice-Chairperson respectively.

1.2 The meeting congratulated Mr RAKATORIMANA Nirison for having been appointed the new Director General of the Madagascar CAA.

**Agenda Item 2: Review of MTF/2 Recommendations, MET/SG/9 and APIRG/17
Conclusions and Decisions related to OPMET**

2.1 The meeting recalled that the AFI OPMET MTF/2 held its second Meeting at the premises of the South African Weather Service at Tambo Aviation Weather Centre, Boardroom, Johannesburg, South Africa, from 6 to 7 September 2010. A number of Recommendations and Decisions adopted by MTF/2 were presented and reviewed by the meeting.

2.2 The AFI OPMET MTF/3 meeting adopted a total of seven Decisions and eleven Recommendations. Decisions deal with matters of concern only to the OPMET MTF; the Recommendations, when adopted by the MET/SG, became Draft Conclusions for matters which in accordance with the APIRG Terms of Reference, merit the attention of States or on which further action will be initiated by ICAO in accordance with established procedures, or Draft Decisions, when approved by MET/SG, deal with matters of concern only to the MET/SG.

2.3 The meeting noted with satisfaction the progress made so far in implementing the decisions and recommendations made by MTF/2 and APIRG/ 17 as shown in the **Appendix C** to this report and formulated the following decision:

**Decision 3/1 Status of Implementation of OPMET related Recommendations,
Decisions and Conclusions**

That, the Task Force continue updating its work program by considering the status of implementation of OPMET related Recommendations, Decisions and Conclusions of MTF, MET/SG and APIRG given in Appendix C to this report.

Agenda Item 3a): Review of AFI Regional SIGMET Guide

3.1 In reporting on the SIGMET implementation status report, the meeting was informed by the Dakar RODB on the following actions taken by ASECNA in implementing the issuance of SIGMET in ASECNA Flight Information Regions (FIRs):

- a) further to Decision 2/18 of the MTF/2 meeting on the awareness of MWO to issue SIGMET, ASECNA had implemented practical arrangements for the transfer of responsibilities between two MWOs covered by two ASECNA FIRs. Regarding non-ASECNA MWOs, ASECNA was willing to consider the feasibility of transferring responsibility from MWO that were no longer able to perform their obligations for any reason to an ASECNA MWO for a defined period, at the request of the States;
- b) In implementing Conclusion 17/74 of the APIRG/17 Meeting, in May 2011 ASECNA conducted a survey to update the SADIS 2G software for all its MWOs to take into account the advisory SIGMET tests in text format, received from Toulouse or Johannesburg;
- c) AFI SIGMET test results were automatically saved following Appendix J SIGMET Guide as per Recommendation 2/3 of the MTF/2 Meeting.

3.2 In reporting on the SIGMET implementation status report, the meeting was informed by the Pretoria RODB that the catalogues had also been updated to include non-scheduled data types WC, WS and WV SIGMET information as per Appendix 3.5C to the APIRG/17 Report.

3.3 The meeting was informed that South Africa as one of the hosts of the Regional SIGMET Advisory Centre (RSAC) for the period of the trial had invested in a tool, **Geocentric Information Briefing (GIB)** which could generate the SIGMET advisories in both text and graphical format. The tool was capable of generating advisory messages for the entire AFI Region.

3.4 The meeting noted that the tool could be used to assist the region during WS SIGMET tests by issuing the SIGMET advisories to AFI MWOs. The tool is capable of generating and disseminating advisories for any other weather phenomenon other than volcanic ash and tropical cyclone. The advisories generated using GIB could be disseminated through AFTN, SADIS and Internet. In this regard, the meeting formulated the following recommendation:

Recommendation 3/2 Provision of WS SIGMET advisory information by Pretoria RODB during AFI SIGMET tests

That, the facilities made available by Pretoria RODB Provider State for the on-going SIGMET advisory trials, could be utilized during AFI SIGMET tests to assist the AFI region with the provision of SIGMET advisory information for any other weather phenomenon other than tropical cyclone and volcanic ash.

Note: France who also provided such facility during SIGMET advisory trial may also propose such assistance for test purposes.

3.5 The meeting recalled that Conclusion 17/61 d) of APIRG/17 urged ICAO regional offices of Dakar and Nairobi to update the AFI SIGMET guide for additional details of VA and TC test procedures. In addition, Decision 2/16 of AFI OPMET MTF/2 recommended that Appendix J to the AFI SIGMET Guide be updated.

3.6 In accordance with the above information, the AFI Regional SIGMET Guide 7th Edition given in **Appendix D** to this report was amended to include additional details of VA and TC test procedures and the tools provided by South Africa. In this regard, the meeting formulated the following recommendation:

Recommendation 3/3: Amendment to the AFI Regional SIGMET Guide

That, the amendment to the SIGMET Guide given in Appendix D to this report, be endorsed as the AFI Regional SIGMET Guide Ninth Edition, Amendment 2.

Agenda Item 3 b): Review of the AMBEX Handbook

3.7 The Task Force recalled that in OPMET MTF/2 meeting in Johannesburg, South Africa called for a number of Recommendations and Decisions on the AMBEX scheme to be implemented by AFI RODBs. In addition, the APIRG/17 meeting also called for OPMET related Conclusions to be implemented by AFI RODBs. In this regard Dakar RODB presented the AMBEX implementation status report at Dakar RODB including MTF/2 Recommendations 2/3, 2/7, 2/8, 2/15, Decisions 2/6, 2/10, 1/18, APIRG/17 Conclusions 17/74, 17/75, 17/77, 17/78 and other implementations.

3.8 The summary of the implementation status is given in **Appendix E** to this report. Dakar RODB suggested a proposal to implement Recommended 2/7 of the MTF/2 Meeting related to the RODBs backup procedures. In this regard, the meeting formulated the following conclusion:

Recommendation 3/4: Implementation of a AFTN Circuit between Dakar and Pretoria RODB

That, Dakar and Pretoria RODBs investigate the best possible way to implement a backup circuit between the two RODBs for the implementation of the backup procedures between the RODBs, on time for the MTF/4 meeting.

3.9 The meeting was presented with the AMBEX implementation status report at Pretoria RODB from Pretoria RODB including MTF/2 Recommendations 2/3, 2/7, 2/8, 2/15, Decisions 2/6, 2/10, 1/18, APIRG/17 Conclusions 17/74, 17/75, 17/77, 17/78. As a result, the meeting was informed on the following:

- a. The monitoring system was fully automated and captures the needed statistic on the first Wednesday of each month. This activity started in January 2010 as per recommendation 2/3 of the AFI MTF/2 report.
- b. Pretoria RODB had since implemented the recently published AFI ICD procedures and has updated the catalogues accordingly. Further to this, the catalogues have been aligned with the latest version of the FASID MET2A and 2B, updated on 04/05/2011. The catalogues (OPMET and Bulletin) had also been updated to include non-scheduled data types WC, WS and WV SIGMET information as per Appendix 3.5C to the APIRG/17 Report.
- c. The bulletins are not received from other regions according to Appendix C to the AMBEX Handbook, 7th Edition.
- d. Pretoria RODB had implemented both AFTN and internet request reply service.

3.10 In accordance with the above information the meeting formulated the following decisions:

Decision 3/5- Compilation and Distribution of Bulletins as per Appendix C to the AMBEX Handbook

That, the secretariat of the AFI OPMET MTF be invited to:

- a) assist by contacting AFI States and request them to compile bulletins according to the AMBEX Plan, and
- b) contact other ICAO regions and invite adjacent IROGs to disseminate only those bulletins.

Decision 3/6- Updating of the AFI Interface Control Document

That, the URL: <http://aviation.weathersa.co.za/#showopmetdatabank?action=rqm> be published in the AFI Interface Control Document (AFI ICD).

3.11 The Task Force recalled that Decision 2/4 of MTF/2 calls for a development by Dakar and Pretoria RODB Managers of a draft OPMET time validation criteria for reception of data in the AMBEX Handbook. The results of this development were presented under the AMBEX scheme implementation reports; MTF/2 Decision 2/6 refers. In addition, the Task Force urged the Secretariat to update the AMBEX Handbook as per Recommendations 2/11, 2/12 and 2/13 of the MTF/2.

3.12 In this regard, the AMBEX Handbook given in **Appendix F** of this report had been updated. The meeting agreed that any amendments to the handbook should be submitted to the MET/SG for further review. The meeting then formulated the following recommendation:

Recommendation 3/7 Amendment Proposals to the AMBEX HANDBOOK

That, the amendment to the AMBEX Handbook given in Appendix F to this report, be endorsed as the AMBEX Handbook Seven Edition, Amendment 2.

3.13 The meeting recalled that the AFI RODB provider States were prompted to consider the need for backup procedures to be developed during MTF/2 meeting. In their effort to perform this task, the AFI RODBs informed the meeting that the development of backup procedures for Dakar and Pretoria RODB would require the synchronization of the databanks. Before this could be done the following needs to be investigated or put in place:

- a) Development of a common catalogue, based on FASID Tables MET 2A, for RODB Dakar and Pretoria
- b) The catalogues needs to be based on the AFI OPMET Interface Control Document (ICD)
- c) Once a common catalogue is developed and implemented, the analysis of how much volume of data will be required to be exchanged
- d) The knowledge of how much data will be exchanged between the two RODBs will inform a decision on infrastructure requirements i.e. data line capacity
- e) The RODBs are currently connected via a 19200kps ASCENIA VSAT-link. The capacity of this line will have to be investigated if it will be sufficient to handle extra data traffic
- f) Regional Meteorological Data Communication Network (RMDCN) may be used as an alternative should the current ASCENIA VSAT-link not have sufficient capacity
- g) An investigation into the current capacity at RODBs to handle extra data volumes

needs to be investigated.

3.14 In this regard, the RODBs found that there was still a lot of work to be done with regard to the development of backup procedures. The meeting was therefore invited to propose a new date for the conclusion of this massive task as well as to designate the coordinator for the core team of experts. The meeting then formulated the following decision:

Decision 3/8– Designating a Coordinator and setting up of the due date

That the RODB Managers be invited to designate a coordinator for the Core Team and provide implementation status report on time for the MTF/4 meeting.

3.15 The meeting recalled that the APIRG/16 Decision 16/54 called for the AFI OPMET MTF to keep the AMBEX Scheme and other OPMET exchange procedures under constant review and prepare proposals for the optimization of the schemes.

3.16 The meeting further recalled that the APIRG/17 conclusion 17/75 called for IROG Pretoria to distribute bulletins to IROG Toulouse, Bangkok, Jeddah and Rio de Janeiro. In reviewing the AMBEX handbook, it was noted that the AFTN addresses for these places with the exception of IROG Toulouse were not listed in Appendices A and B of the AMBEX Handbook. The meeting agreed to submit the following recommendation to the MET/SG meeting for further action. The Task Force then formulated the following decision:

Decision 3/9: AFTN Addresses of adjacent IROG in the AMBEX Handbook

That, Appendix A and B to the AFI AMBEX Handbook be updated by the MET/SG to reflect AFTN addresses for the IROG's Bangkok, Jeddah and Rio de Janeiro.

3.17 The meeting was informed that ROC Toulouse exchanges OPMET data, required globally, with the national centres in its Area of Responsibility (AoR), with the two other EUR ROCs (London and Vienna) and with the AFI region (Dakar and Pretoria IROGs). The meeting was further informed that ROC Toulouse was also the portal for VAAC Toulouse and was one of the three EUR databanks (Toulouse LFPWYZYX). Two times a year, a monitoring of non-regular data is undertaken in the EUR region, in September and February (1st to 14th of the month). The WS-Monitoring is conducted on the first Wednesday of those months whereas the WV-Monitoring is on the first Thursday the months, preceded by a test VAA, to verify the good reception of VAA in the EUR region. All EUR national centres participate to these monitoring, and actions are undertaken to improve the data exchange where necessary after analysis of the monitoring results. Some centres outside the EUR region are also invited to verify the good reception of SIGMET and VAA. In this regard, the meeting formulated the following recommendation:

Recommendation 3/10: EUR SIGMET monitoring

That, the two AFI RODBs be invited to monitor the reception of SIGMET during the regular EUR SIGMET test and report.

3.18 It was proposed that the two AFI IROGs send to Toulouse the bulletin headers and/or data they wish to receive. On reception of the requested data, ROC Toulouse would send the final routing table to the IROGs, so that they have a monitoring basis and may adapt the routing to AFI addresses, following the arrangements in their AoR.

3.19 It was also proposed that the two AFI IROGs send their routing table to the EUR addresses. It is therefore anticipated that this would provide (if necessary after multiple passes) a better situation where each IROG and ROC Toulouse would disseminate to and from their AoR, according to their regional air navigation plans. In this regard, the meeting formulated the following recommendation:

Recommendation 3/11: Exchanging Routing Tables between AFI IROG and ROC Toulouse

That, the two AFI IROGs and ROC Toulouse exchange their routing tables and verify their coherency.

3.20 It was proposed that a review be done by the two AFI IROGs to analyse received OPMET report/bulletins, verify that the routing is in place and to send the data to ROC Toulouse by using the AFTN address LFZZMAFI, and any GTS links to secure the data exchange. The meeting then formulated the following recommendation:

Recommendation 3/12: Review of the OPMET routing by the AFI IROGs

That,

- a) the AFI IROGs be invited to review their current routing tables, the OPMET status of reception, and if necessary, update the routing tables; and
- b) ICAO invites AFI States to solve OPMET production and routing issues.

Agenda Item 3 c): AFI Interface Contrôle Document

3.21 The meeting recalled that AFI OPMET Database Catalogue shall consist of lists of OPMET products that are required to be available in the AFI OPMET Databases, following the requirements by the AFI ANP. The proposed procedures and catalogue of OPMET bulletins at Dakar and Pretoria RODBs are provided in the **Appendix G** of this report as the AFI OPMET Database Catalogue.

3.22 The meeting agreed for the proposed data catalogue to be finalized and implemented by the RODBs. The meeting then formulated the following recommendation:

Recommendation 3/13 AFI OPMET data catalogue

That, the proposed data catalogue given in the Appendix G to this report be finalized by the RODB Managers and implemented by the RODB Provider States as the requirements for the AFI OPMET data catalogue.

3.23 The meeting recalled that the two RODBs were requested to jointly develop a draft time validation criteria for reception of data for inclusion in the AFI AMBEX Handbook. In addition, the monitoring statistics since 1st January 2011 were to be presented at this meeting.

3.24 Time validation criteria for data reception had been implemented by the two RODBs. The validation criteria implemented by Pretoria RODB was based on the criteria developed by the DMG for the EUR. The meeting noted that although the validation was done by both RODBs, the criteria used may not have been the same.

3.25 The meeting was informed that the validation criteria developed by the DMG were designed for EUR region. In order to develop the AFI validation criteria for inclusion in the AFI AMBEX Handbook, it would not be necessary to re-invent the wheel but to modify the provided criteria to meet the needs of AFI Region, then adapt it. The meeting then formulated the following recommendation:

Recommendation 3/14- Adaptation of the DMG Time Validation Criteria

That the time validation criteria developed by the DMG for the EUR be adapted to align it with the Air Navigation Plan (ANP) for the AFI Region and included in the AFI AMBEX Handbook for implemented by both Dakar and Pretoria.

Agenda Item 3 d) : OPMET Requirements

3.26 The meeting was informed that SADIOSPG/16 meeting held in Paris from 23 to 25 May 2011 provided information on OPMET included in Annex 1 to SADIS User Guide (SUG). The annex included OPMET information from both aerodrome operational planning (AOP) (i.e. aerodromes included in the AOP tables of the regional air navigation plans) and non-AOP aerodromes.

3.27 With regard to non-AOP aerodromes, the Sub-group was informed that non-availability of OPMET information from aerodromes listed in Annex 1, when notified by users, had been systematically brought to the attention of the States concerned by the appropriate ICAO regional office which had kept on monitoring such deficiencies until their resolution. The meeting was formed that such a real-time approach had turned out to be efficient and had led, in most cases, to the timely resolution of the deficiencies identified.

3.28 The Sub-group is informed that SADISOPSG Secretariat was requested to seek agreement from the States concerned to provide OPMET information from some 500 non-AOP aerodromes, in response to a request formulated by the International Air Transport Association (IATA). The Sub-Group was informed that the results of the study revealed that States agreed to provide OPMET information from only 25 aerodromes while the provision of OPMET information from six aerodromes had been discontinued. The Sub-group was then informed that, based on requests by IATA, long lists of additional requirements for OPMET information from non-AOP aerodromes had been included in State letters, year after year, and that as a result, normally only a small number of States had *formally* concurred with such requirements. The meeting was informed that repetitive State letters sent annually to the same States with an identical request could be counterproductive, in particular if the State has already clearly indicated their reluctance to provide OPMET information from the non-AOP aerodromes concerned. Under these circumstances, the Sub-group was informed that the time had come to keep track on the requests made and to ensure that a State that had refused the provision of OPMET information from their non-AOP aerodromes not be approached before three years had elapsed.

3.29 The Sub-group was informed that the proposal above attempted to render the requirements in line with OPMET data that was actually made available by States. In this regard, the Sub-group was informed that any proposed deletions could be undertaken by ICAO without the need for consulting the States concerned while any proposed additions would have to be endorsed by them. It was noted that only those aerodromes with location indicators included in the *Location Indicators* (Doc 7910) could be included in Annex 1 to the SUG.

3.30 In view of the above, the meeting agreed to formulate the following recommendation.

Recommendation 3/15:**Revision of OPMET Data Requirements****That:**

- a) information related to the requirements of OPMET data from non-AOP aerodromes as given in Appendix H, be submitted by ICAO Regional Offices to the concerned States for approval, before amending the AFI FASID MET Table 2A and Annex 1 to the SADIS User Guide (SUG);
- b) the aerodromes as listed in Appendix I to this report, be deleted from AFI FASID MET Table 2A.

Agenda Item 4 : Future Developments with regard to OPMET Information

4.1 The meeting recalled that in Task 6 (*Prepare regional plan for the transition to XML coded OPMET information in coordination with the relevant APIRG contributing bodies*) of the MTF work programme, the MTF/3 Meeting was urged to draft the AFI regional plan for the transition to XML coded OPMET information. The meeting was briefed on the on-going action undertaken in different WMO and ICAO groups.

4.2 In this regard, the meeting was informed of the following milestones envisaged by ICAO:

- a) **In 2013:** replacement of the BUFR code form by XML as far as the bilateral use of table-driven codes for METAR, SPECI and TAF are concerned;
- b) **In 2014:** endorsement of the future use of WXXM by the planned conjoint ICAO/WMO MET/AIM Divisional Meeting;
- c) **In 2016:** start of implementation of WXXM; and
- d) **In 2019/2022:** completion of implementation.

4.3 In view of the above, in the short term, **(2010-2013)**, ICAO is planning for the introduction of *enabling clauses* in Annex 3 to use XML for OPMET (METAR, SPECI and TAF), and also for tropical cyclone and volcanic ash advisories and SIGMET in graphical format. This will have little impact on telecommunications facilities since the XML-code form will be used on a bilateral basis only (most likely exchanged over the internet). Consequently, planning for the implementation of the use of XML for OPMET at this stage was considered to be too premature, and should therefore not be initiated before the planned MET/AIM Divisional Meeting in 2014 – which is expected to endorse the transition plan which would have its first milestone in 2016 (Amendment 77 to Annex 3). It was noted that there would be ample time after the Divisional Meeting to undertake the necessary regional planning.

4.4 With regard to the information provided above, the meeting considers that planning for the implementation of the use of XML for OPMET at this stage was too premature. The Task Force then formulated the following recommendation:

Recommendation 3/16: Preparation of AFI XML Transition Plan

That, the preparation of the AFI XML Transition Plan be postponed until the decision on the implementation of the use of XML for OPMET and the necessary XML code tables has been completed by the MET/AIM Divisional Meeting planned for 2014.

Agenda Item 5 : Terms of Reference, Compositions and Future Work Programme

5.1 The meeting recalled that the AFI OPMET MTF was established by Conclusion 16/54 of APIRG/16 meeting with terms of reference and composition as given in the **Appendix J** to this report. The Task Force held its first Meeting in Dakar, Senegal, in October 2009 and its second meeting in Johannesburg, South Africa, in September 2010.

5.2 The Task Force noted that the composition of the MTF and its Terms of Reference shown in **Appendix J** was as described by APIRG during the establishment of the AFI OPMET MTF. The Task Force recalled that the Terms of Reference reflect the overall tasks of the MTF and need to be revised only when major changes are introduced to the MTF programme. Furthermore, any change would have to be subject to a draft conclusion to be endorsed by APIRG. The meeting agreed that there was no need to amend the terms of reference at this meeting.

5.3 The meeting recalled that in accordance in with its Decision 2/1, “ *two successive absences without a written apology to the chairman by a member will automatically cause them to cease to be member*”, In this respect, four members; Ethiopia, Egypt, UK and Liberia ceased to be members of the AFI OPMET MTF. The meeting formulated the following decision in this regard:

Decision 10/17: Composition of the AFI OPMET MTF

That, in accordance with Decision 2/1 of the MTF/2 meeting, Ethiopia, Egypt UK and Liberia have ceased to be members of the AFI OPMET MTF.

5.4 The Task Force reviewed its work programme as shown in **Appendix K** to report taking into account the following elements:

- a) future work programme for 2012 to 2016; and
- b) executive summaries for each recurrent task.

5.5 It was noted that the work programme would be subjected to revision and consolidation in order to align it with the ICAO Business Plan and to better reflect the work that is being undertaken by the AFI OPMET MTF. The meeting then formulated the following decision:

Decision 3/18 — Future work programme of the MTF

That, the work programme of the AFI OPMET MTF be updated as shown in Appendix K.

Agenda Item 6: Any other business

6.1 The Task Force recognized the continuous necessity to schedule annual meetings of the MTF for the foreseeable future. Regarding the venue for the next meeting in 2012, it was noted that the task Force had just held its third meeting in Dakar, Senegal. In accordance with APIRG/17 Decision 17/80, the next meeting would be held in the Pretoria RODB Provider State.

6.2 The meeting agreed on the proposal that the AFI OPMET MTF/4 Meeting should be convened in South Africa.

Appendix A - List of Participants

N°	State/ Etat/ Organisation	Name/ Title	Address/	E-mail	Telephone/ Fax/
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Appendix B: PROVISIONNAL LIST OF WORKING/INFORMATION PAPERS

WP No	Agenda Item.	Subject	Presented by
A. WORKING PAPERS			
WP/01	1	Provisional Agenda	Secretariat
WP/02	2	Review of MTF/2 Recommendations, MET/SG/9 and APIRG/17 Conclusions and Decisions related to OPMET	Secretariat
WP/03	3 a)	Review of the AFI regional SIGMET Guide	Secretariat
WP/04	3 b)	Review of the AFI Meteorological Bulletin Exchange (AMBEX) Handbook	Secretariat
WP/05	3 b)	AMBEX implementation status report by Dakar RODB including the Implementation of Special AIREP by Dakar RODB (MTF/2, Rec. 2/3, 2/7, 2/8, 2/15; Dec. 2/6, 2/10, 2/18 and APIRG/17 Conc. 17/75, 77, 78)	Dakar/RODB
WP/06	3 b)	AMBEX implementation status report by Pretoria RODB (MTF/2, Rec. 2/3, 2/7, 2/8, Dec. 2/6, 2/10, 2/18 and APIRG/17 Conc. 17/75, 77, 78)	Pretoria/RODB
WP/07	3 c)	Review of the AFI ICD	Secretariat
WP/08	3 c)	Joined ICD implementation report (including the finalization of the AFI OPMET data catalog (Rec. 2/14); Time validation criteria for data reception (Dec. 2/4) and Monitoring Time Frames (Dec. 2/5)	Dakar and Pretoria RODBs (joined WP)
WP/09	3 d)	Review of OPMET related FASID Tables	Secretariat
WP/10	4	Future Developments with regards to OPMET information	Secretariat
WP/11	5	Terms of reference, work programme and composition of the AFI OPMET MTF	Secretariat
WP/12	3 b)	Report of the Core Team of Experts (<u>Kenya, Madagascar, Senegal and South Africa</u>) on the development of a back up procedure for the AFI RODBs (MTF/2 Rec. 2/9)	Core Team
WP/13	3 b)	Review of the AMBEX Handbook	South Africa
WP/14	3 a)	SIGMET Advisory Centre	South Africa
WP/15	3 b)	Data Management	France
WP/16	3 b)	Data Monitoring	France
WP/17	3 b)	Review of the AMBEX Handbook	ASECNA

IP No.	Agenda Item	Subject	Presented by
A. INFORMATION PAPERS			
IP/01		Information Bulletin	Secretariat
IP/02		List of Documents	Secretariat
IP/03		Working Arrangements	Secretariat

Appendix C

**STATUS OF IMPLEMENTATION OF MTF/2 RECOMMENDATIONS/CONCLUSIONS
AND OPMET RELATED CONCLUSIONS AND DECISIONS FROM MET/SG/9 AND APIRG/17**

Rec/Conc/Dec No.	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status/Action Taken
MTF/2 Recommendation 2/1: <i>(Decision)</i>	Composition of the AFI OPMET MTF	That, a) a Member of the Task Force who is unable to attend the MTF's meeting should notify the Chairman and the Secretary accordingly; b) two successive absences without a written apology to the Chairman by a member will automatically cause them to cease to be member.	Forward a State letter to Member States	Secretariat	Completed: a State letter forwarded to MTF Member States with the MTF/2 Meeting report
MTF/2 Decision 2/2:	Dispatching Invitation Letters to the MTF Members	That, the Secretariat forwards a copy of the invitation letter directly to the Members of the MTF.	Forward a copy of the invitation letter directly to the Members of the MTF	Secretariat	Continuous: Letter of invitation to OPMET MTF/3 meeting, forwarded to the MTF Members
MTF/2 Recommendation 2/3:	Schedule of the AFI OPMET Monitoring	That, Dakar and Pretoria RODBs: a) implement an automatic OPMET data monitoring scheme using procedures in Chapter 12 and Appendix F of the AMBEX Handbook on quarterly basis (March 31, June 30, August, 31 and December 31 of each year) b) distribute the monitoring statistics to the Chairman of the Task Force and the Secretariat; c) perform regular 24 hour simultaneous monitoring starting at 00:00:00 UTC on the first Wednesday of every month, d) Implement the above tasks from 01 January 2012.	Implement an automatic OPMET data monitoring scheme, distribute the monitoring statistics, perform 24/h simultaneous and monitor the tasks from 01 January 2012	Dakar and Pretoria RODB Provider States	A WP submitted for approval under MET/SG/10 Agenda item 4 before proceeding

AFI OPMET MTF/3 – Appendix C

Rec/Conc/Dec No.	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status/Action Taken
MTF/2 Decision 2/4:	Time validation criteria for data reception	That, Dakar and Pretoria RODB Managers develop a draft OPMET time validation criteria for reception of data in the AMBEX Handbook using guidance material developed by the BMG (Bulletins Management Group of the EUR Region). <i>Note: The proposals should be circulated to the other Members and the Secretariat by June 2011.</i>	Draft OPMET time validation criteria for reception of data in the AMBEX Handbook	Dakar and Pretoria RODB Managers	Not completed. The RODBs will develop and include a paragraph on the time validation criteria in the AMBEX Handbook, to be submitted to MTF/4 meeting
MTF/2 Decision 2/5:	Monitoring Time Frames	That, Dakar and Pretoria RODBs provide the monitoring statistics using provisions in ICAO Annexes 3 and 10	Provide monitoring statistics	Dakar and Pretoria RODB Managers	Not completed. The RODBs will develop and include a paragraph on the monitoring time frames in the AMBEX Handbook, to be submitted to MTF/4 meeting
MTF/2 Decision 2/6:	AMBEX Implementation Status Report by AFI RODBs	That, Dakar and Pretoria RODBs Managers submit AMBEX scheme implementation reports to the AFI OPMET MTF Meetings.	Submit AMBEX scheme implementation reports to the AFI OPMET MTF Meetings.	Dakar and Pretoria RODB Managers	Completed (MTF/3 joined WP/09 issued by Dakar and Pretoria RODBs)
MTF/2 Recommendation 2/7:	Direct AFTN Link between AFI RODBs	That, a) Dakar and Pretoria RODBs Provider States take the required measures to provide direct AFTN connexion between both RODBs to facilitate the implementation of back up procedures between them. b) back-up procedures for the two RODBs be developed for use and supported by reliable telecommunications facilities.	Develop telecommunication facilities to support the back up procedures	Dakar and Pretoria RODB Provider States	A WP submitted for approval under MET/SG/10 Agenda item 4

AFI OPMET MTF/3 – Appendix C

Rec/Conc/Dec No.	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status/Action Taken
MTF/2 Recommendation 2/8:	Improvement of availability of OPMET from a number of AFI States	That, efforts be made by the concerned States to improve the availability at Dakar RODB, of required OPMET from Accra, Conakry, Freetown, Kano, Kinshasa, Lagos, Luanda	Improve the availability at Dakar RODB, of required OPMET from some aerodromes	Accra, Conakry, Freetown, Kano, Kinshasa, Lagos, Luanda BCC Provider States	A WP submitted for approval under MET/SG/10 Agenda item 4
MTF/2 Recommendation 2/9:	Development of a backup procedures for the AFI RODBs	That, a Core Team of experts consisting of Members from Kenya, Madagascar, Senegal and South Africa be established to develop a backup procedures for the AFI RODBs. <i>Note: The team is expected to provide the results of their efforts to the Chairperson before 30 June 2011.</i>	Develop a backup procedures for the AFI RODBs.	Core Team of Experts from Kenya, Madagascar, Senegal and South Africa	MTF/3 joined WP by Dakar and Pretoria RODBs): A WP submitted for approval under MET/SG/10 Agenda item 4
MTF/2 Decision 2/10:	Internet Access Address of the RODBs	That, Dakar and Pretoria RODBs Managers publish the following Internet access address of the RODBs: Dakar RODB: http://brdo.asecna.org/ Pretoria RODB: http://aviation.weathersa.co.za	Publish the Internet access address of the RODBs	Dakar & Pretoria RODB Managers	Completed: (MTF/3 joined WP by Dakar and Pretoria RODBs)
MTF/2 Recommendation 2/11	Amendment Proposals to the AMBEX HANDBOOK	That, the amendments to the AMBEX Handbook given on <u>Appendix C</u> to this report be submitted to the MET/SG Meeting for further review. <i>Note: Appendix C is to be finalized after the meeting</i>	Amend the AMBEX Handbook	Secretariat	Completed (Amendment to AMBEX Handbook from MTF/2 meeting, submitted to MET/SG/10 for approval)

AFI OPMET MTF/3 – Appendix C

Rec/Conc/Dec No.	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status/Action Taken
		*			
MTF/2 Recommendation 2/12	Updating paragraph 6.2.10 of the AMBEX HANDBOOK	That, paragraph 6.2.10 c) of the AMBEX Handbook be corrected according to the AFI ICD.	Amend the AMBEX Handbook	Secretariat	Completed (Amendment to AMBEX Handbook from MTF/2 meeting, submitted to MET/SG/10 for approval)
MTF/2 Recommendation 2/13	Updating AFTN Addresses of some Aerodromes in South Africa	That, the ICAO Regional Office in Nairobi updates Appendixes A and B of the AMBEX Handbook as follows: • AFTN address for Pretoria (FAPRYMYX) to be changed to Johannesburg (FAJSYMYX) • Durban (FADN) to be changed to King Shaka (FALE) • Lilongwe's ICAO location indicator (FWLI) to be changed to FWKI • FAPR to be changed to FAJS in the bulletins. • Spelling for Cape Town to be corrected.	Update Appendixes A and B of the AMBEX Handbook	the ICAO Regional Office in Nairobi	Completed (Amendment to AMBEX Handbook from MTF/2 meeting, submitted to MET/SG/10 for approval)
MTF/2 Recommendation 2/14	AFI OPMET data catalogue	That, the draft OPMET data catalogue given in the Appendix D to this report be finalized by the RODB Managers for use by the two OPMET data banks. The updating of the catalogues be a joint responsibility of the two data banks'.	Finalize OPMET data catalogue	Dakar & Pretoria RODB Managers	Completed

AFI OPMET MTF/3 – Appendix C

Rec/Conc/Dec No.	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status/Action Taken
MTF/2 Recommendation 2/15	Implementation of Special AIREP by Dakar RODB	That, Dakar RODB implements all types of OPMET data described in the AMBEX Handbook including special AIREP (UA).	Implementation of Special AIREP at Dakar RODB	Dakar RODB Provider State	Completed
MTF/2 Decision 2/16	Correction of SIGMET examples in the SIGMET Guide	That, ICAO regional Offices issue a corrigendum to the Appendix J to the SIGMET Guide by inserting the ICAO location indicators where needed.	Amend Appendix J to AFI SIGMET Guide	ICAO regional Offices Dakar & Nairobi	Completed
MTF/2 Recommendation 2/17	Sensitizing Authorities at High Level AFI Region Meetings on Safety and Security Issues	That, ICAO Regional Offices sensitize Authorities at the highest political level on the importance of continually monitoring hazardous weather conditions in their respective air spaces (Flight Information Regions (FIRs)) for air safety especially the issuance of SIGMETs by the MWOs.	Awareness to Authorities at the highest political level on the importance of continually monitoring hazardous weather conditions	ICAO regional Offices Dakar & Nairobi	A WP submitted for approval under MET/SG/10 Agenda item 4
MTF/2 Decision 2/18:	Awareness of MWOs to issue SIGMETs	That, AFI BCCs and RODBs provide guidance and support to MWOs which are unable to issue SIGMETs for one reason or another using information at their disposal such as weather satellite information and SPECIs.	Provision of guidance and support to MWOs which are unable to issue SIGMETs	AFI BCCs and RODBs	A WP submitted for approval under MET/SG/10 Agenda item 4
MTF/2 Decision 2/19:	Future Work Programme of the MTF	That, the work programme of the MTF be updated as shown in Appendix E and cover the period 2010-2015, <i>Note: The tasks implemented two years earlier should be deleted from the work programme.</i>	Updating the work programme	Secretariat	Completed

AFI OPMET MTF/3 – Appendix C

Rec/Conc/Dec No.	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status/Action Taken
MTF/2 Decision 2/20:	MTF/3 and MET/SG/10 Meetings	That, the Secretariat takes the required actions to plan to conduct the MTF/3 and MET/SG/10 Meetings back to back before October 2011.	Conducting the MTF/3 and MET/SG/10 Meetings back to back before October 2011.	Secretariat	Completed
APIRG/17 Conclusion 17/75:	OPMET Exchange Requirements and Inter- Regional OPMETGATEWAY (IROG) Functions	That: a) The OPMET data type, OPMET bulletins and types of OPMET exchange at Appendix 3.5C, be implemented by Dakar and Pretoria Regional OPMET data banks (RODBs), AMBEX bulletin compiling centres (BCCs) and National OPMET Centres (NOCs) as the OPMET requirements in the AFI Region; and b) The IROG functions and the requirements for the exchange of OPMET between the AFI Region and adjacent Regions in Appendices 3.5D and 3.5E to this report be implemented by Dakar and Pretoria RODBs as the requirements for the interregional OPMET exchange in the AFI Region.	Implementation of OPMET exchange requirements and IROG functions	AFI RODB, BCC and NOC Provider States	State letter distributed to concerned States for implementation
APIRG/17 Conclusion 17/76:	Revision of OPMET Data Requirements	That, information related to the requirements of OPMET data from AOP Aerodromes as given in Appendix 3.5F to this report be included in the AFI FASID MET Table 1A after the normal Amendment of the FASID Table.	Amendment to AFI FASID MET Table 1A	Secretariat	Completed
APIRG/17 Conclusion 17/77:	OPMET Exchange Monitoring and Management Procedures at BCCS and RODBS	That, the OPMET management and monitoring procedures given in appendices 3.5I and 3.5J to this report be implemented by the RODB and the BCCS as the requirements for OPMET exchange monitoring and management procedures in the AFI region.	Implementation of AFI OPMET management and monitoring procedures	AFI RODB and BCC Provider States	State letter distributed to concerned States for implementation

AFI OPMET MTF/3 – Appendix C

Rec/Conc/Dec No.	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Status/Action Taken
APIRG/17 Conclusion 17/78:	Interface Control Document (ICD) for AFI OPMET Database Access Procedures	That: a) The procedures given in Appendix 3.5I to this report be implemented as the RegionalInterface Control Document (ICD) access procedures for AFI OPMET database; and b) The ICD be published by the ICAO Regional Office(s).	Implementation and publication of the AFI ICD	a) AFI States b) ICAO Regional Office	a) State Letter forwarded to AFI States for implementation b) Completed: published on the following AFI website: http://www.icao.int/wacaf/edocs/index.html
APIRG/17 Decision 17/80:	Frequency of Meetings of the AFI OPMET MTF	That, the Task Force meets once a year to plan and assess progress on its work programme. The yearly meetings will be held alternatively between RODBs Dakar and Pretoria.	Frequency of meetings of theAFI OPMET M/TF	MTF Members	Completed: adopted by the APIRG

INTERNATIONAL CIVIL AVIATION ORGANIZATION



**AFRICA AND INDIAN OCEAN (AFI)
REGIONAL SIGMET GUIDE**

NINTH EDITION — SEPTEMBER 2007

(Draft Amendment 2- June 2011)

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

RECORD OF AMENDMENTS AND CORRIGENDA

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TABLE OF CONTENTS

1.	INTRODUCTION	5
2.	RESPONSIBILITIES AND COORDINATION.....	6
2.1	General	6
2.2	Meteorological Watch Office - responsibilities and procedures related to SIGMET	6
2.3	Responsibilities of ATS units	8
2.4	Responsibilities of pilots.....	9
2.5	Coordination between MWOs and the TCACs and VAACs.....	9
3.	PROCEDURES FOR PREPARATION OF SIGMET INFORMATION.....	10
3.1	General	10
3.2	Types of SIGMET	10
3.3	Structure of the SIGMET message	10
3.4	Format of SIGMET	11
3.4.1	WMO Header	11
3.4.2	First line of SIGMET	12
3.4.3	Format of the meteorological part of SIGMET messages for weather phenomena other than TC and VA	13
3.4.4	Structure of the meteorological part of VA SIGMET	16
3.4.5	Structure of the meteorological part of TC SIGMET	18
3.4.6	Cancellation of SIGMET	21
3.5	Dissemination	22
APPENDIX A:	Meteorological Watch Offices.....	22
APPENDIX B:	Tropical Cyclone Advisory Centres	26
APPENDIX C:	Volcanic Ash Advisory Centres	28
APPENDIX D:	List of the Abbreviations and Code Words Used in SIGMET	30
APPENDIX E:	Meteorological Phenomena to be Reported by SIGMET	32
APPENDIX F:	Standard for Reporting Geographical Coordinates in SIGMET	33
APPENDIX G:	Examples.....	34
APPENDIX H:	WMO Headings for SIGMET Bulletins Used by AFI Meteorological Watch Offices (MWO)	37
APPENDIX H1:	OPERATIONAL UNITS.....	37
APPENDIX I:	WMO Headings for Tropical Cyclone and Volcanic Ash Advisory Bulletins (FK And FV) Used by AFI TCAC And VAAC	41
APPENDIX J	AFI SIGMET Test Procedures	43

1. INTRODUCTION

1.1 The main purpose of this document is to provide guidance for standardization and harmonization of the procedures and formats related to the aeronautical meteorological warnings for hazardous en-route meteorological phenomena, known as SIGMET information. The guidance is complementary to the Annex 3 standards and recommended practices regarding SIGMET and to the SIGMET related provisions of the AFI Basic ANP and FASID, ICAO **Doc 7474**.

1.2 ICAO provisions concerning the issuance and dissemination of SIGMET information are contained in:

- **Annex 3 - Meteorological Service for International Air Navigation**, Part I, Chapter 3, 3.4 – 3.7, Chapter 7, 7.1, and Part II, Appendix 6;
- **AFI Basic ANP**, Part I and VI, and **AFIFASID** Table MET 1B, MET 3A and MET 3B;
- **Annex 11 - Air Traffic Services**, Chapter 4, 4.2.1 and Chapter 7, 7.1;
- **PANS – Air Traffic Management, Doc 4444**, Chapter 9, 9.1.3.2;
- **Regional Supplementary Procedures, Doc 7030**, Part 1, 8.2.

Additional guidance on the SIGMET procedures is contained in the *Manual of Aeronautical Meteorological Practice (Doc 8896)*, and the *Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services (Doc 9377)*.

1.3 The SIGMET Guide is intended mainly to assist the MWOs in the ICAO African and Indian Ocean (AFIAFI) Region in preparing and disseminating SIGMET information. It provides detailed information on the format of SIGMET messages as specified by Annex 3. The explanations of the format are accompanied by examples based on region-specific meteorological phenomena. The guide also provides information regarding the necessary coordination between the MWOs, the ATS units and the pilots, and their respective responsibilities.

1.4 This document was prepared by the ICAO AFI and ESAF Regional Offices. It is reviewed and updated regularly in order to be kept in line with the relevant ICAO SARPs and regional procedures. This current version incorporates the changes to SIGMET-related provisions included in Amendment 74 to Annex 3 which was approved by ICAO Council on 21 February 2007.

2. RESPONSIBILITIES AND COORDINATION

2.1 General

2.1.1 SIGMET is warning information, hence it is of highest priority among other types of meteorological information provided to the aviation users. The primary purpose of SIGMET is for in-flight service, which requires timely transmission of the SIGMET messages to pilots by the ATS units and/or through VOLMET and D-VOLMET.

2.1.2 Airlines are the main users of the SIGMET information. They contribute to the effectiveness of the SIGMET service through issuance of special air-reports reported by pilots to the ATS units. Special air-reports are among the most valuable sources of information for the Meteorological Watch Offices (MWO) in the preparation of SIGMET. The ATS units receiving special air-reports should forward them to the associated MWOs without delay.

2.1.3 In view of the foregoing, it should be well understood that the effectiveness of the SIGMET service depends strongly on the level of collaboration between the MWOs, ATS units and pilots. That is why, close coordination between these parties, as well as mutual understanding of their needs and responsibilities, are essential for the successful implementation of the SIGMET service.

2.1.4 For the special cases of SIGMET for volcanic ash and tropical cyclones, the MWOs are provided with advisories from the volcanic ash advisory centres (VAAC), and tropical cyclone advisory centres (TCAC) designated in the Regional ANP.

2.1.5 Another use of SIGMET is for the flight planning. This requires global dissemination of SIGMET through the international OPMET data banks and the satellite broadcasts: ISCS and SADIS. SIGMET should also be distributed to the World Area Forecast Centres (WAFC) London and Washington for use in the preparation of the significant weather (SIGWX) forecasts.

2.1.6 In the next paragraphs, the main responsibilities and coordination links, related to the provision of SIGMET information, are described.

2.2 Meteorological Watch Office - responsibilities and procedures related to SIGMET

2.2.1 SIGMET information should be issued by the meteorological watch offices (MWO) in order to provide timely warning for occurrence or expected occurrence of specified en-route weather phenomena, affecting the safety of the flight operations in the MWO's area of responsibility (AOR). SIGMET provides information concerning the location, extent, intensity and expected evolution of the specified phenomena.

2.2.2 Information about the provision of SIGMET service, including details on the designated MWO(s), should be included in the State's Aeronautical Information Publication (AIP) as specified in Annex 15, Aeronautical Information Service, Appendix 1, GEN 3.5.8.

2.2.3 All designated MWOs in the AFI Region are listed in Appendix A to this Guide extracted from the FASID AFI Table MET 1B. The MWOs situated outside of the AFI Region are in italic.

2.2.4 If, for some reason, a State is not able to meet its obligations for establishing MWO(s) and for provision of SIGMET for the FIR(s) or control area(s) the State is providing air traffic services, arrangements should be made between the meteorological authorities of the States concerned, that another

MWO takes over these responsibilities for certain period of time. Such delegation of responsibilities should be notified by a NOTAM and a letter to the ICAO Regional Office.

2.2.5 Since the MWO is normally not a separate administrative unit, but part of the functions of an aerodrome meteorological office or other meteorological office, the meteorological authority concerned should ensure that the MWO obligations and responsibilities are clearly defined and assigned to the unit designated to serve as MWO. Corresponding operational procedures should be established and the meteorological staff should be trained accordingly.

2.2.6 In preparing SIGMET information MWOs should follow strictly the format determined in Annex 3 (detailed format description is provided in Appendix 6, Table A6-1 of Annex 3). SIGMET should be issued only for those weather phenomena listed in Annex 3 and only when specified criteria for their intensity and spatial extent are met.

Note: MWOs should not issue SIGMET for weather phenomena of lower intensity or such of transient nature or smaller scale, which do not affect significantly the flight safety and their transmission to users may lead to unnecessary precautionary measures.

2.2.7 The MWOs should be adequately equipped in order to be able to identify, analyze and forecast (to the extent required) those phenomena for which SIGMET is required. The MWO should make use of all available sources of information, such as special air-reports, information from meteorological satellites and weather radars.

2.2.8 On receipt of a special air-report from the associated ACC or FIC, the MWO should:

- a) issue SIGMET information based on the special-air report; or
- b) send the special air-report for on-ward transmission in case that the issuance of SIGMET information is not warranted (e.g., the phenomenon concerned is of transient nature).

2.2.9 Appropriate telecommunication means should be available at the MWO in order to ensure timely dissemination of SIGMET according to a dissemination scheme, which should include transmission to:

- Local ATS users;
- Aeronautical MET offices within its AOR, where SIGMET is required for briefing and/or flight documentation;
- Other MWOs concerned (it should be ensured that SIGMET is sent to all MWOs whose AORs are, at least partly, within the 1800 km (1000 NM) range from the observed phenomenon);
- Centres designated for transmission of VOLMET or D-VOLMET where SIGMET is required for those transmissions;
- Responsible AMBEX centre and Regional OPMET Data Bank (it should be arranged that through the AMBEX scheme SIGMETs are sent to the designated OPMET data banks in the other ICAO regions, to the WAFCS and to the SADIS and ISCS providers);

- Responsible TCAC or VAAC according to FASID Tables MET 3A and MET 3B.

2.2.10 In issuing SIGMET for tropical cyclones or volcanic ash, the MWOs should include as appropriate the advisory information received from the responsible TCAC or VAAC. In addition to the information received from the TCAC and VAAC the MWOs may use the available complementary information from other reliable sources. In such a case the responsibility for this additional information would lie completely on the MWO concerned.

2.3 Responsibilities of ATS units

2.3.1 Close coordination should be established between the MWO and the corresponding ATS unit (ACC or FIC) and arrangements should be in place to ensure:

- receipt without delay and display at the relevant ATS units of SIGMET issued by the associated MWO;
- receipt and display at the ATS unit of SIGMETs issued by MWOs responsible for the adjacent FIRs/ACCs if these SIGMETs are required according to para 2.3.4 below, (within 1800 km (1000 NM) range from the observed phenomenon); and
- transmission without delay by the ATS unit of special air-reports received through voice communication to the associated MWO.

2.3.2 SIGMET information should be transmitted to aircraft with the least possible delay on the initiative of the responsible ATS unit, by the preferred method of direct transmission followed by acknowledgement or by a general call when the number of aircraft would render the preferred method impracticable.

2.3.3 SIGMET information transmitted to aircraft-in-flight should cover a portion of the route up to two hours flying time ahead of the aircraft. SIGMET should be transmitted only during the time corresponding to their period of validity (p. 3.4.2.3 refers).

2.3.4 Air traffic controllers should ascertain whether any of the currently valid SIGMETs may affect any of the aircraft they are controlling, either within or outside the FIR/CTA boundary, up to a distance of 1000 NM (1800 KM), which corresponds to two hours flying time ahead of the current position of the aircraft. If this is the case, the controllers should at their own initiative transmit the SIGMET promptly to the aircraft-in-flight likely to be affected. If necessary, the controller should pass to the aircraft available SIGMETs issued for the adjacent FIR/CTA, which the aircraft will be entering, if relevant to the expected flight route.

2.3.5 The ATS units concerned should also transmit to aircraft-in-flight the special air reports received, for which SIGMET has not been issued. Once a SIGMET for the weather phenomenon reported in the special air report is made available this obligation of the ATS unit expires.

2.4 Responsibilities of pilots

2.4.1 Timely issuance of SIGMET information is largely dependant on the prompt receipt by MWOs of special air-reports. That is why, it is essential that pilots prepare and transmit such reports to the ATS units whenever any of the specified en-route conditions are encountered or observed.

2.4.2 It should be emphasized that, even when automatic dependent surveillance (ADS) is being used for routine air-reports, pilots should continue to make special air-reports.

2.5 Coordination between MWOs and the TCACs and VAACs

2.5.1 Amongst the phenomena for which SIGMET information is required, the volcanic ash clouds and tropical cyclones are of particular importance for the planning of long-haul flights.

2.5.2 Since the identification, analysis and forecasting of volcanic ash and tropical cyclones requires considerable technical and human resource, normally not available at each MWO, the Volcanic Ash Advisory Centres (VAAC) and Tropical Cyclone Advisory Centres (TCAC) have been designated to provide VA and TC advisories to the users and assist the MWOs in the preparation of the forecast part of the SIGMETs for those phenomena. Close coordination should be established between the MWO and its responsible TCAC and/or VAAC.

2.5.3 Information regarding the VAACs and TCACs serving the AFIR region with their corresponding areas of responsibility and lists of MWOs and ACCs to which advisories are to be sent is provided in FASID Tables MET 3A and MET 3B of the AFIFASID. These tables are reproduced in Appendix B and Appendix C to this Guide.

2.5.4 TC and VA advisories are required for global exchange through the satellite distribution systems, SADIS and ISCS. They are used by the operators during the preflight planning. Nevertheless, it should be emphasized that SIGMET information is still of higher operational status and is required especially for in-flight re-planning. SIGMETs should be transmitted to aircraft-in-flight through voice communication or VOLMET or D-VOLMET thus providing vital information for making in-flight decisions regarding large-scale route deviations due to volcanic ash clouds or tropical cyclones.

3. PROCEDURES FOR PREPARATION OF SIGMET INFORMATION

3.1 General

3.1.1 SIGMET information is prepared in abbreviated plain language using approved ICAO abbreviations, a limited number of non-abbreviated words, geographical names and numerical values of self-explanatory nature. All abbreviations and words to be used in SIGMET are given in Appendix D.

3.1.2 The increasing use of automated systems for handling the MET information by the aviation users makes it essential that all types of OPMET information, including SIGMET, are prepared and transmitted in the prescribed standardized formats. Therefore, the structure and format of the SIGMET message, as specified in Annex 3, Part II, Appendix 6, which provides detailed information regarding the content and order of elements in the SIGMET message, should be followed strictly by the MWOs.

3.1.3 SIGMET is intended for transmission to aircraft in flight either by ATC or by VOLMET or D-VOLMET. Therefore, SIGMET messages should be kept concise and clear without additional descriptive text other than the prescribed in Annex 3.

3.1.4 After the issuance of a SIGMET the MWO should maintain watch over the evolution of the phenomenon for which the SIGMET has been issued and issue updated SIGMET when necessary. The TC and VA SIGMET should be updated at least every 6 hours.

3.1.5 SIGMET should be promptly cancelled when the phenomenon is no longer occurring or no longer expected to occur in the MWO's area of responsibility. The SIGMET is understood to cancel itself automatically at the end of its validity period. If the phenomenon persists a new SIGMET message for a further period of validity should be issued.

3.2 Types of SIGMET

3.2.1 Although Annex 3 provides one general SIGMET format, which encompasses all weather phenomena, it is convenient when describing the structure and format of the messages to distinguish between three types of SIGMET, as follows:

- SIGMET for en-route weather phenomena other than VA and TC (this includes: TS, CB, TURB, ICE, MTW, DS and SS); this SIGMET will be referred as WS SIGMET;
- SIGMET for volcanic ash, which will hereafter be denoted as VA SIGMET or WV SIGMET; and
- SIGMET for tropical cyclones, which will hereafter be denoted as TC SIGMET or WC SIGMET.

3.2.2 The three types of SIGMET can be identified by the data type designator included in the WMO abbreviated heading of the SIGMET message, as explained below.

3.3 Structure of the SIGMET message

3.3.1 A SIGMET message consists of:

- **WMO heading** – all SIGMETs are preceded by an appropriate WMO heading;

- **First line**, containing location indicators of the respective ATS unit and MWO, sequential number and period of validity;
- **SIGMET main body**, containing information concerning the observed or forecast weather phenomenon for which the SIGMET is issued together with its expected evolution within the period of validity;

3.3.2 The first two parts of the SIGMET message are common for all types of SIGMET. The format and content of the third part is different; that is why, in the following paragraphs the meteorological part of the SIGMET message is described separately for the three types of SIGMET.

3.4 Format of SIGMET

Note: In the following text, square brackets - [] - are used to indicate an optional or conditional element, and angled brackets - <> - for symbolic representation of a variable element, which in a real SIGMET accepts concrete numerical value.

3.4.1 WMO Header

T₁T₂A₁A₂ii CCCC YYGGgg [CCx]

3.4.1.1 The group **T₁T₂A₁A₂ii** is the bulletin identification for the SIGMET message. It is constructed in the following way:

T₁T₂	Data type designator	WS – for SIGMET for meteorological phenomena other than volcanic ash cloud or tropical cyclone WC – for SIGMET for tropical cyclone WV – for SIGMET for volcanic ash
A₁A₂	Country or territory designators	Assigned according to Table C1, Part II of Manual on the Global Telecommunication System, Vol I – Global Aspects (WMO - No. 386)
ii	Bulletin number	Assigned on national level according to p 2.3.2.2, Part II of Manual on the Global Telecommunication System, Vol I – Global Aspects (WMO - No. 386)

3.4.1.2 **CCCC** is the ICAO location indicator of the communication centre disseminating the message (could be the same as the MWO location indicator).

3.4.1.3 **YYGGgg** is the date/time group, where YY is the date and GGgg is the time of transmission of the SIGMET in hours and minutes UTC (normally this time is assigned by the disseminating (AFTN) centre).

3.4.1.4 The group **CCx** should be used only when issuing a correction to a SIGMET which had already been transmitted. The third letter “x” takes the value A for the first correction, B for the second correction, etc.

Examples:

WSSG31 GOOY121200
WVCV31 GVAC 010230
WCGG31FCBB 100600 CCA

3.4.2 First line of SIGMET

CCCC SIGMET [nn]n VALID YYGGgg/YYGGgg CCCC-

3.4.2.1 The meaning of the groups in the first line of the SIGMET is as follows:

CCCC	ICAO location indicator of the ATS unit serving the FIR or CTA to which the SIGMET refers
SIGMET	Message identifier
[nn]n	Daily sequence number (see p.3.4.2.2)
VALID	Period of validity indicator
YYGGgg/YYGGgg	Validity period of the SIGMET given by date/time group of the beginning and date/time group of the end of the period (see p.3.4.2.3)
CCCC	ICAO location indicator of the issuing MWO
-	hyphen to separate the preamble from the text

3.4.2.2 The numbering of SIGMETs starts every day at 0001 UTC. The sequence number should consist of up to three symbols and may be a combination of letters and numbers, such as:

- 1, 2, ...
- 01, 02, ...
- A01, A02, ...

Examples:

**GOOO SIGMET 2 VALID 121100/121700 GOOY-
DGACSIGMET A04 VALID 202230/210430 DGAA-**

Note 1: No other combinations should be used, like “CHARLIE 05” or “NR7”.

Note 2: Correct numbering of SIGMET is very important since the number is used for reference in communication between ATC and pilots and in VOLMET and D-VOLMET.

3.4.2.3 The following considerations should be taken into account when determining the validity period:

- The period of validity of a WS SIGMET should not be more than 4 hours;
- The period of validity of a WC or WV SIGMET should not be more than 6 hours;
- In case of a SIGMET for an observed phenomenon, the filing time (date/time group in the WMO header) should be the same or very close to the time in the date/time group indicating the start of the SIGMET validity period;
- When the SIGMET is issued for a forecast phenomenon:
 - o the beginning of validity period should be the time of the expected commencement (occurrence) of the phenomenon in the MWO area of responsibility;
 - o the time of issuance of the SIGMET should not be more than 4 hours before the start of validity period (i.e., expected time of occurrence of the phenomenon); for TC and VA SIGMET the lead time should be up to 12 hours.

3.4.2.4 The period of validity is that period during which the SIGMET information is valid for transmission to aircraft in flight.

Examples:

1. SIGMET for an observed phenomenon:

**WSNI31 DNKN241120
DNKKSIGMET 3 VALID 241120/241500 DNKN-**

2. SIGMET for a forecast phenomenon (expected time of occurrence 1530)

**WSCG31 FCBB 311130
FCBBSIGMET 1 VALID 1530/1930 FCCC-**

3.4.3 *Format of the meteorological part of SIGMET messages for weather phenomena other than TC and VA*

3.4.3.1 The meteorological part of a SIGMET for weather phenomena consists of seven elements as shown in the table below.

Start of the second line of the message

1	2	3	4	5
Name of the FIR/UIR or CTA	Description of the phenomenon	Observed or forecast	Location	Level
<CCCC><name> FIR [CTA]	<Phenomenon>	OBS [AT <GGgg>Z] FCST OBS [AT <GGgg>Z] AND FCST	Geographical location of the phenomenon given by coordinates, or geographical objects, or location indicators	FL<nnn> or FL<nnn/nnn> or [TOP [ABV or BLW]] FL<nnn>

6	7
Movement or expected movement	Changes in intensity
MOV <direction, speed>KMH[KT] or STNR	INTSF or WKN or NC

3.4.3.1.1 Name of the FIR/UIR or CTA (Column 1)

**CCCC <name> FIR/[UIR]
or
CCCC <name> CTA**

The ICAO location indicator and the name of the FIR/CTA is given followed by the appropriate abbreviation: FIR, FIR/UIR or CTA.

Examples:

DRRRNIAMEYFIR**3.4.3.1.2 Phenomenon(Column 2)**

The phenomenon description consists of a qualifier and a phenomenon abbreviation. SIGMET should be issued only for the following phenomena:

at cruising levels (irrespective of altitude):

- thunderstorms (TS) – if they are OBSC, EMBD, FRQ or SQL with or without hail;
- turbulence (TURB) – only SEV
- icing (ICE) – only SEV with or without FZRA
- mountain waves (MTW) – only SEV
- dust storm (DS) – only HVY
- sand storm (SS) – only HVY
- radioactive cloud – RDOACT CLD

The appropriate abbreviations and combinations, and their meaning are given in Appendix E.

3.4.3.1.3 Indication whether the phenomenon is observed or forecast(Column 3)

**OBS [AT <GGgg>Z]
or FCST**

The indication whether the phenomenon is observed or forecast is given by using the abbreviations OBS or FCST. OBS is followed by an optional time group in the form AT GGggZ, where GGgg is the time of the observation in hours and minutes UTC. If the exact time of the observation is not known the time is not included. When FCST is used, it is assumed that the time of occurrence or commencement of the phenomenon coincides with the beginning of the period of validity included in the first line of the SIGMET.

Examples:

**OBS AT 0140Z
FCST**

3.4.3.1.4 Location of the phenomenon(Column 4)

The location of the phenomenon is given with reference to geographical coordinates (latitude and longitude) or with reference to geographical features well known internationally. The MWOs should try to be as specific as possible in reporting the location of the phenomenon and, at the same time, to avoid overwhelming geographical information, which may be difficult to process or perceive.

The following are the most common ways to describe the location of the phenomenon:

- Indication of a part of the FIR with reference to latitude:
N OF or S OF <Nnn[nn]> or <Snn[nn]>
- Indication of a part of the FIR with reference to longitude:

- E OF or W OF <Ennn[nn]> or <Wnnn[nn]>
- Indication of a part of the FIR with reference to latitude and longitude:
any combination of the above two cases;
- with reference to a location with ICAO location abbreviation CCCC (normally, this should be the case of SIGMET based on special air-report in which the reported phenomenon is given with reference to an airport or another object with ICAO location indicator CCCC);
- with reference to geographical features well known internationally.

More details on reporting the location of the phenomenon are given in Appendix 6 to Annex 3 and in Appendix F to this Guide.

3.4.3.1.5 Flight level and extent(Column 5)

FL<nnn>
or FL<nnn/nnn>
or TOP FL<nnn>
or [TOP] ABVFL<nnn>
or [TOP] BLWFL<nnn>

The location or extent of the phenomenon in the vertical is given by one or more of the above abbreviations, as follows:

- reporting single level – **FL<nnn>**
- reporting a layer – **FL<nnn/nnn>**, where the lower level is reported first; this is used particularly in reporting turbulence and icing;
- reporting a level or layer with reference to one FL using ABV or BLW
- reporting the level of the tops of the TS clouds using the abbreviation TOP.

Examples:

EMBD TS ... TOP ABV FL340
SEV TURB ... FL180/210
SEV ICE ... BLW FL150
SEV MTW ... FL090

3.4.3.1.6 Movement(Column 6)

MOV <direction><speed>KMH[KT]
or
STNR

Direction of movement is given with reference to one of the eight points of compass. Speed is given in KMH or KT. The abbreviation STNR is used if no significant movement is expected.

Examples:

MOV NW 30KMH
MOV E 25KT

3.4.3.1.7 Expected changes in intensity (Column 7)

The expected evolution of the phenomenon's intensity is indicated by one of the following abbreviations:

INTSF – intensifying

WKN – weakening

NC – no change

3.4.4 *Structure of the meteorological part of VA SIGMET*

3.4.4.1 The general structure of the meteorological part of the SIGMET message is given in the table below:

Start of the second line of the message

1	2			3
FIR/UIR or CTA	Phenomenon	Volcano		Volcanic ash cloud observed or forecast
		Name	Location	
<CCCC><name> FIR [UIR][CTA]	VA	[ERUPTION] [MT <name>]	[LOC <lat,lon>]	VA CLD OBS AT <GGgg>Z VA CLD FCST

4			5
Extent of the cloud			Expected movement
Vertical	Horizontal	Position	
FL <nnn/nnn>	[APRX <nnn> KM[NM] BY <nnn> KM[NM]]	[<lat,lon> - <lat,lon> - ...]	MOV <direction><speed>

6	
Volcanic ash cloud forecast at the end of the period of validity	
FCST time	Position
FCST <GGgg>Z	VA CLD APRX <lat,lon> - <lat,lon> - ...

3.4.4.2 Name and location of the volcano and/or indicator for VA cloud (Column 2)

VA [ERUPTION] [MT <name>] [LOC <lat,lon>] VA CLD
or
VA CLD

3.4.4.2.1 The description of the volcano injecting volcanic ash consists of the following elements:

- starts with the abbreviation **VA** – volcanic ash;
- the word **ERUPTION** is used when the SIGMET is issued for a known volcanic eruption;
- geographical/location information:

- i. if the name of the volcano is known, it is given by the abbreviation **MT** – mountain, followed by the name;
e.g., **MT RABAU**
- ii. location of the volcano is given by the abbreviation **LOC** – location, followed by the latitude and longitude in degrees and minutes;
e.g., **LOC N3520 E09040**
- this section of the message ends with the abbreviation **VA CLD** – volcanic ash cloud.

3.4.4.2 If the FIR is affected by a VA cloud with no information about the volcanic eruption which generated the cloud, only the abbreviation **VA CLD** should be included in the SIGMET.

3.4.4.3 Time of observation or indication of forecast(Column 3)

VA CLD OBS AT <GGgg>Z
or
VA CLD FCST

The time of observation is taken from the source of the observation – satellite image, special air- report, report from a ground volcano logical station, etc. If the VA cloud is not yet observed over the FIR but the volcanic ash advisory received from the responsible VAAC indicates that the cloud is going to affect the FIR within the next 12 hrs, SIGMET should be issued, according to paragraph 2.4 above, and the abbreviation VA CLD FCST should be used.

Examples:

VA CLD OBS AT 0100Z
VA CLD FCST

3.4.4.4 Level and extent of the volcanic ash cloud(Column 4)

FL<nnn/nnn> [APRX <nnn>KM BY <nnn>KM] [<P1(lat,lon) - P2(lat,lon) - ... >]
or
FL<nnn/nnn> [APRX <nnn>NM BY <nnn>NM] [<P1(lat,lon) - P2(lat,lon) - ... >]

FL<nnn/nnn>	The layer of the atmosphere where the VA cloud is situated, given by two flight levels from the lower to the upper boundary of the cloud
[APRX <nnn>KM BY <nnn>KM] or [APRX <nnn>NM BY <nnn>NM]	Approximate horizontal extent of the VA cloud in KM or NM
[<P1(lat,lon) - P2(lat,lon) - ... >]	Approximate description of the VA cloud by a number of points given with their geographical coordinates ¹ ; the points should be separated by hyphen

If the VA cloud spreads over more than one FIR, separate SIGMETs should be issued by all MWOs whose FIRs are affected. In such a case, the description of the volcanic ash cloud by each MWO should encompass the part of the cloud, which lies over the MWO's area of responsibility. The MWOs should try and keep the description of the volcanic ash clouds consistent by checking the SIGMET messages received from the neighbouring MWOs.

¹ The format of geographical coordinates reporting in SIGMET is given in Appendix E.

Examples:

FL100/180 APRX 10KM BY 50KM N0100 E09530 – N1215 E11045
FL 150/210 S0530 E09300 – N0100 E09530 – N1215 E11045

3.4.4.5 Movement or expected movement of the VA cloud (Column 5)

MOV <direction><speed>KMH[KT]
or
STNR

The direction of movement is given by the abbreviation **MOV** – moving, followed by one of the eight points of compass: N, NE, E, SE, S, SW, W, NW. The speed of movement is given in KMH or KT.

Examples:

MOV E 35KMH
MOV SW 20KT
STNR

3.4.4.6 Forecast position of the VA cloud at the end of the validity period of the SIGMET message (Column 6)

FCST <GGgg>Z VA CLD APRX <P1(lat,lon) - P2(lat,lon) - ... >

3.4.4.6.1 The **GGggZ** group should indicate the end of validity period given in the first line of the SIGMET message. The description of the expected position of the volcanic ash cloud is given by a number of points forming a simplified geometrical approximation of the cloud.

3.4.4.6.2 In describing the VA cloud up to four different layers can be used, indicated by flight levels in the form FL<nnn/nnn>. The use of more than one level is necessary when the wind direction distribution with height determines that the cloud is spread horizontally into different directions at different height layers.

3.4.5 *Structure of the meteorological part of TC SIGMET*

3.4.5.1 The general structure of the meteorological part of the TC SIGMET is given in the table below:

Start of the second line of the message

1	2	3		4
FIR/UIR or CTA	TC name	Observed or forecast		Extent
		Time	Location of TC centre	
<CCCC><name> FIR [/UIR][CTA]	TC <name>	OBS AT <GGgg>Z [FCST]	<lat,lon>	CB TOP [ABV or BLW] FL<nnn> WI <nnn>KM[NM] OF CENTRE

5	6	7
Expected movement	Intensity change	Forecast of the centre position at the end of the validity period
MOV <direction><speed>KMH[KT] or STNR	INTSF or WKN or NC	FCST <GGgg>Z TC CENTRE <lat,lon>

3.4.5.2 Name of the tropical cyclone (Column 2)

TC <name>

The description of the tropical cyclone consists of the abbreviation TC followed by the international name of the tropical cyclone given by the corresponding WMO RSMC.

Examples:

**TC GLORIA
TC 04B**

3.4.5.3 Time of observation or indication of forecast (Column 3.1)

**OBS AT <GGgg>Z
or
FCST**

The time in UTC is given in hours and minutes, followed by the indicator Z. Normally, time is taken from own observations or from a TC advisory received from the responsible TCAC. If the TC is not yet observed in the FIR but the tropical cyclone advisory received from the responsible TCAC, or any other TC forecast used by the MWO, indicates that the TC is going to affect the FIR within the next 12 hrs, SIGMET should be issued, according to paragraph 2.4 above, and the abbreviation FCST should be used.

Examples:

OBS AT 2330

3.4.5.4 Location of the TC centre (Column 3.2)**<location>**

The location of the TC centre is given by its lat,lon coordinates in degrees and minutes.

Examples:

N1535 E14230

3.4.5.5 Vertical and horizontal extent of the CB cloud formation around TC centre (Column 4)**CB TOP [ABV or BLW] <FLnnn> WI <nnnKM or nnnNM> OF CENTRE**

Examples:

**CB TOP ABV FL450 WI 200NM OF CENTRE
CB TOP FL500 WI 250KM OF CENTRE**

3.4.5.6 Movement or expected movement (Column 5)**MOV <direction><speed>KMH[KT]
or
STNR**

Direction of movement is given with reference to one of the eight points of compass. Speed is given in KMH or KT. The abbreviation STNR is used if no significant movement is expected.

Examples:

**MOV NW 30KMH
MOV E 25KT**

3.4.5.7 Intensity change (Column 6)

The expected change of the intensity of the tropical cyclone is indicated by one of the following abbreviations:

INTSF – intensifying
WKN – weakening
NC – no change

3.4.5.8 Forecast location of the TC centre at the end of the validity period of the SIGMET message (Column 7)**FCST <GGgg>Z TC CENTRE <location>**

Normally, the time given by GGggZ should be the same as the end of validity period indicated in the first line of the SIGMET message. Since the period of validity is up to 6 hours (normally, 6 hours), this is a 6-hour forecast of the position of the TC centre.

The location of the TC centre is given by its lat, lon coordinates following the general rules of reporting lat, lon information provided in Appendix F to this Guide.

Examples:

FCST 1200Z TC CENTRE N1430 E12800

3.4.6 Cancellation of SIGMET

3.4.6.1 If during the validity period of a SIGMET the phenomenon for which the SIGMET had been issued is no longer occurring or no longer expected, the SIGMET should be cancelled by the issuing MWO. The cancellation is done by issuing same type of SIGMET with the following structure:

- WMO heading with the same data type designator;
- First line that contains as period of validity the remaining time of the original period of validity;
- Second line, which contains the name of the FIR or CTA, the combination CNL SIGMET, followed by the sequential number of the original SIGMET and its validity period.

Examples:

1. WS SIGMET:

**WSZR31 FZAA 101200
FZAA SIGMET 5 VALID 101200/101600 FZAA-
FZAA FIR KINSHASA...**

Cancellation of WS SIGMET:

**WSZR31 FZAA 101430
FZAA SIGMET 6 VALID 101430/101600 FZAA-
FZAA FIR KINSHASACNL SIGMET 5 101200/101600=**

2. VA SIGMET

**WVCG31 FCBB 131518
FCCC SIGMET 03 VALID 131515/132115 FCBB-
FCCC FIR BRAZZAVILLE...**

Cancellation of a VASIGMET:

**WVCG31 FCBB 132000
FCCC SIGMET 04 VALID 132000/132115 FCBB-
FCCCFIR BRAZZAVILLE CNL SIGMET 03 13151500/132115=**

or, in case that the volcanic ash cloud moves to an adjacent FIR:

**WSZR31 FZAA 132000
FZAA SIGMET 04 VALID 132000/132115 FZAA -**

**FZAA FIR KINSHASACNL SIGMET 03 13151500/132115 VA MOV TO YUDO
FIR=****3.5 Dissemination**

3.5.1 SIGMET information is part of the operational meteorological (OPMET) information. According to Annex 3 the telecommunication facilities used for the exchange of the operational meteorological information should be the aeronautical fixed service (AFS).

3.5.2 The AFS consists of a terrestrial segment, AFTN or ATN (AMHS), and a satellite segment which comprises the SADIS and ISCS satellite broadcasts provided by the UK and the USA respectively.

3.5.3 Currently, AFTN links should be used by the MWOs to send the SIGMET, as follows:

- to the adjacent MWOs and ACCs* using direct AFTN addressing;
- When required for VOLMET or D-VOLMET, SIGMET should be sent to the relevant centre providing the VOLMET service;
- SIGMET should be sent to all regional OPMET Data Banks (RODB);
- It should be arranged that SIGMET is relayed to the SADIS and ISCS providers for satellite dissemination, as well as to the WAFCs London and Washington, either through the AMBEX scheme, or directly by the issuing MWO;
- SIGMET for volcanic ash should be disseminated to the responsible VAAC.

3.5.4 Through SADIS and ISCS, SIGMET is disseminated to all authorised users. In this way, SIGMET is available on a global basis, meeting the aeronautical requirements.

** Note: For this dissemination it is required that SIGMET is available at the ACCs for transmission to aircraft in flight for the route ahead up to a distance corresponding to two hours flying time.*

APPENDIX A: Meteorological Watch Offices**EXPLANATION OF THE TABLE***Column*

1. Location of the meteorological watch office (MWO)
2. ICAO location indicator, assigned to the MWO
- 3 Name of the FIR, UIR and/or search and rescue region (SRR) served by the MWO
- 4 ICAO location indicator assigned to the ATS unit serving the FIR, UIR and/or SRR
- 5 X if the MWO in column 2 issues VA SIGMET
- 6 X if the MWO in column 2 issues TC SIGMET
- 7 Remarks

Note: MWOs in italics are situated outside the AFI Region.

MWO Location	ICAO loc. ind.	Area served		SIGMET		Remarks
		Name	ICAO loc. ind.	V A	TC	
1	2	3	4	5	6	7
ALGERIA						
ALGER/Baraki I	DAAL	Alger FIR/SRR	DAAA	X		
ANGOLA						
LUANDA/4 de Fevereiro	FNLU	Luanda FIR/SRR	FNAN	X		
BOTSWANA						
GABORONE/Sir Seretse Khama Intl	FBSK	Gaborone FIR/SRR	FBGR	X	X	
BURUNDI						
BUJUMBURA/Bujumbura	HBBA	Bujumbura FIR	HBBA	X		
CANARY ISLANDS (Spain)						
GRAN CANARIA/Gran Canary, Canary I.	GCLP	Canarias FIR and Grando RSS	GCCC	X		
CAPE VERDE						
SAL I./AMILCAR CABRAL	GVAC	Sal Oceanic FIR/SRR	GVSC	X		
CHAD						
N'DJAMENA/N'Djamena	FTTJ	N'Djamena FIR/SRR	FTTT	X		
CONGO						
BRAZZAVILLE/Maya-Maya	FCBB	Brazzaville FIR/SRR	FCCC	X	X	
DEMOCRATIC REP. OF THE CONGO						
KINSHASA/N'Djili	FZAA	Zaire FIR, Kinshasa SRR	FZAA	X	X	
EGYPT						
CAIRO/Cairo Intl	HECA	Cairo FIR/SRR	HECC	X	X	
ETHIOPIA						
ADDIS ABABA/Bole Intl	HAAB	Addis Ababa FIR/SRR	HAAA	X		
ERITREA						
ASMARA	HHAS	Asmara FIR	HHAA	X		
GHANA						
ACCRA/Kotoka Intl	DGAA	Accra FIR/SRR	DGAC	X		

MWO Location	ICAO loc. ind.	Area served		SIGMET		Remarks
		Name	ICAO loc. ind.	V A	TC	
1	2	3	4	5	6	7
KENYA						
NAIROBI/Jomo Kenyatta Intl	HKJK	Nairobi FIR/SRR	HKNA	X	X	
LIBERIA2						
MONROVIA/Roberts Intl	GLRB	Roberts FIR/SRR	GLRB	X		
LIBYAN ARAB JAMAHIRIYA						
TRIPOLI/Tripoli Intl	HLLT	Tripoli FIR/SRR	HLLL	X		
MADAGASCAR						
ANTANANARIVO/Ivato	FMMI	Antananarivo FIR/SRR	FMMM	X	X	
MALAWI						
LILONGWE/Lilongwe Intl	FWLI	Lilongwe FIR/SRR	FWLL	X	X	
MAURITIUS						
MAURITIUS/Sir Seewoosagur Ramgoolam Intl	FIMP	Mauritius FIR/SRR	FIMM	X	X	
MOROCCO						
CASABLANCA/Anfa	GMMC	Casablanca FIR/SRR	GMMM	X		
MOZAMBIQUE						
MAPUTO/Maputo Intl	FQMA	Beira FIR/SRR	FQBE	X	X	
NAMIBIA						
WINDHOEK/Hosea Kutako	FYWH	Windhoek FIR/SRR	FYWH	X		
NIGER						
NIAMEY/Diori Hamani Intl	DRRN	Niamey FIR/SRR	DRRR	X		
NIGERIA						
KANO/Mallam Aminu Kano Intl	DNKN	Kano FIR/SRR	DNKK	X		
RWANDA						
KIGALI/Gregoire Kayibanda	HRYR	Kigali FIR/SRR	HRYR	X		
SENEGAL						
DAKAR/Leopold Sedar Senghor	GOOY	Dakar FIR/SRR Dakar oceanic FIR	GOOO	X		

MWO Location	ICAO loc. ind.	Area served		SIGMET		Remarks
		Name	ICAO loc. ind.	VA	TC	
1	2	3	4	5	6	7
SEYCHELLES						
MAHE/Seychelles Intl	FSIA	Seychelles FIR/SRR	FSSS	X	X	
SOMALIA						
MOGADISHU/Mogadishu	HCMM	Mogadishu FIR/SRR	HCSM	X		
SOUTH AFRICA						
BLOEMFONTEIN/Bloemfontein	FABL	Bloemfontein FIR	FABL	X	X	
CAPE TOWN/Cape Town	FACT	Cape town FIR	FACT	X	X	
DURBAN/Durban	FADN	Durban FIR	FADN	X	X	
JOHANNESBURG/Johannesburg	FAJS	Johannesburg FIR/ARCC	FAJS	X	X	
		Port Elizabeth FIR	FAPE	X	X	
		Cape Town MRCC		X	X	
		Johannesburg SRR		X	X	
PRETORIA/Central MET Office	FAPR	Johannesburg Oceanic FIR/ARCC	FAJS	X	X	
SUDAN						
KHARTOUM/Khartoum	HSSS	Khartoum FIR/SRR	HSSS	X		
TUNISIA						
Institut National de la Météorologie	DTTA	Tunis FIR/UIR	DTTC	X		
UGANDA						
ENTEBBE/Entebbe Intl.	HUEN	Entebbe FIR	HUEC	X		
UNITED REPUBLIC OF TANZANIA						
DAR-ES-SALAAM/Dar-es-Salaam	HTDA	Dar-es-Salaam FIR	HTDC	X	X	
ZAMBIA						
LUSAKA/Lusaka Intl	FLLS	Lusaka FIR/SRR	FLFI	X		
ZIMBABWE						
HARARE/Harare	FVHA	Harare FIR/SRR	FVHA	X	X	

APPENDIX B: Tropical Cyclone Advisory Centres**FASID AFI TABLE MET 3A***EXPLANATION OF THE TABLE**Column*

1. Location of the tropical cyclone advisory centre (TCAC).
2. ICAO location indicator of TCAC (for use in the WMO heading of advisory bulletin).
3. Area of responsibility for the preparation of advisory information on tropical cyclones by the TCAC in Column 1.
4. Period of operation of the TCAC.
5. MWOs to which the advisory information on tropical cyclones should be sent.
6. ICAO location indicator of the MWOs in Column 4.

Note: *MWOs in italics are situated outside the AFI Region.*

TABLE MET 3A
TROPICAL CYCLONE ADVISORY CENTRES

TROPICAL CYCLONE ADVISORY CENTRE	ICAO LOC. INDICA TOR	AREA OF RESPONSIBILITY	PERIOD OF OPERATION	MWOs TO WHICH ADVISORY INFORMATION IS TO BE SENT	
				Name	ICAO LOC. INDIC ATOR
1	2	3	4	5	6
RÉUNION (France)	FMEE	Southwest Indian Ocean Sud-ouest de l'océan Indien Sudoeste del océano Índico N: 0° S S: 30°S W: 30°E E: 90°E	1 November–30 April 1er novembre–30 avril 1 de noviembre– 30 de abril	<i>Antananarivo</i>	<i>FMMA</i>
				<i>Bloemfontein</i>	<i>FABL</i>
				<i>Bombay/Mu mbay</i>	<i>VABB</i>
				<i>Dar-es- Salaam</i>	<i>HTDC</i>
				<i>Durban</i>	<i>FADN</i>
				<i>Gaborone</i>	<i>FBSK</i>
				<i>Harare</i>	<i>FVHA</i>
				<i>Johannesbur g</i>	<i>FAJS</i>
				<i>Lilongwe</i>	<i>FWKI</i>
				<i>Mahé/Seyche lles</i>	<i>FSIA</i>
				<i>Male</i>	<i>VRMM</i>
				<i>Maputo</i>	<i>FQMA</i>
				<i>Mauritius</i>	<i>FIMM</i>
				<i>Nairobi</i>	<i>HKJK</i>
				<i>Perth</i>	<i>YYPP H</i>

APPENDIX C: Volcanic Ash Advisory Centres**FASID AFI TABLE MET 3B***EXPLANATION OF THE TABLE**Column*

3. Location of the volcanic ash advisory centre (VAAC).
4. ICAO location indicator of VAAC (for use in the WMO heading of advisory bulletin).
5. Area of responsibility for the preparation of advisory information on volcanic ash by the VAAC in Column 1.
6. MWOs to which the advisory information on volcanic ash should be sent.
7. ICAO location indicator of the MWOs in Column 4.
8. ACCs to which the advisory information on volcanic ash should be sent.
9. ICAO location indicator of the ACCs in Column 6.

Note: MWOs and ACCs in italics are situated outside the AFI Region

FASID TABLE MET 3B — VOLCANIC ASH ADVISORY CENTRES

VOLCANIC ASH ADVISORY CENTRE	ICAO LOCATION INDICATOR	AREA OF RESPONSIBILITY	MWOs TO WHICH ADVISORY INFORMATION IS TO BE SENT		ACC TO WHICH ADVISORY INFORMATION IS TO BE SENT	
			Name	ICAO LOCATION INDICATOR	Name	ICAO LOCATION INDICATOR
1	2	3	4	5	6	7
Toulouse (France)	LFPW	AFI Region Santa Maria Oceanic*, EUR* (except for London, Scottish and Shannon FIRs) and MID* Regions: south of 71°N, west of 60°E	Accra	DGAA	Accra	DGAA
		FIR Santa Maria Oceanic*, régions EUR* (sauf les FIR London, Scottish et Shannon) et MID*: au sud de 71°N, ouest de 60°E	Addis Ababa	HAAB	Addis Ababa	HAAB
			Amilcar Cabral	GVAC	Antananarivo	FMMI
			Antananarivo	FMMI	Brazzaville	FCBB
			Brazzaville	FCBB	Bujumbura	HBBA
			Bujumbura	HBBA	Dakar	GOOY
			Dakar	GOOY	Gran Canaria	GCLP
			Gran Canaria	GCLP	Kano	DNKN
			Kano	DNKN	Kigali	HRYR
			Kigali	HRYP	Kinshasa	FZAA
			Kinshasa	FZAA	Nairobi	HKNA
			Nairobi	HKNA	Niamey	DRRN
			Niamey	DRRN	N'Djamena	FTTJ
			N'Djamena	FTTJ	Robertsfield (Conakry)	GUCY
			Sal I.	GVAC	Sal I.	GVAC

APPENDIX D: List of the Abbreviations and Code Words Used in SIGMET

ABV	Above
AND*	And
APRX	Approximate or approximately
AT	At (<i>followed by time</i>)
BLW	Below
BY*	By
CB	Cumulonimbus
CENTRE*	Centre (<i>used to indicate tropical cyclone centre</i>)
CLD	Cloud
CNL	Cancel <i>or</i> cancelled
CTA	Control area
DS	Dust storm
E	East <i>or</i> eastern longitude
ERUPTION*	Eruption (<i>used to indicate volcanic eruption</i>)
EMBD	Embedded in layer (<i>to indicate CB embedded in layer of other clouds</i>)
FCST	Forecast
FIR	Flight information region
FL	Flight level
FRQ	Frequent
FZRA	Freezing rain
GR	Hail
HVY	Heavy (<i>used to indicate intensity of weather phenomena</i>)
ICE	Icing
INTSF	Intensify <i>or</i> intensifying
ISOL	Isolated
KM	Kilometers
KMH	Kilometers per hour
KT	Knots
LINE*	Line
MOV	Move <i>or</i> moving <i>or</i> movement
MT	Mountain
MTW	Mountain waves
N	North <i>or</i> northern latitude
NC	No change
NE	North-east
NM	Nautical miles
NW	North-west
OBS	Observed
OBSC	Obscured
OCNL	Occasional
OF*	Of ... (<i>place</i>)
RA	Rain
RDOACT	Radioactive
S	South <i>or</i> southern latitude
SE	South-east
SEV	Severe (<i>used e.g. to qualify icing and turbulence reports</i>)

SIGMET	SIGMET (<i>used to indicate SIGMET information</i>)
SQL	Squall line
SS	Sandstorm
STNR	Stationary
SW	South-west
TC	Tropical cyclone
TO	To ... (<i>place</i>)
TOP	Cloud top
TS	Thunderstorm
TURB	Turbulence
UIR	Upper flight information region
VA	Volcanic ash
VALID*	Valid
W	West <i>or</i> western longitude
WI	Within
WID	Width
Z	Coordinated Universal Time (<i>used in meteorological messages</i>)

** not in the ICAO Doc 8400, ICAO Abbreviations and Codes*

APPENDIX E: Meteorological Phenomena to be Reported by SIGMET

Phenomenon	Description	Meaning
TS	OBSC ² TS	Obscured thunderstorm(s)
	EMBD ³ TS	Embedded thunderstorm(s)
	FRQ ⁴ TS	Frequent thunderstorm(s)
	SQL ⁵ TS	Squall line thunderstorm(s)
	OBSC TSGR	Obscured thunderstorm(s) with hail
	EMBD TSGR	Embedded thunderstorm(s) with hail
	FRQ TSGR	Frequent thunderstorm(s) with hail
	SQL TSGR	Squall line thunderstorm(s) with hail
TC	TC (+ TC name)	Tropical cyclone (+ TC name)
TURB	SEV TURB ⁶	Severe turbulence
ICE	SEV ICE	Severe icing
	SEV ICE FZRA	Severe icing due to freezing rain
MTW	SEV MTW ⁷	Severe mountain wave
DS	HVY DS	Heavy duststorm
SS	HVY SS	Heavy sandstorm
VA	VA (+ volcano name, if known)	Volcanic ash (+ volcano name)

Notes:

1. Only one of the weather phenomena listed should be selected and included in each SIGMET
2. Obscured (**OBSC**) indicates that the thunderstorm (including, if necessary, CB-cloud which is not accompanied by a thunderstorm) is obscured by haze or smoke or cannot be readily seen due to darkness
3. Embedded (**EMBD**) – indicates that the thunderstorm (including, if necessary, CB-cloud which is not accompanied by a thunderstorm) is embedded within cloud layers and cannot be readily recognized
4. Frequent (**FRQ**) indicates an area of thunderstorms within which there is little or no separation between adjacent thunderstorms with a maximum spatial coverage greater than 75% of the area affected, or forecasts to be affected, by the phenomenon (at a fixed time or during the period of validity)
5. Squall line (**SQL**) indicates thunderstorms along a line with little or no space between individual clouds
6. Severe (**SEV**) turbulence (**TURB**) refers only to:
 - low-level turbulence associated with strong surface winds;
 - rotor streaming;
 - turbulence whether in cloud or not in cloud (CAT) near to jet streams.
 Turbulence is considered severe whenever the peak value of the cube root of EDR exceeds 0.7.
7. A mountain wave (**MTW**) is considered severe – whenever an accompanying downdraft of 3.0 m/s (600 ft/min) or more and/or severe turbulence is observed or forecast.

APPENDIX F: Standard for Reporting Geographical Coordinates in SIGMET

When reporting geographical coordinates of points in SIGMET the following should apply:

1. Each point is represented by a latitude/longitude coordinates in whole degrees or degrees and minutes in the form:

N(S)nn[nn] W(E)nnn[nn]

Note: There is a space between the latitude and longitude value.

Examples: **N0518 W00401** *Abidjan*
 S0419 E01519 *Kinshasa*
 N1443 W01728 *Dakar*

2. In describing lines or polygons, the lat,lon values of the respective points are separated by the combination space-hyphen-space, as in the following examples:

N1334 W00739 – N1327 W01635 – N0932 W1340– N0518 W00401 *(Bamako, Banjul, Conakry, Abidjan)*

S05 E093 – N01 E095 – N12 E110 – S08 E103

Note: It is not necessary to repeat the first point when describing a polygon.

3. When describing a volcanic ash cloud approximate form and position, a limited number of points, which form a simplified geometric figure (a line, or a triangle, or quadrangle, etc.) should be used in order to allow for a straightforward interpretation by the user.

4. Reporting a phenomenon occupying two different geographical areas within the FIR. This is frequently the case with two (or more) separate TS formations occurring in different parts of the FIR at the same time. The question is whether a separate SIGMET should be issued for each formation, or, one SIGMET could include location description for two (or more) geographical areas. The current SIGMET format does not allow for reporting of more than one phenomenon or two different TS areas. Therefore, in cases like this, two separate SIGMETs should be issued. The main concern with issuing separate SIGMETs is that, in general, a new SIGMET for the same FIR would replace the previous one; this may lead to rejecting valid information in case as described above. It should be noted in this regard, that the current SIGMET format allows for using different sequence numbers and thus, for keeping more than one SIGMET at a time valid for the FIR concerned; for instance, a series A1, A2,... could be used for “phenomenon A” and B1, B2, ... , for “phenomenon B”.

APPENDIX G: Examples

Note: Most examples are based on real SIGMETs. The real SIGMETs have been corrected in order to make them compliant with the Annex 3 format.

1. WS SIGMET**SIGMET for thunderstorms**

WSCG31 FCBB 122305
FCCC SIGMET 9 VALID 122330/130230 FCBB-
FCCCBRAZZAVILLE FIR EMBD TS OBS N0241 E01250 – N0443 E01552 – N0200 E01630 – N0300
E01500 TOP FL400 STNR NC=

WSNT03 KKCI 032340
KZNY SIGMET C17 VALID 032345/040345 KKCI-
KZNY NEW YORK OCEANIC FIR FRQ TS OBS WI AREA N2400 W05500 - N2300 W04930 -
N1845 W05645 - N2100 W05800 - N2400 W05500 TOP FL450 MOV E 15KT INTSF=

WSSG31 GOOY 091131
GOOO SIGMET 3 VALID 091140/091540 GOOY-
GOODAKAR FIR SQL OBS 1130Z LINEN17W10 –N13 W07 – N07 W05MOV W 10KMH WKN=

WSUK31 EGGY 121120
EGTT SIGMET 01 VALID 121125/121525 EGRR-
EGTT LONDON FIR EMBD TSGR OBS AT 1115Z SE OF LINE N5130 E00200 - N5000 W00400
TOPS FL220 MOV NE 30KT NC=

1.2 SIGMET for severe turbulence

WSAU21 AMMC 280546
YBBB SIGMET BS02 VALID 280600/281200 YMMC-
YBBB BRISBANE FIR SEV TURB FCST WI S3900 E15100 - S4300 E15100 - S4300 E16000 - S4100
E16300 - S3700 E16300 - S3900 E16000 FL260/370 MOV E 20 KT NC=

WSZR31FZAA 280003
FZAA SIGMET 01 VALID 280002/280402 FZAA-
FZAA KINHASA FIR SEV TURB OBS W OF MT KILIMANJARO BLW FL100 STNR NC=

1.3 SIGMET for severe icing

WSFR31 LFPW 280400
LFMM SIGMET 2 VALID 280500/280900 LFMM-
LFMM FIR MARSEILLE SEV ICE OBS AT 0400Z LIONGULF FL040/100 STNR NC=

WSIY31 LIIB 032152
LIMM SIGMET 07 VALID 032200/040200 LIMM-
LIMM MILANO FIR SEV ICE FCST OVER ALPS AND N PART APPENNINIAN AREA FL030/120
MOV E NC=

1.4 SIGMET for heavy duststorm

WSNR31 DRRN 160530
DRRR SIGMET 4 VALID 160600/161000 DRRN-
DRRR NIAMEY FIR HVY DS OBS N OF N1800 S OF N2300 W OF E01500 E OF E00600 MOV W
10KMH NC=

1.5 SIGMET for severe mountain wave

WSUK31 EGGY 150550
EGTT SIGMET 03 VALID 150600/151000 EGRR-
EGTT LONDON FIR SEV MTW FCST N OF N5100 FL090/140 STNR WKN=

2. VA SIGMET

2.1 VA SIGMET - full

WVPH01 RPLL 211110
RPHI SIGMET 2 VALID 211100/211700 RPLL-
RPHI MANILA FIR VA ERUPTION MT PINATUBO LOC S1500 E07348
VA CLD OBS AT 1100Z FL310/450 APRX 220KM BY 35KM S1500 E07348 – S1530 E07642 MOV
SE 65KMH FCST 1700Z VA CLD APRX S1506 E07500 – S1518 E08112 – S1712 E08330 – S1824
E07836=

Note: The coordinates used in describing the VA cloud are fictitious.

2.2 “Short” first SIGMET (no FCST)

YUDD SIGMET 2 VALID 211100/211700 YUSO-
YUDD SHANLON FIR/UIR VA ERUPTION MT ASHVAL LOC S1500 E07348
VA CLD OBS AT 1100Z FL310/450 APRX 220KM BY 35KM S1500 E07348 – S1530 E07642 MOV
SE 65KMH FCST 1700Z VA CLD APRX S1506 E07500 – S1518 E08112 – S1712 E08330 – S1824
E07836=

or

YUDD SIGMET 2 VALID 211100/211700 YUSO-
YUDD SHANLON FIR/UIR VA ERUPTION MT ASHVAL LOC S1500 E07348
VA CLD OBS AT 1100Z FL100/180 APRX 220KM BY 35KM S1500 E07348 – S1530 E07642=

WVFI01 NFFN 090900
NFFF SIGMET 03 VALID 090915/091515 NFFN-
NFFF NADI FIR VA ERUPTION MT LOPEVI LOC S1630 E16820 VA CLD OBS AT 0330Z FL090
APRX 10NM BY 10NM MOV SE 25KT FCST 1515Z VA CLD APPRX S1630 E16820 - S1900 E17600
- S1930 E17030=

2.3 SIGMET for VA CLD in the FIR but the volcano information is unknown

YUDD SIGMET 2 VALID 211100/211700 YUSO-
YUDD SHANLON FIR/UIR VA CLD OBS AT 1100Z FL310/450 APRX 220KM BY 35KM S1500
E07348 – S1530 E07642 MOV SE 65KMH FCST 1700Z VA CLD APRX S1506 E07500 – S1518
E08112 – S1712 E08330 – S1824 E07836=

2.4 SIGMET for VA CLD forecast to affect the FIR

We assume that the responsible VAAC has issued an advisory at 0200Z with forecast positions of the VA CLD for 0800Z, 1400Z and 2000Z. From this forecast it is seen that the VA CLD will enter the YUDD FIR around 0800Z. The responsible MWO, YUSO receiving this advisory prepares a SIGMET for the expected penetration of the VA cloud in its FIR and this SIGMET is send at 0230Z.

WVXY01 YUSO 210230
YUDD SIGMET 2 VALID 210800/211400 YUSO-
YUDD SHANLON FIR/UIR VA CLD FCST FL310/450 APRX 220KM BY 35KM S1500 E07348 –
S1530 E07642 MOV SE 65KMH FCST 1400Z VA CLD APRX S1506 E07500 – S1518 E08112 – S1712
E08330 – S1824 E07836=

Notes: 1. The forecast positions at 0800Z and 1400Z are taken from the VA advisory.

3. TC SIGMET**3.1. TC Graham – SIGMET issued by MWO Perth - Australia**

WCOC31 APRF 280453
YBBB SIGMET PH01 VALID 280500/281100 YPRF-
YBBB BRISBANE FIR TC GRAHAM OBS AT 0400Z S1806 E12145 CB TOP FL450 WI 120NM OF
CENTRE MOV SE 7KT INTSF FCST 1100Z TC CENTRE S1808 E12150=

3.2. SIGMET messages issued in July 2003 during the passage of TC Koni

WCSS20 VHHH 200240
VHHK SIGMET 2 VALID 200900/201500 VHHH-
VHHK HONG KONG CTA TC KONI OBS AT 0000Z N1618 E11506CB TOP FL500 WI 90NM OF
CENTRE MOV NW 8KT NCFCST 1500Z TC CENTRE N1749 E11347=

Note: This SIGMET is issued before the TC Koni started affecting the Hong Kong CTA, as seen from the issuing time and the start of validity time

WCSS20 VHHH 201150
VHHK SIGMET 7 VALID 201200/201800 VHHH-
VHHK HONG KONG CTA TC KONI OBS AT 0900Z N1712 E11400 CB TOP FL500 WI 90NM OF
CENTRE MOV NW 10KT NCFCST 1800Z TC CENTRE N1810 E11300=

WCSS20 VHHH 201450
VHHK SIGMET 10 VALID 201800/210000 VHHH-
VHHK HONG KONG CTA TC KONI OBS AT 1500Z N1730 E11330CB TOP FL500 WI 60NM OF
CENTRE MOV NW 10KT NCFCST 2100Z TC CENTRE N1818 E11240=

APPENDIX H: WMO Headings for SIGMET Bulletins Used by AFIMeteorological Watch Offices (MWO)**EXPLANATION OF THE TABLE**

Col 1:	State and name of the MWO
Col 2:	ICAO location indicator of the MWO
Col 3:	T ₁ T ₂ A ₁ A ₂ ii group of the WMO heading for the WS SIGMET bulletin
Col 4:	T ₁ T ₂ A ₁ A ₂ ii group of the WMO heading for the WC SIGMET bulletin (tropical cyclone)
Col 5:	T ₁ T ₂ A ₁ A ₂ ii group of the WMO heading for the WV SIGMET bulletin (volcanic ash)
Col 6:	ICAO location indicator of the FIR/CTA served by the MWO
Col 7:	Remarks

**WMO HEADINGS FOR SIGMET BULLETINS
USED BY AFI METEOROLOGICAL WATCH OFFICES**

MWO Location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
ALGERIA ALGER/Baraki	DAAL	WSAL31		WVAL31	DAAA	
ANGOLA LUANDA/4 de Fevereiro	FNLU	WSAN31		WVAN31	FNAN	
BOTSWANA GABORONE/Sir Seretse Khama	FBSK	WSBC31	WCBC31	WVBC31	FBGR	
BURUNDI BUJUMBURA/Bujumbura	HBBA	WSBI31		WVB131	HBBA	
CANARY ISLANDS (Spain) GRAN CANARIA/Gran Canary, Canary I	GCLP	WSCR31		WVCR31	GCCC	
CAPEVERDE SAL I/Amilcar Cabral	GVAC	WSCV31		WVCV31	GVSC	
CHAD N'DJAMENA/N'djamena	FTTJ	WSCD31		WVCD31	FTTT	
CONGO BRAZZAVILLE/Maya-Maya	FCBB	WSCG31		WVCG31	FCCC	
D.R. CONGO KINSHASA/N'Djili	FZAA	WSZR31	WCZR31	WVZR31	FZAA	
EGYPT CAIRO/Cairo International	HECA	WSEG31	WCEG31	WVEG31	HECC	
ETHIOPIA ADDIS ABABA/Bole Intl	HAAB	WSET31		WVET20	HAAA	
ERITREA ASMARA	HHAS	WSEI31		WVEI31	HHAA	
GHANA ACCRA/Kotoka Int'l	DGAA	WSGH31		WVGH31	DGAC	
KENYA KENYA/Jomo Kenyatta Int'l	HKJK	WSKN31	WCKN31	WVKN31	HKNA	
LIBERIA MONROVIA/Roberts Int'l	GLRB	WSLI31		WVSL31	GLRB	
LIBYAN ARAB JAMAHIRIYA TRIPOLI/Tripoli Int'l	HLLT	WSLY31		WVLY31	HLLL	
MADAGASCAR ANTANANARIVO/Ivato	FMMI	WSMG31	WCMG20	WVMG20	FMMM	
MALAWI LILONGWE/Lilongwe Int'l	FWLI	WSMW31	WCMG31	WVLI31	FWLL	

MWO Location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
MAURITIUS MAURITIUS/Sir SeewoosagurRamgoolam Int'l	FIMP	WSMA31	WCMG20	WVMA31	FIMM	
MOROCCO CASABLANCA/Anfa	GMMC	WSMC31		WVMC31	GMMM	
MOZAMBIQUE MAPUTO/Maputo Int'l	FQMA	WSMZ31	WCMZ20	WVMZ31	FQBE	
NAMIBIA WINDHOEK/Hosea Kutako	FYWH	WSNM31		WVNM31	FYWH	
NIGER NIAMEY/DioriHmaniInt'l	DRRN	WSNR31		WVNR31	DRRR	
NIGERIA KANO/MallamAminuKanoInt'l	DNKN	WSNI31		WVNI31	DNKK	
RWANDA KIGALI/GregoireKayibanda	HRYR	WSRW31		WVRW31	HRYR	
SENEGAL Leopold Sedar Senghor	GOOY	WSSG31		WVSG31	GOOO	
SEYCHELLES MAYE/Seychelles Int'l	FSIA	WSSC31	WCSC20	WVSC31	FSSS	
SOMALIA MOGADISHU/Mogadishu	HCMM	WSSI31		WVSI31	HCSM	
SOUTH AFRICA JOHANNESBURG/Johannesburg	FAJS	WSZA31	WCZA31	WVZA31	FACA FAJA FAJO	
SUDAN KHARTOUM/Khartoum	HSSS	WSSU31		WVSU31	HSSS	
TUNISIA TUNIS/Carthage	DTTA	WSTS31		WVTS31	DTTC	
UGANDA ENTEBBE/Entebbe Int'l	HUEN	WSUG31		WVUG31	HUEC	
UNITED REPUBLIC OF TANZANIA DAR-ES-SALAAM/Dar-es-Salaam	HTDA	WSTN31	WCTN31	WVTN31	HTDC	
ZAMBIA LUSAKA/Lusaka Int'l	FLLS	WSZB31		WVZB31	FLFI	
ZIMBABWE HARARE/Harare	FVHA	WSZW31	WCZW31	WVZW31	FVHA	

APPENDIX H1: OPERATIONAL UNITS

OPERATIONAL UNITS/UNITES OPERATIONNELLES
MWO, RODB, VAAC, TCAC AND ACC/FIC AFTN ADDRESSES OF THE AFI REGION
ADRESSES RSFTA DES CVM, BRDO, VAAC, TCAC ET CCR/CIV DE LA REGION AFI

MWO, RODB, VAAC, TCAC AND ACC/FIC Location	ICAO location indicator	AFTN Address/Adresse RSFTA			FIR/ACC served	Confirmation confirmation	Date/	Date	de
		MWO/CVM	ACC/CCR	FIC/CIV	ICAO location indicator				
1	2	3	4	5	6	7			
ALGERIA ALGER/Houari Boumedienne	DAAG	DAAGYMYX	DAAAZQZX	DAAAZQZX	DAAA				
ANGOLA 4 de Fevereiro	FNLU	FNLUYMYX	FNANZAZX	FNANZQZX	FNAN		02/05/2008		
BOTSWANA Gaborone/Sir Seretse Khama Int.	FBSK	FBSKMYX	FBGRZRZX	FBGRZRZX	FBGR		18/03/2008		
BURUNDI BUJUMBURA	HBBA	HBBAYMYX	HBBAZQZX	HBBAZQZX	HBBA				
CANARY ISLANDS GRAN CANARIA	GCLP	GCLPYMYX	GCLPZQZX	GCLPZQZX	GCCC				
CAPE VERDE SAL I/Amilcar Cabral	GVAC	GVACYMYX	GVSCZQZX	GVSCZQZX	GVSC		11/01/2008. Fax N° T/10-1009		
CHAD N'Djamena/Hassan Djamous International	FTTJ	FTTJYMYX	FTTTZOZX FTTTZRZX FTTTZUZX FTTTZFZX	FTTTZIZX FTTTZFZX FTTTZOZX	FTTT		15/04/2009. Fax N° 2009/000119/ ASECNA/DEED/DEETT		
CONGO BRAZZAVILLE/Maya-Maya	FCBB	FCBBYMYX	FCCCZOZX FCCCZRZX FCCCZUZX FCCCZFZX	FCCCZOZX FCCCZFZX FCCCZIZX	FCCC		15/04/2009. Fax N° 2009/000119/ ASECNA/DEED/DEETT		
D.R. CONGO KINSHASA/N'Djili	FZAA	FZAAZQZX	FZAAZQZX	FZAAZQZX	FZAA		18/01/2008. E-mail from ASECNA HQ (Sougué)		
EGYPT CAIRO	HECA	HECAYMYX	HECAZQZX	HECAZQZX	HECC				
ERITREA ASMARA	HHAS	HHASYMYX	HHASZQZX	HHASZQZX	HHAA				
ETHIOPIA ADDIS ABABA/Bole Int.	HAAB	HAABYMYX	HAAAZQZX	HAAZQZX	HAAA		07/03/2008		
GHANA ACCRA/Kotoka International Airport	DGAA	DGAAYMYX	DGACZQZX	DGACZQZX	DGAC		24/12/2007. E-mail at 09:12 from Juati Ayilari-Naa		
KENYA NAIROBI/Jomo Kenyatta	HKJK	HKJKYMYX	HKNAZQZX	HKNAZQZX	HKNA		10/03/2008		

LIBERIA MONROVIA/Roberts International Airport	GLRB	GLRBYMYX	GLRBZQZX	GLRBZQZX	GLRB	
LIBYA TRIPOLI	HLLT	HLLTYMYX	HLLTZQZX	HLLTZQZX		
MADAGASCAR ANTANANARIVO/Ivato	FMMI	FMMIYMYX	FMMIZTZX	FMMIZQZX	FMMM	14/03/2008
MALAWI LILONGWE/Kamuzu Int.	FWKI	FWKIYMYX	FWLLZQZX	FWLLZQZX	FWLL	
MOROCCO CASABLANCA/Anfa	GMMC	GMMCYMYX	GMMMZQZX	GMMMZQZX	GMMM	E-mail du 30/03/2009
MAURITIUS MARITIUS/Sir Seewoosagur Ramgoolam Int.	FIMP	FIMPYMYX	FIMMZQZX	FIMMZQZX	FIMM	17/03/2008
MOZAMBIQUE MAPUTO/Maputo Intl	FQMA	FQMAYMYX	FQBEZQZX	FQBEZIZX	FQBE	07/03/2008
NAMIBIA WINDHOEK/Hosea Kutako	FYWH	FYWHYMYX	FYNMZQZX	FYNMZQZX	FYNM	06/03/2008
NIGER NIAMEY/Diori Hmani International Airport	DRRN	DRRNYMYX	DRRRZQZX DRRRZRZX DRRRZUZX DRRRZFZX	DRRRZIZX DRRRZQZX DRRRZFZX	DRRR	15/04/2009. Fax N° 2009/000119/ ASECNA/DEED/DEETT
NIGERIA KANO/Mallam Aminu Kano International Airport	DNKN	DNKNYMYX	DNKNZQZX	DNKNZQZX	DNKK	07/01/2008. E-mail at 14:08 from Rahim Adewara
RWANDA KIGALI/Gregoire Kayibanda	HRYR	HRYRYMYX	HRYRZQZX	HRYRZQZX	HRYR	
SENEGAL DAKAR/Leopold Sedar Senghor	GOOY	GOOYYMYX	G000ZQZX G000ZRZX G000ZUZX G000ZFZX	G000ZIZX G000ZFZX G000ZQZX G000ZOZX	GOOO	15/04/2009. Fax N° 2009/000119/ ASECNA/DEED/DEETT
SEYCHELLES MAHE/Seychelles Intl	FSIA	FSIAYMYX	FSSSZQZX	FSSSZQZX	FSSS	06/03/2008

SOMALIA MOGADISHU/Mogadishu	HCMM	HCMMYMYX	HCSMZQZX	HCSMZQZX	HCSM	
SOUTH AFRICA JOHANNESBURG/O.R.Tambo Int	FAJS	FAJSYMYX	FACAZQZX	FACAZQZX	FACA	06/03/2008
JOHANNESBURG/O.R.Tambo Int	FAJS	FAJSYMYX	FAJAZQZX	FAJAZQZX	FAJA	
JOHANNESBURG/O.R.Tambo Int	FAJS	FAJSYMYX	FAJOZQZX	FAJOZQZX	FAJO	
SUDAN KHARTOUM	HSSS	HSSSYMYX	HSSSZQZX	HSSSZQZX	HSSS	
TUNISIA TUNIS/Carthage	DTTA	DTTAYMYX	DTTCZQZX DTTCZRZX	DTTCQZX DTTCZRZX	DTTC	24/04/2009. Fax N° 01391 du 27 avril 2009
UGANDA ENTEBBE/Entebbe Int.	HUEN	HUENYMYX	HUECZQZX	HUECZQZX	HUEC	
UNITED REPUBLIC OF TANZANIA DAR-ES-SALAAM/Dar-es-Salaam	HTDA	HTDAYMYX	HTDCZQZX	HTDCZQZX	HTDC	
ZAMBIA LUSAKA/Lusaka Int.	FLLS	FLLSYMYX	FLFIZQZX	FLFIZQZX	FLFI	25/03/2008
ZIMBABWE HARARE/Harare	FVHA	FVHAYMYX	FVHAZQZX	FVHAZQZX	FVHA	
RODB/BRDO Dakar DAKAR/Leopold Sedar Senghor		GOOYYZYZ	GOOYYZYZ	GOOYYZYZ		15/04/2009. Fax N° 2009/000119/ASECNA/DEED/DEETT
RODB/BRDO Pretoria Pretoria		FAPRYMYX	FAPRYMYX	FAPRYMYX		
VAAC Toulouse, France		LFPWYMYX				
TCAC La Réunion, France		FMEEYMYX	FMEEYAYX	FMEEYAYX	FMEE	

APPENDIX I: WMO Headings for Tropical Cyclone and Volcanic Ash Advisory Bulletins (FK And FV)Used by AFITCAC And VAAC**Explanation of Table**

Col. 1:	Name of the TCAC or VAAC
Col 2:	ICAO location indicator used by the TCAC or VAAC
Col 3:	WMO heading (TTAAii CCCC) of the FK or FV bulletin
Col 4:	Remarks (e.g., Area of coverage of the advisory, or any other bulletin-specific information)

TCAC/VAAC (State)	ICAO location indicator	WMO Heading TTAAii CCCC	Remarks
1	2	3	4
TC Advisories (FK)			
Réunion (France)	FMEE	FKIO20 FMEE	
VA Advisories (FV)			
Toulouse (France)	LFPW	FVXX01LFPW 1st volcano in activity FVXX02LFPW 2nd volcano in activity, FVXX03LFPW 3rd volcano in activity FVXX04LFPW 4th volcano in activity FVXX05LFPW used for VAAC TOULOUSE back up by LONDON	

J-1**APPENDIX J - AFI SIGMET Test Procedures**
(Amendment 1 – May 2010)**1. Introduction**

1.1 The MET Divisional Meeting (2002) formulated recommendation 1/12 b), *Implementation of SIGMET requirements*, which call, *inter alia*, for the relevant planning and implementation regional groups (PIRGs) to conduct periodic tests of the issuance and reception of SIGMET messages, especially those for volcanic ash.

1.2 Concerns by the users for the timely reception of SIGMET information has prompted the need to improve awareness on the critical and important nature of SIGMETs. In order to maintain the International Airways Volcano Watch (IAVW) and TC watch systems ready-for-action, regular exercises involving the advisory centres and the MWOs under their areas of responsibility should be performed.

1.3 The requirements for dissemination of SIGMET are specified in Annex 3, Appendix 6, 1.2. Regional guidance on the preparation and dissemination of SIGMET is provided in this *Regional SIGMET Guide*.

2. Purpose and Scope of SIGMET tests

2.1 The purpose of the tests is to check the awareness of the participating MWOs of the ICAO requirements for the issuance of SIGMET, and the adequacy of the existing telecommunication procedures for dissemination of the advisories and SIGMETs. Based on the results of the tests, the States will be provided with advice aimed at improving their practices and procedures.

2.2 In the case of SIGMET for tropical cyclones and volcanic ash clouds (referred hereafter as WC SIGMET and WV SIGMET respectively) the scope of the tests will involve issuance of test advisories by the VAACs and TCACs in the region, which will be disseminated to the corresponding MWOs and the Regional OPMET Data Banks (RODBs). The MWOs will have to issue a test SIGMET on receipt of a test advisory from the responsible VAAC or TCAC, and disseminate it according to the distribution list used for normal (non-test) SIGMETs.

2.3 The RODBs will record the reception of the test SIGMETs and the corresponding time and will provide a summary table to the VAAC or TCAC with a copy to the Regional Office.

2.4 A consolidated summary report will be prepared by the ICAO Secretariat and reported to the MET/SG and APIRG. The report will include recommendations for improvement of the SIGMET exchange and availability.

3. SIGMET test procedures

3.1 Procedures for WC and WV SIGMET TEST :

3.1.1 Operational Units:

3.1.1.1 Tropical Cyclone Advisory Centre (TCAC): **La Réunion**

3.1.1.2 Volcanic Ash Advisory Centre (VAAC): **Toulouse**

3.1.1.3 Regional OPMET Data Bank (RODB): **Dakar, Pretoria**

3.1.1.4 Meteorological Watch Office (MWO)

3.1.1.4.1 All MWOs listed in AFI FASID Table MET 3A and MET 3B, under the responsibility of Toulouse, VAAC and La Réunion, TCAC.

Note: The participation of MWOs of States, which do not belong to AFI region, should be coordinated through the relevant ICAO Regional Office.

3.1.2 Test date and time

3.1.2.1 ICAO Regional Office will set a date and time after consultation with the VAAC, TCAC and RODB. The information about the agreed date and time will be sent to all States concerned and copied to the States SIGMET Tests Focal Points.

3.1.3 Test messages

3.1.3.1 Each VAAC or TCAC prepares a simple TEST message in the form of VA or TC advisory. The formats of the said TESTs are given in **Attachment 1** to this Appendix.

3.1.3.2 The MWOs, upon receipt of the TEST VA/TC advisory, should prepare a TEST SIGMET for volcanic ash or tropical cyclone, respectively, and send it to the RODBs. The WMO heading and the first line of the SIGMET should be valid ones, while the body of the message should contain an explanatory text on the tests as show in **Attachment 1** to this Appendix.

3.1.3.3 The MWOs should issue a WV or WC TEST SIGMET within the 10-minute period following the issuance of VA or TC test message by the corresponding VAAC or TCAC.

3.2 Procedures for WS SIGMET Tests

3.2.1 WS SIGMET Test should be initiated by AFI RODBs in coordination with ICAO Regional Offices in Dakar and Nairobi through a graphical advisory distributed by e-mail to all MWOs and States SIGMET Tests Focal Points. The information about the date and time will be sent to all States concerned and copied to the States SIGMET Tests Focal Points.

3.2.2 Operational Units:

-AFI Regional OPMET data Banks: Dakar and Pretoria.

-Meteorological Watch Offices (MWO): All MWOs listed in FASID Table MET 3A and MET 3B of the AFI FASID.

3.2.3 Since the WS advisory is distributed through e-mail, the MWOs are allowed to issue a WS SIGMET up to 30 minutes from the e-mail issuance time.

3.3 Common Procedures Applicable to All Types of SIGMET

3.3.1 The AFTN addresses of the RODBs to which the test SIGMETs should be sent are as follows:

Dakar	:	GOOYYZYZ
Pretoria	:	FAPRYMYX

3.3.2 To avoid over-writing of a valid SIGMET, the test SIGMET may not be sent if there is a valid SIGMET for responsible area of the MWO. Such MWOs are strongly encouraged to notify the Regional Office via e-mail of their non-participation in the test due to the said reasons.

3.3.3 Test for different types of SIGMET should preferably be conducted on separate dates.

3.3.4 At least two SIGMET tests per year should be conducted.

3.4 Special procedure to avoid overwriting of a valid SIGMET

3.4.1 It is vital to ensure that TEST SIGMET is not confused with operational SIGMET and avoid overwriting a valid operational SIGMET in an automated system. In order to prevent this it is suggested that:

- a) If at the time of the SIGMET test NO SIGMET is current for the FIR, the number of the Test SIGMET should follow the normal numbering sequence; e.g. if the last “normal” SIGMET before the test was number “03”,
- b) the TEST SIGMET should be number “04”, and the first “normal” SIGMET after the test should be number “05”. If a SIGMET is VALID at the time of the test then the TEST SIGMET should be issued and the valid SIGMET should be repeated immediately after the TEST SIGMET. E.g., if the following SIGMET is issued at 0100 on the date of the test:

J-4

WSCG31 FCBB 250100
FCCC SIGMET 1 VALID 250100/250500 FCBB-
FCCC BRAZZAVILLE FIR SEV TURB FCST WI=

A SIGMET test is scheduled for 0200 UTC on the 25th. The TEST SIGMET is issued with the next consecutive sequence number as follows:

WSCG31 FCBB 250200
FCCC SIGMET 2 VALID 250200/250210 FCBB-
FCCC THIS IS A TEST SIGMET PLEASE DISREGARD=

The original SIGMET is then retransmitted immediately after this with the next consecutive sequence number and the validity period is amended accordingly:

WSCG31 FCBB 250200
FCCC SIGMET 3 VALID 250200/250500 FCBB-
FCCC BRAZZAVILLE FIR SEV TURB FCST WI ... =

4. Dissemination of test SIGMETs and Advisories

4.1 All TEST SIGMETs and TC/VA advisories should be sent to the two AFI RODBs. The AFTN addresses to be used by the MWOs, TCACs and VAACs are as follows:

Dakar – GOOYYZ YZ
Pretoria – FAPRYMYX

4.2 SIGMET tests should be terminated within **2 hours** of the test start time.

4.3 Coordination with the ATS units

4.3.1 MWOs should inform the associated ATS units of the forthcoming SIGMET tests by a suitable advanced notice.

4.4 Processing of the test messages and results

4.4.1 The RODBs will be requested to file all incoming TEST advisories and SIGMETs and perform an analysis of the availability, timeliness of arrival for WV and WC SIGMETs and the correctness of the headers. A SIGMET TEST Summary Table as shown in **Attachment 4** to this Appendix should be prepared by each RODB and sent to the Rapporteur of the AFI OPMET Management Task Force (AFI OPMET MTF), and the contact given below with a copy to the ICAO Dakar and Nairobi Regional Office.

4.4.2 The Rapporteur and SIGMET test contact should prepare the final report of the test and present it to the AFI Regional Offices. A summary report should be submitted to the next AFI OPMET MTF meeting.

4.4.3 The current contact information for sending summary tables is as follows :

J-5

WS SIGMET summary table sent to :

Mr DiemeSaidou
Service Exploitation Météorologique ASECNA – Sénégal
Tél 221 33 869 22 03
Fax 221 33 820 06 00
E-mail : saidoudieme@yahoo.fr

WV/WC SIGMET summary table sent to :

Mrs G.E Khambule
South African Weather Service
Tel 27113909326
Fax 27113209332
Email : gaborekwe.khambule@weathersa.co.za

All Summary Tables and any enquires about SIGMET tests sent to :

ICAO Regional Office, Dakar
E-mail : icaoAFI@dakar.icao.int
Cc : aokossi@dakar.icao.int

And

ICAO Regional Office, Nairobi
Email : icao@icao.union.org
Cc: boitshaka.sewati@icao.union.org (*Vitalis*)

Attachment 1 to Appendix J

AFI SIGMET TEST PROCEDURES

Format of VA Test advisories and SIGMETs

1. Format of TEST Volcanic Ash Advisory

VA ADVISORY
 DTG : YYYYMMDD/hhmm
 VAAC: (name of VAAC)
 VOLCANO : TEST
 PSN : UNKNOWN
 AREA : (name of VAAC) VAAC AREA
 SUMMIT ELEV : UNKNOWN
 ADVISORY NR : YYYY/nn (actual number)
 INFO SOURCE : NIL
 AVIATION COLOUR CODE : NIL
 ERUPTION DETAILS : NIL
 OBS VA DTG : DD/0150Z
 OBS VA DTG : ASH NOT IDENTIFIABLE FROM SATELLITE
 DATA
 FCST VA CLD + 6HR : 01/ 0800 Z SFC/FL600 NO ASH EXP
 FCST VA CLD + 12 HR : 01/1400 Z SFC/FL600 NO ASH EXP
 FCST VA CLD + 18 HR : 01/2000 Z SFC/FL600 NO ASH EXP
 RMK: THIS IS A TEST VA ADVISORY. MWO SHOULD NOW ISSUE A TEST SIGMET
 FOR VA, UNLESS THERE IS A VALID SIGMET FOR VA.
 PLEASE REFER TO THE LETTER FROM ICAO AFI OFFICE DATED xxxxxx.
 NXT ADVISORY : NO FURTHER ADVISORIES =

2. Format of TEST Tropical Cyclone ADVISORY

TC ADVISORY
 DTG : YYYYMMDD/hhmm
 TCAC : (name of TCAC)
 TC : TEST
 NR : nn (actual number)
 PSN : NIL
 MOV : NIL
 C: NIL
 MAX WIND : NIL
 FCST PSN + 06HR : NIL
 FCST MAX WIND + 6HR : NIL
 FCST PSN +12 HR : NIL
 FCST MAX WIND +12HR : NIL
 FCST PSN +18HR : NIL
 FCST MAX WIND +18HR : NIL
 FCST PSN + 24 HR : NIL
 FCST MAX WIND +24HR : NIL

RMK : THIS IS A TEST TC ADVISORY. MWO SHOULD NOW ISSUE A TEST SIGMET FOR TC, UNLESS THERE IS VALID SIGMET FOR TC
 PLEASE REFER TO THE LETTER FROM ICAO AFI OFFICE DATED XXXXXX
 NXT MSG : NIL

3. Format of TEST SIGMET for Volcanic Ash

WVXXii CCCC YYGGgg
CCCC SIGMET n (nn) VALID YYGGgg/ YYGGggCCCC-
THIS IS A TEST SIGMET , PLEASE DISREGARD. TEST VA ADVISORY NUMBER
xx

RECEIVED AT YY GGggz =

Example:

WVHK31 VHHH 180205
VHHK SIGMET 01 VALID 180205/180215 VHH-
THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST VA ADVISORY NUMBER 01
RECEIVED AT 180200Z =

4. Format of TEST SIGMET for Tropical Cyclone

WCXXii CCCC YYGGgg
CCCC SIGMET n (nn) VALID YYGGgg/YYGGgg CCCC-
THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST VA ADVISORY NUMBER xx
RECEIVED AT YYGGggZ=

Example :

WCHK31 VHHH 180205
VHHK SIGMET 01 VALID 180205/180215 VHHH-
THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST TC ADVISORY NUMBER 01
RECEIVED AT 180200Z=

5. Format of TEST SIGMET for other weather phenomena

WSXXii CCCC YYGGgg
CCCC SIGMET n (nn) VALID YYGGgg/YYGGgg CCCC
THIS IS A TEST SIGMET, PLEASE DISREGARD =

Example :

WSHK31 VHH H180200
VHHK SIGMET 04 VALID 180200/ 180210 VHHH-
THIS IS A TEST SIGMET, PLEASE DISREGARD =

Note : 1) “ x x ” in the WMO heading to be used replaced by the respective WMO geographical designator

2) Actual number to be used in all TEST SIGMETS

6. AFI Volcanic ash test procedure

Format of the test VAA

- a) The format for the TEST VAA that will be provided by the Toulouse VAAC can be seen below. DD is the day of the month, HH the hour of issuance.

```
FVAF01 LFPW DDHH00
VOLCANIC ASH ADVISORY
ISSUED: 200506DD/HH00Z
VAAC: TOULOUSE
VOLCANO: FICTITIOUS
LOCATION: NIL

AREA : NIL
SUMMIT ELEVATION : NIL
ADVISORY NUMBER : 2005/01
INFORMATION SOURCE: NIL
AVIATION COLOUR CODE: NIL
ERUPTION DETAILS : NIL
OBS ASH DATE/TIME : NIL
OBS ASH CL: NIL
FCST ASH CL+6H:NIL
FCST ASH CL+12H:NIL
FCST ASH CL+18H:NIL
NEXT ADVISORY: NO FURTHER ADVISORIES
```

REMARKS:

THIS IS A VAA TEST MESSAGE APPLICABLE TO THE WHOLE OF ICAO AFI REGION. EACH METEOROLOGICAL WATCH OFFICE, AREA CONTROL CENTRE AND FLIGHT INFORMATION CENTRE SERVING FLIGHT INFORMATION REGIONS WITHIN THE AFI REGION RECEIVING THIS MESSAGE SHOULD ISSUE AN ADMINISTRATIVE MESSAGE USING THE WMO HEADER NOAF33 LFPW AND SEND IT TO THE AFTN ADDRESS LFZZMAFI TO ACKNOWLEDGE THE RECEPTION OF THIS VAA MESSAGE.

- b) Template of the SIGMET (without meteorological content = acknowledgement of receipt) to be sent by the MWO/ACC/FIC to both RODBs:

```
TO: VAAC TOULOUSE, RODB DAKAR, RODB PRETORIA
WVFR31LFPW080200
LFFF SIGMET 1 VALID 080400/081000 LFPW-
LFFF PARIS FIR/UIR TEST TESTTESTTEST
ACK RECEP TEST VAA FROM VAAC TOULOUSE
VOLCANO UNKNOWN AREA ICAO AFI REGION
```

J-9

INFO SOURCE TEST VOLCAFI
DTG 20071127/0615Z RECEIVED AT 27/0621Z
TEST VA SIGMET PLEASE DISREGARD
TEST TESTTESTTESTTESTTESTTESTTESTTESTTEST TEST=

Note : *Parts of the SIGMET message (acknowledgement of receipt) highlighted, must be replaced with information about the Recipients, date, your MWO/ACC/FIC and corresponding FIR.*

*Attachment 2 to Appendix J***TCA TEST MESSAGE FORMAT FROM LA REUNION TCAC**

KIO20 FMEE 100900
TC ADVISORY
DTG: 20090610/0900Z
TCAC: REUNION
TC: TEST
NR: 01
PSN: NIL
MOV: NIL
C: NIL
MAX WIND: NIL
FCST PSN +06HR: NIL
FCST MAX WIND +06HR: NIL
FCST PSN +12HR: NIL
FCST MAX WIND +12HR: NIL
FCST PSN +18HR: NIL
FCST MAX WIND +18HR: NIL
FCST PSN +24HR: NIL
FCST MAX WIND +24HR: NIL
RMK: THIS IS A TEST TC ADVISORY. MWO SHOULD NOW ISSUE A TEST SIGMET FOR TC,
UNLESS THERE IS A VALID SIGMET FOR TC.
NXT MSG: NIL

*Attachment 3 to Appendix J***SIGMET TEST PROCEDURES
- Examples of TEST advisories and SIGMETs -****1. Format of TEST SIGMET for Volcanic Ash**

WVXXiiCCCCYYGGgg
CCCC SIGMET n(nn) VALID YYGGgg/YYGGgg CCCC–
THIS IS A TEST SIGMET PLEASE DISREGARD. TEST VA ADVISORY NUMBER XX RECEIVED
AT YYGGggZ=

Example:

WVSG31 GOOY 180205
GOOO SIGMET 01 VALID 180205/180215 GOOY-
THIS IS A TEST SIGMET, PLEASE DISREGARD. TEST VA ADVISORY NUMBER 01
RECEIVED AT 180200Z=

2. Exemple of TEST SIGMET for Tropical Cyclone

WCXXiiCCCCYYGGgg
CCCC SIGMET n(nn) VALID YYGGgg/YYGGggCCCC–
THIS IS A TEST SIGMET PLEASE DISREGARD. TEST TC ADVISORY NUMBER XX RECEIVED
AT YYGGggZ=

Example:

WCHK31 VHHH 180205
VHHK SIGMET 01 VALID 180205/180215 VHHH-
THIS IS A TEST SIGMET PLEASE DISREGARD. TEST TC ADVISORY NUMBER 01
RECEIVED AT 180200Z=

3. Exemple of TEST SIGMET for other weather phenomena

WSXXiiCCCCYYGGgg
CCCC SIGMET n(nn) VALID YYGGgg/YYGGggCCCC–
THIS IS A TEST SIGMET PLEASE DISREGARD=

Example:

WSCG31 FCBB 180200
FCCC SIGMET 04 VALID 180200/180210 FCBB-
THIS IS A TEST SIGMET PLEASE DISREGARD=

J-12

*Attachment 4 to Appendix J***SAMPLE TABLE TO BE USED BY RODBS****AFI SIGMET TEST Summary (Reception time at RODBs)**

Name of RODB : Dakar or Pretoria
 Date of test : YYYY/MM/DD
 Target : VA (Volcanic Ash)

VAA	Header		Received time (UTC)
TTAAii	CCCC	YYGGgg	
FVXX01	LFPW	180200	18:00:27

SIGMET (UTC)	Header				Received time
TTAAii	CCCC	YYGGgg	MWO	FIR/UIR	
WVSG31	GOOY	180235	GOOY	GOOO	18:06:02
WVCD31	FTTJ	180311	FTTJ	FTTT	18:07:58
WVNI31	DNKN	180255	DNKN	DNKK	18:17:55

Name of RODB : Dakar or Pretoria
 Date of test : YYYY/MM/DD
 Target : TC (Tropical Cyclone)

TCA	Header		Received time (UTC)
TTAAii	CCCC	YYGGgg	
FKIO01	FMEE	180200	18:08:27

SIGMET (UTC)	Header				Received time
TTAAii	CCCC	YYGGgg	MWO	FIR/UIR	
WCMG20	FMMI	180250	FMMI	FMMM	18:02:55
WCTN31	HTDA	180402	HTDA	HTDC	18:03:58
WCZA31	FAJS	180356	FAJS	FAJA	18:03:44
WCBC31	FBSK	180322	FBSK	FBGR	18:03:15

Appendix E: Summary of Dakar RODB Implementation Status

APIRG or MTF Conclusions, Decisions and Recommendation	Implementation Action undertaken by Dakar RODB	Comments
<u>MTF/2, Recommendation 2/3:</u> <i>Schedule of the AFI OPMET Monitoring</i> <i>Dakar and Pretoria RODBs are recommended to:</i> <i>a) Implement an automatic OPMET data monitoring scheme using procedures in Chapter 12 and Appendix F of the AMBEX Handbook on quarterly basis (March 31, June 30, August 31 and December 31 of each year).</i> <i>b) Distribute the monitoring statistics to the Chairman of the Task Force and the Secretariat.</i> <i>c) Perform regular 24 hours simultaneous monitoring starting at 00:00:00 UTC on the first Wednesday of every month.</i> <i>d) Implement the above tasks starting on 01st January 2012.”</i>	1) Monitoring of Scheduled OPMET data • Computing the compliance index • Computing the regularity index • Computing the availability index 2) Monitoring of non-scheduled OPMET data • The monitoring results will be shown in a bulletin oriented format, a line per bulletin; 1) Distribution of the Monitoring Results • The AFI SIGMET test is not a continuous activity. When implemented the related table in the AFI SIGMET Guide will be filled out by Dakar RODB and exchanged with MWOs. For example, the following recipients : FCBBPRVI, GOOYPRVI, DRRNPRVI, FTTJPRVI or FMMIPRVI ; • The same results will be sent by e-mail to some pre recorded addresses. For example: the President and members of MTF, the ICAO Ros/MET, etc..	

<i>“Action recommended 1/7 AFI Tests SIGMET – Phase 1: Displaying the VAA Message</i> <i>That, the MWOs provider States in the AFI Region take the required measures to display or print the incoming VAA message in the forecast room with visual and sound alarms”.</i>	On the workstation SADIS 2G located in the aviation forecast room, a red indicator lights up and an audible alarm sound for incoming warning message. Both alarms only stop if the message is consulted. These are the following: 1) At Brazzaville MWO – Upon receipt of an advisory on a volcanic eruption (FVCM20 FKGD YYGGgg) from Douala AMO; – Upon receipt of a volcanic ash advisory VAA (FVFR31 LFPW YYGGgg) from Toulouse VAAC; – Upon receipt of a WS SIGMET advisory (FQFR31 LFPW YYGGgg) from Toulouse; – Upon receipt of any WS SIGMET advisory (WXAA39 YYGGgg UNFCCC) from the following centers: Douala, Bangui, Libreville and Malabo. 2) At the CVM Dakar MWO – Upon receipt of a VAAC advisory (FVFR31 LFPW YYGGgg) from Toulouse; – Upon receipt of a WS SIGMET advisory (FQFR31 LFPW YYGGgg) from Toulouse; – Upon receipt of any WS SIGMET advisory (WXAA39 YYGGgg UNFCCC) from the following centers: Bamako, Nouakchott, Abidjan, Bissau	
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	3) 3) At Antananarivo MWO - ☐ Upon receipt of a volcanic eruption advisory (FVIC20 FMCH YYGGgg) from Moroni AMO; - ☐ Upon receipt of a volcanic ash (FVFR31 LFPW YYGGgg) from Toulouse VAA; - ☐ Upon receipt of a tropical cyclone advisory (FKFR31 LFPW YYGGgg) from La réunion; - ☐ Upon receipt of a tropical cyclone advisory from Toulouse VAA (FVFR31 LFPW YYGGgg); - ☐ Upon receipt of an advisory opinion of WAS SIGMET (FQFR31 LFPW YYGGgg) from Toulouse; - ☐ Upon receipt of any WS SIGMET advisory (WXIC39 CCCC YYGGgg) from the following centers: Moroni. 4) At Niamey MWO • ☐ Upon receipt of a VAA Advisory (FVFR31 LFPW YYGGgg) from Toulouse; • ☐ Upon receipt of a WS SIGMET advisory (FQFR31 LFPW YYGGgg) from Toulouse; • ☐ On receipt of any WS SIGMET advisory f (WXAA39 CCCC YYGGgg) from the following centers: Ouagadougou, Cotonou and Lomé. 4) 5) At Ndjamena MWO • ☐ Upon receipt of a VAA advisory (FVFR31 LFPW YYGGgg) from Toulouse; • ☐ Upon receipt of a WS SIGMET advisory f (FQFR31 LFPW YYGGgg) from Toulouse; • - Upon receipt of any WS SIGMET advisory (WXAA39 CCCC YYGGgg) from the following centers: Bangui.	
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NB: To ensure the reception of messages by the forecaster at the Aerodrome Meteorological Offices (AMO), Conventionally in ASECNA, the AMO AFTN is presented as follows: CCCCPRVI. Example if the Douala AMO wants to send a WS SIGMET advisory to Brazzaville MWO, the destination AFTN address will be: FCBBPRVI.

INTERNATIONAL CIVIL AVIATION ORGANIZATION



AFI MET BULLETINS EXCHANGE (AMBEX) HANDBOOK

(Draft Seventh Edition – Amendment 2)

June - 2011

**Prepared by the ICAO ESAF & WACAF Offices
And published under the authority of the Secretary General**

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MANUEL AMBEX - 7EME EDITION -

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TABLE OF CONTENTS

	Page
ABBREVIATIONS AND ACCRONYMES	6
1. INTRODUCTION.....	7
2. AMBEX SCHEME - GENERAL	8
2.1 Objective	8
2.2 Structure	8
2.3 Products	8
2.4 Communications -General	8
2.4.1 Use of AFS Components	8
2.4.2 Use of the AFTN	9
2.4.3 Use of the Satellite Distribution System for aeronautical information (SADIS-operated by the UK)	9
2.5 Use of the Internet	9
2.6 Management	9
2.7 Documentation	10
3. DEFINITIONS AND SYMBOLS.....	11
4. OPMET INFORMATION AND OPMET EXCHANGES.....	12
4.1 OPMET Data Type	12
4.2 OPMET bulletins	12
4.3 Types of OPMET exchange	12
4.3.1 Regional exchange – AMBEX scheme	12
4.3.2 Inter-regional OPMET exchange	13
4.3.3 Exchange of OPMET information through the satellite segment of the AFS	13
4.3.4 Other OPMET exchanges	13
5. COMPOSITION OF AMBEX.....	14
5.1 Components of the AMBEX	14
5.2 Originating Station	14
5.3 National OPMET Center (NOC).....	14
5.4 AMBEX Bulletin Compiling Centre (AMBEX BCC or, in brief, AMBEX centre)	14
5.5 Regional OPMET Data Banks (RODB)	15
5.6 Inter-regional OPMET Gateways (IROG).....	15
6. TAF EXCHANGE.....	17
6.1 General	17
6.2 Responsibilities and procedures to be followed by originating aerodrome meteorological offices (AMOs) and NOCs	18
6.3 Responsibilities and procedures to be followed the AMBEX Centres (BCCs)	19
6.4 Format and content of TAF bulletins	21
7. SPECIAL AIREP EXCHANGE.....	23
8. METAR/SPECI EXCHANGE.....	24
8.1 General	24
8.2 Responsibilities of originating stations and NOCs	24
8.3 Responsibilities of AMBEX Centres	25
8.4 Format and content of METAR Bulletins	26

8.5	Format and content of SPECI Bulletins	26
9.	EXCHANGE OF SIGMET AND ADVISORIES	27
10.	REGIONAL OPMET DATA BANKS (RODB).....	28
11.	INTER-REGIONAL OPMET EXCHANGE - IROG FUNCTIONS.....	29
12.	MANAGEMENT OF OPMET EXCHANGE UNDER THE AMBEX SCHEME	30
12.1	OPMET Bulletins Update Procedure	30
12.2	Quality Management of OPMET Exchange under the AMBEX Scheme	30
12.2.1	Objectives and Scope	30
12.2.2	Quality Control – General Requirements	30
12.2.3	Quality Control Procedures	31
12.3	OPMET Monitoring	31
12.3.1	Monitoring of Scheduled OPMET Data	31
12.3.2	Monitoring of Non-Scheduled OPMET data	31
12.4	AMBEX Focal Points	31
APPENDIX A		33
APPENDIX B		37
APPENDIX C		41
APPENDIX D		45
APPENDIX E		46
APPENDIX F		50
APPENDIX G		58

ABBREVIATIONS AND ACCRONYMES

ADMIN	Administrative
AFI	Africa and Indian Ocean region of ICAO
AFMAG	AFI MET Advisory Group
AFS	Aerodrome flight information service
AFTN	Aeronautical fixed telecommunication network
AIREP	Air-report
AMBEX	AFI MET Bulletins Exchange (System)
AMD	Amend/Amended
ANP	Air Navigation Plan
APIRG	AFI Planing and Implementation regional Group
ASIA/PAC	Asia and Pacific Region of ICAO
BCC	Bulletin Compilation Centre
BRDO	Banque Régionale des Données OPMET
COM	Communications
ESAF	East and South African (Office)
EUR	Europe region of ICAO
FASID	Facilities and Services Implementation Document
ICAO	International Civil Aviation Organization
ICD	Interface Control Document
IROG	Inter-regional OPMET gateway
ISCS	International Satellite Communication System
MET	Meteorology
MET/SG	MET Sub-group
METAR	Aerodrome routine meteorological report
MID	Middle East region of ICAO
NAM	North American region of ICAO
NOC	National OPMET Centre
ODREP	OPMET Data Regional Exchange Points
OMM	Organisation Météorologique Mondiale
OPMET	Operational meteorological (<i>information</i>)
RODB	Regional OPMET Data Bank
SADIS	Satellite Distribution of Aeronautical Information
SAM	South African (Office)
SARP	Standards and Recommended Practices [ICAO]
SIGMET	Information concerning en-route weather phenomena which may affect the safety of aircraft operation
SPECI	Aerodrome special meteorological report (<i>in meteorological code</i>)
TAF	Aerodrome forecast
TCA	Tropical Cyuclone Advisory
TCAC	TCA Centre
VAA	Volcanic Ash Advisory
VAAC	VAA Centre
WACAF	Western and Central African (Office) of ICAO
WMO	World Meteorological organization

1. INTRODUCTION

1.1 The Africa- Indian (AFI) Meteorological Bulletin Exchange (AMBEX) scheme was established by the AFI Planning and Implementation Regional Group (APIRG) in 1986. The scheme became operational in 1986 and has since then been successfully serving the ICAO AFI Region in the exchange of the required OPMET information.

Note: AFI Meteorological Advisory Group (AFMAG) was created by the LIM AFI (COM/MET/RAC) RAN Meeting in Lome April 1988 and established by APIRG/6 Meeting in November 1989. AFMAG was replaced by AFI Meteorology Sub Group (MET/SG) at APIRG/11 Nairobi 1998. AMBEX was implemented starting on 29 August 1986.

1.2 AMBEX scheme was intended initially only for TAF exchanges, AIREPs and METAR were added to the scheme at a later stage and SIGMET, Volcanic Ash Advisory (VAA) and tropical Cyclone (TCA) is being added in this edition. The operation of the AMBEX scheme included exchange of OPMET bulletins between the originating tributary offices and the bulletin compiling centres, which, according to their functions and responsibilities, were classified as METAR Collection Centres, TAF Collection Centres and AIREP Collection Centre. The operational exchange has been carried out according to agreed transmission schedules; the bulletin contents were specified in the AMBEX Handbook.

1.3 The procedures described hereunder are based to a significant degree on corresponding procedures in use in the Regional OPMET Bulletin Exchange (AMBEX) Scheme (AFI). Although uniformity is desired, the AMBEX Scheme is not intended as a rigid scheme for the AFI Region where variations or adaptation of the basic principles appear more efficient. AMBEX centre authorities are strongly requested to suggest to the Secretary of the MET/SG any local changes that are considered desirable for the enhancement of the efficiency of the scheme.

1.4 Based on communications (COM) facilities of very limited capacity in the early seventies, the AMBEX scheme was strictly planned to accommodate only those OPMET exchanges considered vital for the flight operations. Over the years, the COM facilities have been improving considerably and the AMBEX scheme has been developed accordingly.

1.5 Recently, it has been identified that significant changes in the scheme were needed in order to make it compatible with the existing COM environment and satisfy the evolving user requirements. In view of this, APIRG adopted conclusions that called for further development of the AMBEX scheme according to the new operational requirements.

1.6 The AMBEX Handbook is the main guidance material providing detail on the procedures for OPMET exchange under the AMBEX scheme. The Handbook defines the responsibilities of the AMBEX centres and the procedures to be followed. It defines also the content and format of the AMBEX bulletins.

1.7 The AMBEX Handbook is published and kept up-to-date by the ICAO ESAF and WACAF Offices.

2. AMBEX SCHEME - GENERAL

2.1 Objective

2.1.1 The main purpose of the AFI Meteorological Bulletins Exchange (AMBEX) Scheme is to:

- ensure the most efficient and economical exchange of operational meteorological (OPMET) information within the AFI Region as well as with the other ICAO regions to meet the requirements of users of OPMET information, and
- ensure the implementation of the OPMET-related SARPs in Annex 3 and Annex 10, and the relevant provisions of the ICAO Air Navigation Plan (ANP) for the AFI Region in a highly efficient and standardized way.

2.2 Structure

2.2.1 The above objective is achieved by implementing a number of AMBEX collecting and disseminating centres (AMBEX centres), Regional OPMET data banks (RODBs)*, and inter-regional OPMET gateways (IROGs). All these operational units form the **AMBEX scheme**. In order to ensure seamless global exchange of the required OPMET information, the AMBEX Scheme should be developed in compliance with similar structures in the other ICAO regions, as well as with the aeronautical fixed system (AFS) satellite distribution systems used to disseminate OPMET data.

** Note: The AFI OPMET Regional Data BANKS are currently located in Dakar, Senegal and Pretoria, South Africa.*

2.3 Products

2.3.1 The AMBEX scheme prepares and delivers to the aviation users the required OPMET information in the form of **bulletins**. The scheme should handle all types of OPMET information in alphanumeric bulletin form and should provide facilities and services for scheduled and non-scheduled delivery of OPMET information to users.

2.4 Communications -General

2.4.1 Use of AFS Components

According to Annex 3, 11.9,” telecommunications facilities used for the exchange of operational meteorological information should be the aeronautical fixed service”. The use of the AFS for the OPMET exchange encompasses two components:

- Use of terrestrial AFTN circuits; and
- Use of satellite distribution systems-SADIS .

2.4.2 Use of the AFTN

2.4.2.1 In the AMBEX scheme AFTN circuits are used for collection of the OPMET messages by the AMBEX centres and for regional and inter-regional exchanges of OPMET bulletins. The access to the regional OPMET data banks (request-reply service provided by the RODBs) is also provided through the AFTN.

2.4.2.2 OPMET bulletins transmitted via the AFTN shall be in encapsulated in the text part of the AFTN message format (Annex 3, Appendix 10, 2.1.4).

2.4.2.3 Transit times of the AFTN messages and bulletins containing OPMET information are specified in Annex 3, Appendix 10, 1.1

2.4.2.4 OPMET bulletins via AFTN should use the following **priority indicators**:

- **FF: SIGMET, AIREP SPECIAL, VAA,TCA and TAF amend** (cf. Annex 10 Vol II, 4.4.1.1.3)
- **GG: TAF, METAR and SPECI** (cf. Annex 10 Voll, 4.4.1.1.4)

2.4.2.5 **Filing times** of the bulletins should be according to Annex 3, Appendix 10, 2.1.2

2.4.3 Use of the Satellite Distribution System for aeronautical information (SADIS-operated by the UK)

2.4.3.1 SADIS satellite broadcast is used by the authorized users in the States for receiving global OPMET DATA.

2.4.3.2 FASID Table MET 7 of the AFI regional plans contains a list of authorized users for the SADIS broadcast.

2.5 Use of the Internet

2.5.1 Internet may be used to the dedicated internationally agreed circuits for exchange of meteorological data. An internet based FTP service to SADIS has been operational since 2002.

2.5.2 In future, it is intended that RODBs should also provide internet based facilities for retrieval of OPMET information. RODB Dakar is already using the Internet to provide METARs and TAFs.

2.6 Management

2.6.1 Monitoring of the OPMET exchange under the AMBEX Scheme, planning for improvements and preparation of proposals for any changes that may be necessary, are carried by the APIRG. In order to achieve these tasks, the AMBEX implementation status and planning is part of the agenda of the AFI MET Sub-group MET/SG.

Note: When necessary, contributory bodies may be established by APIRG or the MET Sub-group to deal with OPMET specific issues. The AFI OPMET Management Task Force, established by APIRG/16 is currently tasked to deal with all OPMET related issues in the AFI Region

2.6.2 Any proposals for amendments to the AMBEX Scheme , which States or international

organizations concerned consider it necessary, due to changes in operational requirements for OPMET data or to developments of the AFS , should be forwarded for consideration by the ICAO Regional Offices of Dakar, Senegal and Nairobi, Kenya as the case may be.

2.7 Documentation

2.7.1 The AMBEX Handbook is the main guidance material related to the AMBEX Scheme. It should be kept up-to-date by the ICAO Regional offices referred to above coordinated by the Secretary of the OPMET Task Force in close coordination with the Secretary of the MET Sub-group.

2.7.2 The AFI OPMET Data Banks Interface Control Document(ICD) is a supplementary document which provides users with guidance on the interrogation procedures and the content of the RODBs.

3. DEFINITIONS AND SYMBOLS

3.1 Within the AMBEX Scheme, the following definitions and symbols are used:

- i) AMBEX: AFI MET Bulletins Exchange (Scheme);
- ii) AMBEX Bulletin: A collection of AMBEX messages originating from MET offices within a collection area, always containing the same type of OPMET data and identified by an appropriate identifier. Bulletins should not exceed 1800 characters in length;
- iii) National OPMET center (NOC). Normally, a NOC is associated with the State's national AFTN centre/switch. The role of the NOC is to collect all OPMET messages generated by the originating stations in the State and to send them to the responsible AMBEX bulletin compiling center (AMBEX BCC). Some NOCs serve also as AMBEX BCCs. National regulations should be developed to ensure that NOCs disseminate the international OPMET data within their own State, as necessary.
- iv) AMBEX Bulletin Compiling Centre (BCC): AMBEX centres (former TCC, MCC or ACC, etc..) are responsible for collection of OPMET messages from the originating stations or NOCs in their area of responsibility and for compiling these messages into AMBEX bulletins. FASID Tables MET 4A and MET 4B determine the areas of responsibility (or, collection areas) of the AMBEX centres for METAR/SPECI, and TAF, respectively.
- v) OPMET Inter-regional Gateway (IROG) A designated centre charged with the responsibility of exchanging OPMET data between stations within the AFI Region and in adjacent regions, as prescribed in this Handbook. The plan of OPMET data exchange between regions through an IROG is based on pre-determined distributions responsibilities, and/or on a request/reply basis;
- vi) YPYX: Fifth, sixth, seventh and eighth letter of an addressee indicator to be used:
 - a) with the normal four-letter location indicators, to designate BCCs
 - b) with indicators for pre-determined distribution within a BCC collection area.
- vii) Regional OPMET Data Bank (RODB): A centre charged with task to collect OPMET bulletins from AMBEX centres, handle all types of OPMET bulletins, provide facilities for "request-reply" service to authorized users, maintain a catalogue of bulletins, quality control the incoming bulletins and inform AMBEX centres on any deficiencies, monitor the OPMET traffic and report to the ICAO Regional Office on the results

*Note: The designated RODB and their responsibilities are described in **Appendix E***

4. OPMET INFORMATION AND OPMET EXCHANGES

4.1 OPMET Data Type

4.1.1 The following OPMET data types should be handled by the AMBEX scheme:

Data type	Abbreviated name	WMO data type designator
Aerodrome reports	METAR	SA
	SPECI	SP
Aerodrome forecasts	TAF: 24 and 30 hour	FT
SIGMET information	SIGMET	WS
	SIGMET for TC	WC
	SIGMET for VA	WV
Volcanic ash and tropical cyclone advisories	Volcanic Ash Advisory	FV
	Tropical Cyclone Advisory	FK
Air-reports	AIREP SPECIAL (ARS)	UA
Administrative	ADMIN	NO

4.2 OPMET bulletins

4.2.1 The exchange of OPMET data is carried out through bulletins containing one or more meteorological messages (METAR, SPECI, TAF or other OPMET information). An OPMET bulletin contains messages of the same type.

4.2.2 The format of OPMET bulletins is determined by:

- *ICAO Annex 10, Aeronautical telecommunications*, as regards the AFTN envelope of the bulletin;
- *WMO-No.386, WMO Manual on the Global telecommunication System*, as regards the WMO abbreviated heading of the bulletin;
- *ICAO Annex 3 and WMO-No.306, Manual on Codes*, as regards the format and coding of the information included in the bulletin.

4.3 Types of OPMET exchange

4.3.1 **Regional exchange – AMBEX scheme**

4.3.1.1 The AMBEX scheme covers the exchange of OPMET information in the AFI region. It includes several types of exchanges as described below.

4.3.1.1.1 *Regular Exchange under AMBEX.* This is a scheduled exchange that encompasses collection of messages from the originating stations, compiling of bulletins and their dissemination according to predetermined distribution schemes. The collection and distribution is carried out at fixed times and the bulletin content is defined in the current Handbook.

4.3.1.1.2 *Non-regular exchange.* This includes:

- a) *Exchange on request (request-reply service).* The RODBs store OPMET data and make them available on request.
- b) *Exchange of non-routine reports:* SPECI; TAF AMD; SIGMET; TCA and VAA; ADMIN messages.;

4.3.2 **Inter-regional OPMET exchange**

4.3.2.1 Exchange of OPMET data between the AFI and the other ICAO Regions is carried out via designated centres, which serve as Inter-regional OPMET Gateways (IROG). An IROG is set up for sending/receiving specified OPMET data between AFI and every other ICAO region for which AFI OPMET data are required.

Note: The former name of these centres is ODREP.

4.3.2.2 Inter-regional OPMET exchange via IROGs is carried out through the ground segment of the AFS (currently, through the AFTN).

4.3.3 **Exchange of OPMET information through the satellite segment of the AFS**

4.3.3.1 The three satellite broadcasts provided by the United Kingdom (Satellite Distribution System for Aeronautical Information Relating to Air Navigation - SADIS) and the United States (International Satellite Communication System – ISCS/1 and ISCS/2), form another type of OPMET exchange, which is global in nature and is intended to cover the emerging requirement for global access to all available OPMET data.

4.3.3.2 All AFI data handled by the AMBEX scheme should be relayed to the SADIS for global broadcast.

4.3.4 **Other OPMET exchanges**

4.3.4.1 Where OPMET exchanges described in the above paragraphs are not sufficient, direct AFTN addressing should be utilized by the originating centres.

5 COMPOSITION OF AMBEX

5.1 Components of the AMBEX

5.1.1 AMBEX scheme involves a number of aeronautical meteorological stations, aeronautical telecommunication stations, aerodrome meteorological offices and other operational units. The following operational units should be considered as components of the AMBEX scheme:

- Originating station
- National OPMET center (NOC)
- AMBEX bulletin compiling centre (BCC)-AMBEX Centre
- Regional OPMET Data Banks (RODBs)
- Interregional OPMET gateway (IROG) .

5.2 Originating Station

5.2.1 It is an aeronautical meteorological station or an aerodrome meteorological office, or a forecasting office, or a MWO, or a TCAC, or a VAAC. The duties and responsibilities of these originating stations should be defined by the State's meteorological authority.

5.3 National OPMET Center (NOC).

5.3.1 Normally, a NOC is associated with the State's national AFTN centre/switch. The role of the NOC is to collect all OPMET messages generated by the originating stations in the State and to send them to the responsible AMBEX bulletin compiling center (AMBEX BCC). Some NOCs serve also as AMBEX BCCs. National regulations should be developed to ensure that NOCs disseminate the international OPMET data within their own State, as necessary.

5.4 AMBEX Bulletin Compiling Centre (AMBEX BCC or, in brief, AMBEX centre).

5.4.1 AMBEX centres are responsible for collection of OPMET messages from the originating stations or NOCs in their area of responsibility and for compiling these messages into AMBEX bulletins. FASID Tables MET 4A and MET 4B determine the areas of responsibility (or, collection areas) of the AMBEX centres for METAR/SPECI and AIREP SPECIAL, and TAF, respectively.

5.4.2 The AMBEX centres are responsible for the transmission of the bulletins compiled by them to:

- other AMBEX centres, according to predefined distribution lists, specific for each bulletin;
- AFI RODBs (Dakar and Pretoria);
- NOCs or other COM or MET offices in the States in their area of responsibilities, as agreed between the AMBEX centre and the States' authorities concerned.

Note: The former AMBEX scheme involved separate compiling centres for METAR and TAF (METAR Collection Centres, and TAF Collection Centres. In some cases, METAR from an aerodrome was compiled by one center, and the TAF from another center. The evolution of AMBEX should be towards unified AMBEX centers responsible for collecting/distributing of all OPMET data types within their area of responsibility.

5.5 Regional OPMET Data Banks (RODB)

5.5.1 Two centres have been designated by APIRG (APIRG/13 Conclusion 13/67, 2001), to serve as Regional OPMET Data Banks: Dakar and Pretoria. FASID Table MET 4C reflects the requirements for the operation of the AFI OPMET data banks to support the AMBEX Scheme.

5.5.2 The **main responsibilities** of the RODBs are defined, as follows:

- to support the AMBEX Scheme and to facilitate a regular exchange of OPMET information based on predetermined distribution within the AFI Region;
- to operate as Inter-regional OPMET Gateway (IROG) with responsibility of exchanging OPMET information between AFI Region and the adjacent Regions; and
- to provide facilities for request/response type of access to the stored OPMET data for users to obtain non-regular or occasional information.

Note. — The interrogation procedures applicable to the OPMET data banks and catalogues are provided in the “AFI Regional Interface Control Document (ICD) - OPMET Data Bank Access Procedures”, published and maintained by the ICAO Regional Offices in Dakar and Nairobi

5.6 Inter-regional OPMET Gateways (IROG).

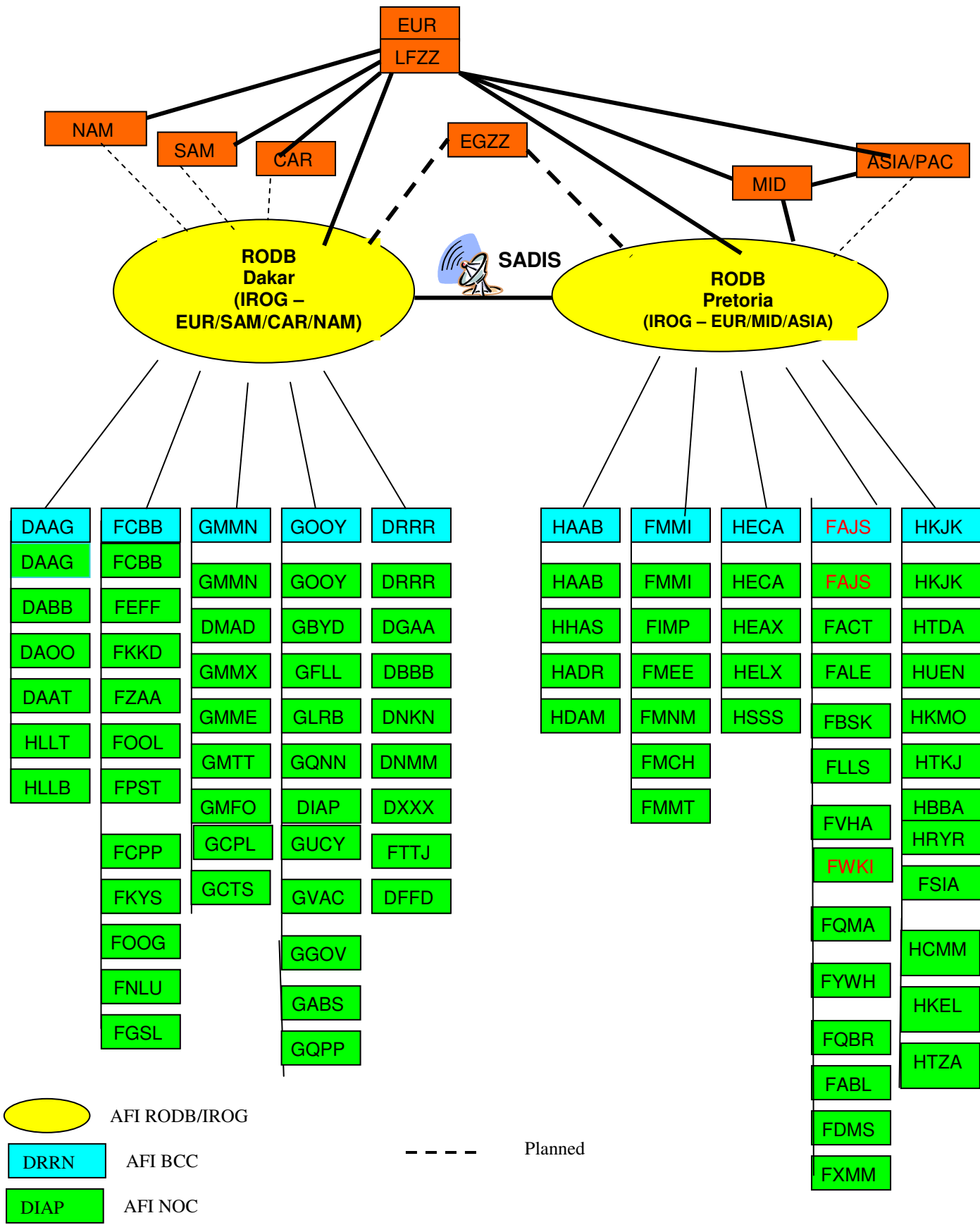
5.6.1 The Inter-regional OPMET Gateways in the AFI Region are the designated RODBs. Each RODB is assigned responsibility for exchange of OPMET information with other ICAO Regions. The responsibilities of the IROGs for AFI is shown in para. 11.1 of this Handbook.

5.6.2 ***Support to the SADIS broadcast.*** The RODBs and IROGs should facilitate the global exchange of OPMET data carried out through the SADIS satellite broadcast. In order to achieve this, close liaison should be maintained between the IROGs and the corresponding SADIS gateways. Availability of AFI data on SADIS should be monitored and any systematic shortfalls of data identified should be reported to the relevant ICAO regional office.

5.7 Structure of the AMBEX Scheme

5.7.1 The overall structure of the AMBEX scheme is presented in the following diagram

AMBEX SCHEME



6. TAF EXCHANGE

6.1 General

6.1.1 Aerodrome forecast (TAF) should be prepared by the aerodrome meteorological offices (AMOs) or other meteorological offices, designated for provision of TAF by the State's meteorological authority, for all international aerodromes, for which TAF is required according to FASID Table MET 1A of the AFI ANP.

6.1.2 All TAFs required should be included in the regular AMBEX exchange. In addition, TAFs from a number of other, including domestic aerodromes, required by the users, should also be included in the regular AMBEX exchange, if so agreed by the States concerned.

Notes:

- 1) *The recent requirement by airlines is that TAF for all international aerodromes listed in AFI FASID Table MET 1A should be available through regular exchange and through the satellite distribution system SADIS..*
- 2) *SADIS User Guide (SUG) Annex 1 presents the requirements for OPMET data (METAR and TAF) by aviation users. When OPMET data from domestic airports (so called non-AOP airports) is required by users, the corresponding State is consulted on its agreement for providing this additional information. If the information is available and the State agrees to include it in the exchange, the additional airports are included in SUG Annex 1 and the State should provide the additional OPMET information on a continuous basis.*

6.1.3 TAF exchanges not covered by the AMBEX Scheme, but required operationally, should be met by means of direct addressed AFTN messages.

6.1.4 The requirements for the exchange of 24 or 30-hour TAFs (so called "long" TAFs with WMO data designator – FT), are set in FASID Table MET 1A of the ANP. "Short" TAFs with 9- or 12-hour period of validity (WMO data designator - FC), are no longer issued by States in the AFI region

6.1.5 AMBEX messages and bulletins are normally sent via the AFTN. In exceptional circumstances, when the AFTN cannot give adequate support to AMBEX traffic, the temporary use of alternative existing communications systems should as far as possible be coordinated with the ICAO Regional Offices concerned.

6.1.6 Each AMBEX message and AMBEX bulletin should conform strictly to the Annex 10 message format.

6.1.7 Each AMBEX message and AMBEX bulletin should carry a WMO abbreviated heading (see **Appendix C**).

6.1.8 Each AMBEX message or bulletin, should terminate with an equal (=) sign (signal no. 22 of International Telegraph Alphabet no.2 in the figure case).

6.1.9 The procedures described in this Handbook are intended for the manual preparation of AMBEX messages and bulletins. It is not intended, however, that the Handbook precludes the use of automated or semi-automated procedures. When required, the procedures described hereunder should be modified and applied in a manner which will fully exploit the capabilities of the equipment available. The AMBEX messages and bulletins produced by application of such modified procedures should be in a

format compatible with the format described in this Handbook.

6.2 Responsibilities and procedures to be followed by originating aerodrome meteorological offices (AMOs) and NOCs

6.2.1 Originating AMOs (or other designated forecasting offices) should prepare the required TAF messages for the periods of validity indicated in **Appendix B**. TAFs should be sent by the AMOs or NOCs and to the responsible AMBEX center before the cut-off time set up by this centre.

6.2.2 Aerodrome meteorological offices in preparing TAF should follow strictly the template for TAF in Annex 3, Appendix 5 and the WMO TAF code form (FM 51-XII TAF, WMO – No. 306, *Manual on Codes*, Volume I.1, Part A – *Alphanumeric Codes*).

6.2.3 TAFs should be monitored by the originating AMOs and amended TAF (TAF AMD) should be issued according to the established criteria. Amended TAFs should be sent by the originating station to the responsible AMBEX centre with no delay. The optional group BBB should be used in the WMO abbreviated heading to indicate amended TAF in accordance with **Appendix C**.

6.2.4 TAF messages should be quality controlled by the originating meteorological offices and, when necessary, a corrected TAF (TAF COR) should be sent immediately after an error in an already transmitted message had been identified.

6.2.5 Within five minutes of the time of preparation of the TAFs, an AMBEX message should be filed for transmission to the BCC concerned.

6.2.6 Not later than five minutes after being filed for transmission, the AMBEX messages should be sent to the BCCs. This means that BCCs should have available AMBEX messages from all stations in their area of responsibility (AOR) within ten minutes of the times shown in column 6 of **Appendix B**.

6.2.7 The following is an outline of the procedures to be applied in preparing an AMBEX message at an office other than a BCC:

<u>Parts of Message</u>	<u>Resulting Page Copy</u>
a) Priority Indicator and Address	GG DRRNYPYX
b) Date and Time of Filing and Originator	281010 DGAAYMYX
c) WMO Abbreviated Heading (see Appendix C)	FTGH31 DGAA 281000
d) TAF	TAF DGAA 281030Z 2812/2912 13010KT 9000 BKN020 TEMPO 2816/2820 3000 DZ BKN005 OVC05 FM290430 17010KT 9999 BKN015 BKN100 =
e) Normal Ending.	

6.2.8 If an amendment to a TAF previously issued becomes necessary, a new AMBEX message should be prepared and sent to the BCC concerned. The WMO abbreviated heading for this message should be the same as for the AMBEX message containing the original TAF, with the addition of the optional groups AAA, AAB, AAC etc. (to indicate the first, second, third etc. amendment to the original TAF). Optional groups are also used for sending delayed TAFs, RRA, RRB, RRC, etc and corrected TAFs CCA, CCB, CCC, etc in accordance with **Appendix C**.

6.2.9 TAFs for individual aerodromes in the AMBEX Scheme should not be addressed to aerodromes in those cases where the AMBEX Scheme already caters reliably for their dissemination.

6.2.10 Requests for missing bulletins should be sent to the BCC responsible for compiling the bulletins and should be in the following format:

<u>Parts of Message</u>		<u>Resulting Page Copy</u>
a)	Priority Indicator and Address of the BCC concerned	GG HKJKYPYX
b)	Date and Time of filing and Originator	051305 FMMIYMYX
c)	Text	RQM/SAYSSY, YBBN, YMML=
d)	Normal ending	NNNN.

Note: Certain BCCs may require AFTN addresses other than those of the BCCs themselves to be used for request messages. A list of such addresses will be compiled and included in the AMBEX Handbook.

6.2.11 Provisions concerning request messages to the AFI RODBs are given in the ICD of the Dakar and Pretoria RODBs.

6.3 Responsibilities and procedures to be followed the AMBEX Centres (BCCs)

6.3.1 AMBEX centres should collect TAFs from the AMOs and/or NOCs in their area of responsibility and compile TAF Bulletins according to **Appendix B**. The areas of responsibility, as far as practicable, should group together aerodromes and their alternates. AMBEX centres should ensure that TAFs within their area of responsibility have common periods of validity.

6.3.2 AMBEX centres should establish a cut-off time for reception of TAFs from AMOs and/or NOCs in their area of responsibility, e.g., 15 minutes before the filing/transmission times specified in **Appendix B**. At the cut-of time AMBEX centres should compile TAF bulletin(s) containing all prescribed aerodromes, without indicating any missing TAF with "NIL".

6.3.3 The filing time for 24- and 30-hour TAF bulletins should be **two hours** before the start of the validity period.

6.3.4 AMBEX centres should transmit the compiled TAF bulletins to other AMBEX centres and the RODBs according to the distribution lists as specified for each TAF bulletin in **Appendix B**.

6.3.5 AMBEX centres should transmit the TAF bulletins compiled by them, as well as TAF bulletins received from other AMBEX centres, as necessary, to the NOCs and/or other offices in the States in their area of responsibility, as agreed between the AMBEX centre and the meteorological authorities of the States concerned.

6.3.6 A TAF message received by a AMBEX centre after the scheduled transmission of the corresponding bulletin is a delayed TAF. The AMBEX centre should then prepare an AMBEX bulletin of all TAFs received. If a TAF is not available, for any reason, at the cut-off time, the latest **still valid** TAF for the missing station may be included instead.

6.3.7 Amended TAF (TAF AMD) received from an AMO or NOC should be distributed with no delay as an amended TAF bulletin to all recipients in the distribution list for the TAF bulletin, to which the originating aerodrome belongs. The optional BBB group should be used in the WMO bulletin heading accordingly.

6.3.8 Each BCC should establish a cut-off time for the reception of AMBEX messages from stations within its AOR. The cut-off time should be about **twenty minutes** after the times of preparation of TAFs shown in column 6 of **Appendix B**.

6.3.9 A new tape, containing the address, origin and WMO abbreviated heading of the bulletin, is prepared. The bulletin is then assembled by combining this new tape with the text portions of the AMBEX messages received and adding a normal ending. Details of the WMO abbreviated headings that should be used by BCCs in their bulletins are given in **Appendix C**.

6.3.10 AMBEX centres should disseminate their own bulletins to the stations listed in column 9 of **Appendix B**. This dissemination should take place some **thirty minutes** after the time for preparation of the TAFs shown in column 6 of **Appendix B**.

6.3.11 No addresses other than those listed in column 10 of **Appendix B** should be used except in response to request messages.

6.3.12 The following is an outline of the procedures to be followed by AMBEX centres in the preparation of AMBEX bulletins.

<u>Parts of Bulletin</u>	<u>Resulting Page Copy</u>
a) Priority Indicator and Address	GG DAZZYPYX FAJS YMYX FCZZXLBX GOOZZSNGX HAZZYPYX HEZZYPYX HKZZYPBX
b) Date and Time of Filing and Originator	281030 DRRNYPYX
c) WMO Abbreviated Heading (see Appendix B)	FTA033 DRRN 281000
d) TAFs received from the stations in the AOR, in order shown in column 2 of Appendix B	TAF DRRN 281010Z 2812/2912 24003KT 8000 BKN020 BECMG 2813/2815 SCT018CB BKN020 TEMPO 2817/2820 VRB03 TSRA SCT015CB BKN020 FM290600 16008KT 9999 BKN020 BKN120 =

TAF DGAA 281020Z 2812/2912 13010KT 9000 BKN020 TEMPO 2816/2820 3000 DZ BKN005 OVC050 FM290400 17010KT 9999 BKN015 BNK100 =

TAF DBBB 281030Z 2812/2912 26008KT 9000 BKN020 PROB30 TEMPO 2815/2818 3000 TSRA BKN005 SCT020CB FM290000 24006KT 9000 BKN010 =

TAF DNKN 281030Z 2812/2912 VRB03KT 9999 BKN015 PROB30 TEMPO 2813/2816 2000 FG BKN003 BKN010 FM282000 24006KT 9000 BKN020 =

TAF DNMM 281028Z 2812/2912 24006KT 9000 BKN020 PROB30 TEMPO 2814/2816 3000 DZ BKN005 BKN010=

TAF DXXX 281030Z 2812/2912 26008KT 9999 BKN015 BECMG 2815/2817 SCT015CB BKN020 TEMPO 2818/2820 22020G35KT 2000 TSRA SCT010CB BKN020 FM282030 26006 9999 BKN020 BKN100 =

TAF FTTJ 281030Z 2812/2912 12006KT CAVOK TEMPO 2818/2820 SCT030 =

TAF DFFD 281030Z 2812/2912 20004KT 9999 BKN020 BECMG 2814/2816 SCT018CB BKN020 TEMPO 2816/2818 24010KT TSRA SCT015CB BKN020 FM290600 22008KT 9999 BKN020 BKN100 =

e) Normal Ending NNNN.

6.3.13 TAFs received by an AMBEX Centre after the cut-off time, and which have still at least 6-hour validity left, should be included in one or more bulletins of delayed TAFs. The WMO Abbreviated Heading for such bulletins should be the same as for the bulletin from which the TAFs are missing, with the addition of the optional groups RRA, RRB, RRC etc. (to indicate the first, second, third etc. bulletin of delayed TAFs), in accordance with **Appendix C**, paragraph 4.

6.3.14 When an AMBEX centre receives amended TAFs from originating stations or NOCs, it should prepare bulletins of amended TAFs. The WMO abbreviated heading for such bulletins should be the same as for the bulletin containing the original TAF, with the addition of the optional groups AAA, AAB, AAC etc. (to indicate the first, second, third etc. amendment to TAFs in the original bulletin), in accordance with **Appendix C**, paragraph 4.

6.3.15 "NIL" to indicate a missing TAF should not be used in AMBEX bulletins.

6.3.16 If an AMBEX centre finds it impossible to meet the specified filing times due to systematic late receipt of TAFs from originating stations or NOCs, it should reach an agreement with these stations on another filing time for their AMBEX messages and thereafter propose to the Secretary of the AFI MET/SG that this filing time be incorporated in the Handbook.

6.3.17 In addition to its own AMBEX bulletins, each BCC should distribute bulletins received from other BCCs to the MET offices within its originating stations or NOCs.

6.4 **Format and content of TAF bulletins**

6.4.1 Issuance and period of validity:

6.4.1.1 24- and 30-hour TAFs should be issued at intervals of six hours, with the period of validity beginning at one of the main synoptic hours (00, 06, 12, 18 UTC), as shown in the table below.

Synoptic hours (UTC)	24-hour TAF		30-hour TAF	
	Period of validity	Filing Time	Period of validity	Filing Time
00	00-24	22 (-1)*	00-06 (+1)	22 (-1)*
06	06-06	04	06-12 (+1)	04
12	12-12	10	12-18 (+1)	10
18	18-18	16	18-24 (+1)	16

*Note: “-1” indicates the previous day and “+1” indicates the next day

6.4.1.2 All TAFs in a AMBEX TAF bulletin should have a common period of validity. It is not allowed to mix “long” and “short” TAFs in one bulletin.

6.4.2 Each TAF message in a TAF bulletin should start with the code word TAF followed by the ICAO location indicator (CCCC) of the aerodrome and the date/time group (YYGGggZ), indicating the official time of issuance. Corrected TAF messages, should start with TAF COR. Amended forecasts should start with TAF AMD.

6.4.3 The use of the BBB group in the WMO heading for delayed, corrected, or amended TAFs is described in **Appendix C**.

6.4.4 The following is an outline of the format to be applied by a AMBEX centre in preparing a TAF bulletin, containing “long” TAFs (24 or 30 hour):

Parts of Message	AMBEX FT Bulletin
AFTN header	
Priority Indicator and Address	GG YBBBYPYX
Date and Time of filing and Originator	271104 ZBBBYPYX
WMO Abbreviated Heading	FTCI31 ZBBB 271100
TAF messages	TAF ZBAA 271000Z 2712/2812.....= TAF ZBTJ 271000Z 2712/2818.....=
AFTN Normal Ending	NNNN.....

6.4.5 A missing TAF in a non TAF bulletin should be indicated with “NIL”, as shown in the following example:

TAF VTBD 281000Z NIL=

6.4.6 A cancelled TAF in a TAF bulletin should be indicated with “CNL”, as shown in the following example:

TAF VTBD 281000Z 2812/2912 CNL=

7. SPECIAL AIREP EXCHANGE

7.1 The meteorological watch offices (MWO) are responsible for collection through their associated ATS units of special air reports (AIREP SPECIAL) received from aircrafts within their FIR or CTA.

Note: – Routine air-reports received by data-link communications should be relayed directly to the WAFCS by the ATS unit.

7.2 MWOs should collect all special air-reports and prepare one-hour collectives in the form of a UA bulletin for transmission to the responsible AMBEX centre at the time specified by the AMBEX centre.

Notes:

- 1) The transmission of air-reports to the WAFCs as required by Annex 3 should be arranged by the meteorological authorities concerned.*
- 2) MWOs should follow the special requirements for the dissemination of special air-reports as defined by Annex 3,*

7.3 AFI FASID Table 2B describes the exchange of SIGMET and special AIREP reports procedures.

8. METAR/SPECI EXCHANGE

8.1 General

8.1.1 Hourly METAR reports should be prepared by all international aerodromes listed in FASID Table MET 1A. METAR should be issued **on an hour intervals** for those aerodromes, included in the HF VOLMET broadcasts (cf. FASID Table ATS 2 – HF Radiotelephony VOLMET Broadcasts), or D-VOLMET.

8.1.2 METAR from all international aerodromes listed in Table AOP 1 of the Basic ANP and , in FASID Table MET 1A, should be included in the regular AMBEX exchange. In addition, METAR from a number of domestic aerodromes, required by the users, should also be included in the regular AMBEX exchange in accordance with para. 12.1.3, if so agreed by the States concerned.

Note: SADIS User Guide (SUG) Annex 1 presents the requirements for OPMET data (METAR and TAF) by aviation users. When OPMET data from domestic airports (so called non-AOP airports) is required by users, the corresponding State is consulted on its agreement for providing this additional information. If the information is available and the State agrees to include it in the exchange, the additional airports are included in SUG Annex 1 and the State should provide the additional OPMET information on a continuous basis.

8.1.3 Description of the AFI METAR bulletins included in the regular AMBEX exchange, containing the responsible compiling AMBEX centre, WMO bulletin identification, and the list of aerodromes included in the bulletin, is given in **Appendix A**.

8.1.4 The official hour of observation to be included in the METAR bulletin heading is indicated in the table in **Appendix A**.

8.1.5 All METAR bulletins should be sent to both RODBs Dakar and Pretoria. AMBEX centres should exchange METAR bulletins according to the distribution lists given in **Appendix A**.

7.1.6 SPECI reports should be disseminated in the same way as the METAR reports originated by the same aerodrome.

8.1.7 Exchange of METAR/SPECI messages outside AMBEX scheme, if necessary should be carried out by direct AFTN addressed messages.

8.2 Responsibilities of originating stations and NOCs

8.2.1 The originating stations (aeronautical meteorological stations) and/or NOCs should prepare METAR messages for the observation times indicated in **Appendix A** and send them to their responsible AMBEX center.

8.2.2 SPECI should be prepared between the regular observation times, following the requirements set in Annex 3 and sent with no delay to the responsible AMBEX centre.

8.2.3 In preparing METAR and SPECI messages the originating stations should follow strictly the specifications for METAR and SPECI in Annex 3 (Chapter 4 and Appendix 3 including the template in Table A3-2) and the WMO METAR and SPECI code forms (FM 15-XII METAR and FM 16-XII SPECI, WMO – No. 306, *Manual on Codes*, Volume I.1, Part A – *Alphanumeric Codes*).

8.2.4 METAR messages should be sent to the responsible AMBEX centre before the cut-off time specified by the AMBEX centre, to allow for timely compilation of the METAR bulletin. If, for some reason, a METAR message has not been sent before the cut-off time, the originating station/NOC should send it as soon as possible after that, as a **delayed message**. The originating stations/NOCs should follow strictly the schedules specified for METAR messages and keep to a minimum the number of delayed messages.

8.2.5 METAR and SPECI messages should be quality controlled by the originating stations/NOCs and, when necessary, a corrected message should be sent immediately after an error in an already transmitted message had been identified.

*Note: Procedures applying to the corrected and delayed messages are given in **Appendix C**.*

8.3 Responsibilities of AMBEX Centres

8.3.1 AMBEX centres should collect METAR messages from the aerodromes in their area of responsibility and compile METAR bulletins, according to **Appendix A**. The content of bulletins and the order of stations in each bulletin should be kept fixed until a bulletin change is requested and coordinated according to the established procedure.

8.3.2 AMBEX centers should determine a cut-off time for the reception of METAR from the stations in their area of responsibility. At the cut-off time, the AMBEX centre should compile METAR bulletin(s) containing all prescribed aerodromes, indicating any missing METAR with “NIL”.

8.3.3 At scheduled transmission times AMBEX centres should transmit the compiled METAR bulletins to other AMBEX centres and RODBs according to the distribution lists specified for each METAR bulletin in **Appendix A**. METAR bulletins should be filed for transmission not later than 5 minutes after the observation time.

8.3.4 AMBEX centres should transmit the METAR bulletins compiled by them, as well as bulletins received from other AMBEX centres, as necessary, to the NOCs and/or other offices in the States in their area of responsibility, as agreed between the AMBEX centre and the meteorological authorities of the States concerned.

8.3.5 A SPECI when received by an AMBEX centre should be sent as a SPECI bulletin to the same addresses, to which METAR from the issuing aerodrome are sent. Normally, a SPECI bulletin should contain a single SPECI.

8.3.6 The WMO heading of a SPECI bulletin should be constructed in the same way as the WMO heading of the METAR bulletin, which contains the aerodrome, for which the SPECI is issued, by using SP data type designator instead of SA.

8.3.7 A METAR message received by the AMBEX centre after the scheduled transmission of the corresponding bulletin is a delayed METAR. The AMBEX centre should send a delayed bulletin as soon as one or more delayed messages are received or at specified times after the scheduled bulletin time (e.g., the first delayed bulletin (RRA) issued 10 minutes after the regular time; the second delayed bulletin (RRB) issued 20 minutes after the regular time, etc.).

8.3.8 As soon as a corrected METAR or SPECI message is received from a station the AMBEX centre should transmit it as a corrected bulletin to all recipients.

8.4 Format and content of METAR Bulletins

8.4.1 Each METAR message in a METAR bulletin should start with the code word METAR followed by the ICAO location indicator (CCCC) of the aerodrome and the date/time group (YYGGggZ), indicating the official time of observation. Corrected METAR messages, should start with METAR COR.

8.4.2 The following is an example of the format to be applied in preparing a METAR bulletin by the AMBEX centre:

Parts of Message	AMBEX SA Bulletin
<i>AFTN header</i>	
Priority Indicator and Address Date and Time of filing and Originator	GG VTBBYPYX 271304 ZBBBYPYX
<i>WMO Abbreviated Heading</i>	SACI31 ZBBB 271300
<i>METAR messages</i>	METAR ZBAA 271300Z = METAR ZBTJ 271300Z=
<i>AFTN Normal Ending</i>	NNNN

Note: The inclusion of the code name METAR in front of each message in the METAR bulletin is compulsory.

8.4.3 The rules related to the use of the BBB group in the WMO abbreviated heading, in regard to delayed or corrected bulletins, are given in **Appendix C**.

8.4.4 For METARs, which are not available at the time of compilation of the bulletin, the code word NIL should be inserted following the date/time group indicating the time of the observation.

Example: METAR ZBTJ 271200Z NIL=

8.5 Format and content of SPECI Bulletins

8.5.1 A SPECI message included in a SPECI bulletin should start with the code word SPECI followed by the ICAO location indicator (CCCC) of the aerodrome and a date/time group (YYGGggZ) indicating the time of the observation of the meteorological conditions for which the SPECI is issued. Corrected SPECI messages, should start with SPECI COR. The following is an example of the format to be applied in preparing a SPECI bulletin by the AMBEX centre:

Parts of Message	AMBEX SA Bulletin
<i>AFTN header</i>	
Priority Indicator and Address Date and Time of filing and Originator	GG VTBBYPYX 081647 ZBBBYPYX
<i>WMO Abbreviated Heading</i>	SPCI31 ZBBB 081645
<i>SPECI message</i>	SPECI ZBAA 081645Z =
<i>AFTN Normal Ending</i>	NNNN

9. EXCHANGE OF SIGMET AND ADVISORIES

9.1 SIGMET should be prepared by the meteorological watch offices (MWO) designated by the State's meteorological authority. The MWOs and their areas of responsibility are given in the FASID Table MET 1B of AFI ANP.

9.2 SIGMET should be distributed to the two RODBs, either directly or through the responsible AMBEX centre. The RODBs should make SIGMET messages available on request. In order to facilitate that, the originating MWOs, should use fixed WMO headings for their SIGMET bulletins as given in **Appendix E**.

9.3 SIGMET messages should be distributed to other ICAO regions and made available for uplink through SADIS. This distribution should be carried out through the relevant Inter-regional OPMET Gateways (IROGs).

9.4 Detailed information on the format of the SIGMET messages is provided in the WACAF Regional SIGMET Guide, 9th edition, 2007 at the Web page

http://www.icao.int/wacaf/edocs/WACAF_Regional_SIGMET_Guide_fr.pdf

or in the ESAF Regional SIGMET Guide, 7th edition, 2004 (under revision).

9.5 Tropical Cyclone Advisories (TCAs) and volcanic ash advisories (VAAs) should be issued by the designated tropical cyclone and volcanic ash advisory centres (TCAC and VAAC), as indicated in the FASID Table MET 3A and MET 3B.

9.6 The TCACs and VAACs should send the advisories to the RODBs. The RODBs should make TCAs and VAAs messages available as appropriate or on request. In order to facilitate that, the originating TCACs and VAACs should use fixed WMO headings for their TCA and VAA bulletins as given in **Appendix E**

9.7 VAA and TCA messages should be distributed to other ICAO regions and made available for uplink through SADIS. This distribution should be carried out either directly by the VAACs and TCACs or through the relevant Inter-regional OPMET Gateway (IROG) such as Toulouse, France.

10. REGIONAL OPMET DATA BANKS (RODB)

10.1 The AFI Regional OPMET Data Banks and the AFTN addresses to be used for direct access to the banks are shown below:

RODB	AFTN ADDRESS	AMBEX CENTRES AND AREA OF RESPONSIBILITY
Dakar	GOOYYZYX	Alger/DAMM Brazzaville/FCBB Casablanca/GMMC Dakar/GOOO Niamey/DRNN
Pretoria	FAJSYMYX	Addis Ababa/HAAB Antananarivo/FMMI Cairo/HECA Johannesburg/FAJS Nairobi/HKNA

10.2 Responsibilities:

10.2.1 Collect OPMET bulletins from the AMBEX centres in the area of responsibility and store them in a data base.

10.2.2 Handle all type of OPMET bulletins, as described in p. 3.1.1.

10.2.3 Provide facilities for “request-reply” service to the authorized users.

10.2.4 Maintain a catalogue of bulletins and introduce changes to the bulletins when necessary according to the established procedures.

10.2.5 Quality control the incoming bulletins and inform the AMBEX centres of any discrepancies or shortfalls.

10.2.6 Monitor the OPMET traffic by carrying out regular tests on the availability and timeliness of the bulletins; report to the ICAO Regional Office on the results.

10.3 The interrogation procedures applicable to the designated RODBs and the OPMET information stored are presented in the AFI Regional Interface Control Document (ICD) - OPMET Data Bank Access Procedures.

10.4 Guidance on the management and quality control is provided in chapter 12 of this Handbook.

11. INTER-REGIONAL OPMET EXCHANGE - IROG FUNCTIONS

11.1 Inter-regional OPMET Gateways (IROGs) are designated in the AFI Region for the purpose of exchanging OPMET data between the AFI and the other ICAO Regions, as shown in the table below.

AMBEX IROG	For Exchange of OPMET data between Regions
Dakar	AFI and EUR; SAM, NAM, CAR; MID, ASIA/PAC as backup to Pretoria
Pretoria	AFI and MID; ASIA/PAC, EUR; SAM, NAM, CAR as backup to Dakar

11.2 IROGs and their functions are described at **Appendix D**. IROGs arrange for relaying all AMBEX bulletins to a corresponding OPMET Gateway in the other ICAO regions concerned. In particular:

- *Dakar IROG* relays all AFI bulletins to ROC Toulouse in the EUR Region, which serves the EUR, SAM, NAM and CAR Regions, and should receive and store all required OPMET bulletins from these Regions;
- *Pretoria IROG* relays all AFI bulletins to ROC Toulouse in the EUR Region and IROG Bangkok in the ASI/PAC Regions, and should receive and store all required OPMET bulletins from MID, ASIA/PAC, EUR, SAM Regions;

11.3 The following principles are applied to IROGs:

- a) IROGs should have reliable and efficient AFTN connection to the regions, for which they have exchange responsibilities, with adequate capacity to handle the OPMET data flow between the regions;
- b) IROGs should be associated with AFTN relay centres capable of handling efficiently the volume of traffic anticipated;
- c) IROGs should be capable of handling all OPMET data types, as described in para.4.1.1.

11.4 In order to avoid duplication of the OPMET traffic and information, all inter-regional OPMET exchange should be directed through the IROGs. Inter-regional exchange via direct AFTN addressing from the originator or AMBEX centre to recipients in the other ICAO Regions should be avoided, except when bilateral or other agreements require such direct exchanges.

12. MANAGEMENT OF OPMET EXCHANGE UNDER THE AMBEX SCHEME

12.1 OPMET Bulletins Update Procedure

12.1.1 Information for changes of AMBEX bulletins should be disseminated to all AMBEX centres and national OPMET centres (NOC) concerned well in advance in order to allow the centres to introduce the necessary changes to their message handling systems. In this regard, a lead time period of two months (*or two AIRAC cycles*) is considered appropriate.

12.1.2 The AMBEX centre planning the change, should send a notification by e-mail or fax to the ICAO Office, Dakar or Nairobi with copy to all AMBEX Focal Points. The notification should include detailed information of the changes and the proposed time schedule. The Regional Office should inform all other ICAO Regional Offices of the changes to be introduced and the effective date of implementation.

12.1.3 All requests by users for changes to AMBEX bulletins should be addressed to the ICAO Regional Office concerned. The Regional Office should carry out the necessary coordination with the States and AMBEX centres concerned. The duration of the coordination process should be minimized so that the period between the user request and the implementation of the change (if agreed) should normally be less than 3 months.

12.2 Quality Management of OPMET Exchange under the AMBEX Scheme

12.2.1 Objectives and Scope

12.2.1.1 **Objectives:** Develop a management system that provides general guidance on procedures applied to OPMET exchange, which includes quality control aspects and introduces a non-real-time monitoring for OPMET exchange.

12.2.1.2 **Scope:** Management of OPMET data exchange will be organized in the following sections:

Quality Control	<i>Data quality control applies to OPMET validation and correction during data processing and during preparation of messages</i>
OPMET monitoring	<i>Monitor and evaluate the performance indicators for the scheduled OPMET data</i>

12.2.2 Quality Control – General Requirements

12.2.2.1 Quality control (QC) consists of examination of OPMET data at NOCs, AMBEX Centres and RODBs to check the messages for formatting and coding errors, as well as, for time and space consistency.

12.2.2.2 OPMET data should be checked in real time or as close to it as possible, at the first point, i.e., the originator, which may be: meteorological station, aerodrome meteorological office or meteorological watch office. Errors may occur during coding or transcription of meteorological messages by the observer or forecaster. The originating office should apply quality control procedures during data processing and preparation of messages, in order to eliminate the main sources of errors.

12.2.2.3 The national OPMET centre (NOC) should apply QC procedures on the incoming messages from national sources and on the compiled national bulletins.

12.2.2.4 It is also advisable to apply QC checks at the AMBEX Centre, where the AMBEX bulletins are received or compiled. If automation is available it should be used, or partly assisted by computing facilities. The principle is that every message should be checked, preferably at the various points along the data chain.

12.2.2.5 The checks that have already been performed by originating offices and AMBEX Centres are usually repeated at the OPMET data banks. Erroneous messages found by the RODB should be either rejected or corrected by reference back to the source or by the data bank itself. Data corrected by the data banks should be flagged in the database for record purpose.

12.2.2.6 As a result of the quality control process described above, OPMET data of established quality will be used in the exchange and stored in the data banks. The RODBs should compile information with regard to errors that were found and compile records, such as the numbers and types of errors detected during quality control. Such non-conformities should be reported to ICAO Regional Office, Dakar or Nairobi for follow-up action.

12.2.3 Quality Control Procedures

12.2.3.1 General guidance on the quality control procedures for each type of OPMET is outlined in **Appendix F**.

12.3 OPMET Monitoring

12.3.1 Monitoring of Scheduled OPMET Data

12.3.1.1 The monitoring shall focus on the measurement of three performance indicators (PIs), viz., Compliance, Availability and Regularity indices of the scheduled, routine OPMET data (SA, FT, FC) exchanged in the region. The PIs are described in detail in **Appendix F**.

12.3.1.2 Monitoring Reference. The monitoring shall involve the recording and analysis of data provided by the AFTN circuit. The three PIs should be monitored against the respective AMBEX Tables.

12.3.1.3 Methodology: Data is monitored with reference to the procedures defined in **Appendix G** the EUR OPMET Data Monitoring Procedures as produced by APIRG MET/SG (Bulletin Management Group).

12.3.2 Monitoring of Non-Scheduled OPMET data

12.3.2.1 Monitoring of non-routine OPMET data shall be executed for FK, FV, WC, WS, and WV.

12.3.2.2 Monitoring of SIGMET, VAA and TCA should be performed during the scheduled regional SIGMET tests in accordance with the procedures published by the Regional Offices, Dakar and Nairobi.

12.3.2.3 The monitoring results shall be presented in bulletin-oriented format, one line per bulletin indicating the abbreviated header (TTAAii CCCC YGGgg), the FIR/UIR where applicable, receipt time and originator.

12.4 AMBEX Focal Points

12.4.1 In order to facilitate exchange of information between the AMBEX centres a system of AMBEX focal points have been developed. Contact details of the persons designated as AMBEX focal points by the relevant State's authorities is provided in **Appendix I**.

APPENDIX A

AMBEX COLLECTION AND DISSEMINATION OF METAR (SA) BULLETINS

Table A : METAR

Explanation of Table

Column

- | | |
|----|---|
| 1: | Name of the AMBEX Centre (BCC) compiling the bulletin. |
| 2. | ICAO location indicator of the AMBEX Centre compiling the bulletin. |
| 3. | Bulletin identifier- The identifier to be used in the WMO abbreviated heading of AMBEX METAR bulletins prepared by the BCC in Column 1. |
| 4. | ICAO location indicator of the aerodrome forming part of the collection area of the BCC in Column 1. |
| 5. | Name of the aerodrome forming part of the collection area of the BCC in Column 1. |
| 6. | Preparation - Times at which BCC in column 1 should prepare METAR bulletins for further dissemination. |
| 7. | Distribution of the bulletin to other AMBEX centres and RODBs – Name of the AMBEX/RODB Centre |
| 8. | Distribution of the bulletin to other AMBEX centres and RODBs – AFTN address of the AMBEX/RODB Centre. |

*Note: The RODB responsible for storing the bulletin is in **bold***

Notes:

- | | |
|---|---|
| 1 | Aerodromes with shaded text are included in the HF VOLMET Broadcast |
| 2 | The RODB responsible for storing the bulletin is in bold |
| 3 | Non-AOP aerodeomes indicated in <i>italics</i> |

AMBEX CENTRE		METAR BULLETIN				DISSEMINATION TO	
Name	CCCC	Bul. Id.	CCCC	Aerodrome	Prepar.	RODB/AMBEX Centre	AFTN Address
1	2	3	4	5	6	7	8
ADDIS ABABA	HAAB	SAEA31	HAAB HAAY HADR HDAM	Addis Ababa Asmara Dire Dawa Djibouti	H+10	Addis Ababa Nairobi Dakar Brazzaville Niamey Antananarivo Cairo Johannesburg	HAABYMYX HKZZYPBX GOZZSNGX FCZZXLBX DRZZNAZX FMZZYPYX HEZZYPYX FAJSYMYX
ALGER	DAMM	SAAF31	DAMM DABB DAOO DAAT DTTA HLLT HLLB	Alger Annaba Oran Tamanrasset Tunis Tripoli Benghazi	H+10	Cairo Casablanca Dakar Niamey	HEZZYPYX GMZZYPYX GOOYYZYX DRZZNAZX
ANTANANARIVO	FMMI	SAI031	FMMI FMNM FIMP FMCH FMEE FMMT	Antananarivo Mahajanga Mauritius Moroni Saint-Denis Toamasina	H+10	Nairobi Addis Ababa Johannesburg Nairobi	HKZZYPBX HAZZYPYX FAJSYMYX HKZZYPBX
BRAZZA VILLE	FCBB	SAAM31	FCBB FCPP FEFF FKKD FKYS FZAA FOOL FOOG FNLU FGSL FPST	Brazzaville Pointe Noire Bangui Douala Yaounde Kinshasa Libreville Port Gentil Luanda Malabo Sao Tome	H+10	Dakar Niamey Addis Ababa Johannesburg Nairobi	GOOYYZYX DRZZNAZX HAZZYPYX FAJSYMYX HKZZYPBX
CAIRO	HECA	SAAF32	HECA HEAX HELX HSSS	Cairo Alexandria Luxor Khartoum	H+10	Addis Ababa Nairobi Antananarivo Niamey Johannesburg	HAZZYPYX HKZZYPBX FMZZYPYX DRZZNAZX FAJSYMYX

AMBEX CENTRE		METAR BULLETIN				DISSEMINATION TO	
Name	CCCC	Bul. Id.	CCCC	Aerodrome	Prepar.	RODB/AMBEX Centre	AFTN Address
1	2	3	4	5	6	7	8
CASA BLANCA	GMMC	SAMC31	GMMC GMAA GMMX GMME GMIT GCLP GCTS	Casablanca Agadir Marrakech Rabat Tanger Las Palmas Tenerife Sur	H+10	Alger Dakar Cairo	DAZZYPYP GOOYYZYZ HEZZYPYX
DAKAR	GOOY	SAA032	GOOY DIAP GBYD GABS GUCY GFLL GLRB GQPP GQNN GVAC GGOV	Dakar Abidjan Banjul Bamako Conakry Freetown Monrovia Nouadhibou Nouakchott Sal Bissau	H+10	Casablanca Alger Niamey Johannesburg Brazzaville Nairobi Addis Ababa Toulouse Dakar	GMMCYPYX DAZZYPYP DRZZNAZX FAJSYMYX FCZZXLBX HKZZYPBX HAZZYPYX LFZZMAFI GOOYYZYZ
PRETORIA (JOHANNE SBURG)	FAJS	SAAP32	FAJS FABL FACT FALE FBSK FVHA FWKI FLLS FDMS FQBR FQMA FXMM FYWH	Johannesburg Bloemfontein Cape Town King Shaka Gaborone Harare Lilongwe Lusaka Manzini Beira Maputo Maseru Windhoek	H+10	Addis Ababa Antananarivo Brazzaville Cairo Dar Es Salaam Dakar Nairobi Toulouse Johannesburg	HAZZYPYX FMZZYPYX FCZZXLBX HFZZYPYX HTDAYMYX GOOYYZYZ HKZZYPBX LFZZMAFI FAJSYMYX

AMBEX CENTRE		METAR BULLETIN				DISSEMINATION TO	
Name	CCCC	Bul. Id.	CCCC	Aerodrome	Prepar.	RODB/AMBEX Centre	AFTN Address
1	2	3	4	5	6	7	8
NAIROBI	HKJK	SAEA32	HKJK HKMO HTDA HTKJ HBBA HUEN HRYR FSIA HCMM	Nairobi Mombasa Dar-Es-Salaam Kilimanjaro Bujumbura Entebbe Kigali Mahe Mogadishu	H+10	Addis Ababa Antananarivo Johannesburg Brazzaville Dakar Cairo Niamey	HAABYPYX FMZZYPYX FAJSYMYX FCZZXLBX GOZZSNGX HEZZYPYX DRZZNAZX
NIAMEY	DRRN	SAAO33	DRRN DGAA DBBB DNKN DNMM DXXX FTTJ DFFDY	Niamey Accra Cotonou Kano Lagos Lome N'djamena Ouagadougou	H+10	Addis Ababa Alger Cairo Brazzaville Dakar Johannesburg Nairobi	HAZZYPYX DAZZYPYP HEZZYPYX FCZZXLBX GOOYYZYZ FAJSYMYX HKZZYPBX

APPENDIX B

AMBEX COLLECTION AND DISSEMINATION OF LONG TAF (FT) BULLETINS

Table B : FT TAF

Explanation of the Table

Column

- | | |
|-----|--|
| 1: | Name of the AMBEX Centre (BCC) compiling the bulletin. |
| 2. | ICAO location indicator of the AMBEX Centre compiling the bulletin. |
| 3. | Bulletin identifier- The identifier to be used in the WMO abbreviated heading of AMBEX TAF (FT) bulletins prepared by the BCC in Column 1. |
| 4. | ICAO location indicator of the aerodrome forming part of the collection area of the BCC in Column 1. |
| 5. | Name of the aerodrome forming part of the collection area of the BCC in Column 1. |
| 6. | Bulletin Filing Time -The latest filing times for AMBEX bulletins containing TAFs with the validities listed in Column 8. |
| 7. | Start of validity period |
| 8. | TAF validity |
| 9. | Distribution of the bulletin to other AMBEX centres and RODBs – Name of the AMBEX/RODB Centre |
| 10. | Distribution of the bulletin to other AMBEX centres and RODBs – AFTN address of the AMBEX/RODB Centre |

Notes: 1 The RODB responsible for storing the bulletin is in bold

AMBEX CENTRE		TAF BULLETIN						DISSEMINATION TO	
Name	CCCC	Bul. Id.	CCCC	Aerodrome	Filing Time	Start of validity	TAF validity	RODB/ AMBEX Centre	AFTN Address
1	2	3	4	5	6	7	8	9	10
ADDIS ABABA	HAAB	FTEA31	HAAB	Addis Ababa	0400 1000 1600 2200	0600 1200 1800 0000	30h	Addis Ababa Nairobi Dakar Brazzaville	HAABYMYX HKZZYPBX GOZZSNGX FCZZXLBX
		FTEA39	HAAY HADR HDAM	Asmara Dire Dawa Djibouti	0400 1000 1600 2200	0600 1200 1800 0000	24h	Niamey Antananarivo Cairo Johannesburg Jeddah	DRZZNAZX FMZZYPYX HEZZYPYX FAJSYMYX OEJDYPYX
ALGER	DAMM	FTAF39	DAMM DABB DAOO DAAT DTTA HLLT HLLB	Alger Annaba Oran Tamanrasset Tunis Tripoli Benghazi	0400 1000 1600 2200	0600 1200 1800 0000	24h	Cairo Casablanca Dakar Niamey	HEZZYPYX GMZZYPYX GOOYYZYX DRZZNAZX
ANTANANARIVO	FMMI	FTI031	FMMI FIMP FMEE FMCH	Antananarivo Mauritius Saint-Denis Moroni	0400 1000 1600 2200	0600 1200 1800 0000	30h	Nairobi Addis Ababa Johannesburg	HKZZYPBX HAZZYPYX FAJSYMYX
		FTI039	FMNM FMMT	Mahajanga Toamasina	0400 1000 1600 2200	0600 1200 1800 0000	24h	Nairobi	HKZZYPBX
BRAZZA VILLE	FCBB	FTAM31	FCBB FEFF FKKD FZAA FOOL FPST FGSL	Brazzaville Bangui Douala Kinshasa Libreville Sao Tome Malabo	0400 1000 1600 2200	0600 1200 1800 0000	30h	Dakar Niamey Addis Ababa Johannesburg	GOOYYZYX DRZZNAZX HAZZYPYX FAJSYMYX
		FTAM39	FCPP FKYS FOOG FNLU	Pointe Noire Yaounde Port Gentil Luanda	0400 1000 1600 2200	0600 1200 1800 0000	24h	Nairobi	HKZZYPBX

AMBEX CENTRE		TAF BULLETIN						DISSEMINATION TO	
Name	CCCC	Bul. Id.	CCCC	Aerodrome	Filing Time	Start of validity	TAF validity	RODB/ AMBEX Centre	AFTN Address
1	2	3	4	5	6	7	8	9	10
CAIRO	HECA	FTAF39	HECA HEAX HELX HSSS	Cairo Alexandria Luxor Khartoum	0400 1000 1600 2200	0600 1200 1800 0000	24h	Addis Ababa Nairobi Antananarivo Niamey Johannesburg	HAZZYPYX HKZZYPBX FMZZYPYX DRZZNAZX FAJSYMYX
CASA BLANCA	GMMC	FTMC31	GMMC GMAA GMMX GMME GMIT	Casablanca Agadir Marrakech Rabat Tanger	0400 1000 1600 2200	0600 1200 1800 0000	30h	Alger Dakar Cairo	DAZZYPYP GOOYYZYZ HEZZYPYX
		FTMC39	GCLP GCTS	Las Palmas Tenerife Sur	0400 1000 1600 2200	0600 1200 1800 0000	24h		
DAKAR	GOOY	FTA032	GOOY GBYD GABS GFLB GLRB GQNN DIAP	Dakar Banjul Bamako Freetown Monrovia Nouakchott Abidjan	0400 1000 1600 2200	0600 1200 1800 0000	30h	Casablanca Alger Niamey Johannesburg Brazzaville	GMMCYPYX DAZZYPYP DRZZNAZX FAJSYMYX FCZZXLBX
		FTA039	GUCY GQPP GVAC GGOV	Conakry Nouadhibou Sal Bissau	0400 1000 1600 2200	0600 1200 1800 0000	24h	Nairobi Addis Ababa Toulouse Dakar	HKZZYPBX HAZZYPYX LFZZMAFI GOOYYZYZ
PRETORIA JOHANNESBURG	FAJS	FTAP32	FAJS FACT FALE FBSK FVHA FWKI FLLS FQMA	Johannesburg Cape Town King Shaka Gaborone Harare Lilongwe Lusaka Maputo	0400 1000 1600 2200	0600 1200 1800 0000	30h	Addis Ababa Antananarivo Brazzaville Cairo Dar Es Salaam Dakar Nairobi	HAZZYPYX FMZZYPYX FCZZXLBX HFZZYPYX HTDAYMYX GOOYYZYZ HKZZYPBX
		FTAP39	FQBR FABL FDMS FXMM FYWH	Beira Bloemfontein Manzini Maseru Windhoek	0400 1000 1600 2200	0600 1200 1800 0000	24h	Toulouse Johannesburg	LFZZMAFI FAJSYMYX

AMBEX CENTRE		TAF BULLETIN						DISSEMINATION TO	
Name	CCCC	Bul. Id.	CCC C	Aerodrome	Filing Time	Start of validity	TAF validity	RODB/ AMBEX Centre	AFTN Address
1	2	3	4	5	6	7	8	9	10
NAIROBI	HKJK	FTEA32	HKJK	Nairobi	0400	0600	30h	Addis Ababa Antananarivo Johannesburg	HAABYPYX
			HTDA	Dar-Es-Salaam	1000	1200			FMZZYPYX
			HUEN	Entebbe	1600	1800			FAJSYMYX
					2200	0000			
		FTEA39	HKMO	Mombasa	0400	0600	24h	Brazzaville Dakar Cairo Niamey	FCZZXLBX
			HTKJ	Kilimanjaro	1000	1200			GOZZSNGX
			HBBA	Bujumbura	1600	1800			HEZZYPYX
			HRYR	Kigali	2200	0000			DRZZNAZX
			FSIA	Mahe					
			HCMM	Mogadishu					
NIAMEY	DRRR	FTAO33	DRNN	Niamey	0400	0600	30h	Addis Ababa Alger Cairo Brazzaville Dakar Johannesburg Nairobi	HAZZYPYX
			DGAA	Accra					DAZZYPYP
			DBBB	Cotonou	1000	1200			HEZZYPYX
			DNKN	Kano	1600	1800			FCZZXLBX
			DNMM	Lagos	2200	0000			GOOYYZYZ
			DXXX	Lome					FAJSYMYX
			FTTJ	N'djamena					HKZZYPBX
			DFFDY	Ouagadougou					

APPENDIX C

WMO ABBREVIATED HEADINGS (for use in AMBEX messages and bulletins)

1. Each AMBEX bulletin should have a WMO abbreviated heading in accordance with WMO No. 386, Manual on the Global Telecommunication System, Part II – Operational Procedures for the GTS. The symbolic form of the WMO abbreviated heading is as follows:

TTAAii CCCC YYGGgg (BBB)

2. Explanation of symbols

2.1. TTAAii - TT - This group is used in accordance with WMO No. 386, Manual on the Global Telecommunication System, Part II – Operational Procedures for the GTS, Attachment II-5.

2.1.1 **TT** - Data type designator, used for OPMET data as follows:

Data Type	Abbreviated Name	WMO data type designator TT
Aerodrome reports	METAR SPECI	SA SP
Aerodrome forecasts	TAF: 24 and 30 hour 9 and 12 hour	FT FC
SIGMET information	SIGMET SIGMET for TC SIGMET for VA	WS WC WV
Volcanic ash and tropical cyclone advisories	VAA TCA	FV FK
Air-reports	AIREP	UA
Administrative	ADMIN	NO

2.1.2 **AA** - Geographical designator, composed of two letters. according to WMO No. 386, Manual on the Global Telecommunication System, Part II – Operational Procedures for the GTS, Attachment II-5, Table C1. The following principles shall apply:

- a) For AMBEX bulletins containing OPMET data from a single State or territory, the AA designator should be chosen from Table C1, Part I – Country or territory designators;
- b) For AMBEX bulletins containing OPMET data from more than one State or territory, a suitable AA designator should be chosen from Table C1, Part II – Area Designators;
- c) The part of the Table C1, Part II – Area Designators, which is relevant to the AMBEX scheme is reproduced bellow.

2.1.3 In AMBEX messages prepared by offices other than BCCs for transmission to BCCs, the following geographical designators should be used:

NOC	AA	NOC	AA
Abidjan	IV	Casablanca	MC
Accra	GH	Conakry	GN
Addis Ababa	ET	Cotonou	BJ
Aden	DY	Dakar	SG
Agadir	MC	Dar-es-Salaam	TN
Alger	AL	Djibouti	DJ
Alexandria	EG	Douala	CM
Annaba	AL	Durban	ZA
Antananarivo	MG	Entebbe	UG
Asmara	ET	Freetown	SL
Bamako	MI	Gaborone	BC
Bangui	CE	Harare	ZW
Banjul	GB	Jeddah	SD
Beira	MZ	Johannesburg	ZA
Beirut	LB	Kano	NI
Benghazi	LY	Khartoum	SU
Bissau	GW	Kigali	RW
Bloemfontein	ZA	Kilimanjaro	TN
Brazzaville	CG	Kinshasa	ZR
Bujumbura	BI	Lagos	NI
Cairo	EG	Las Palmas	CR
Cape Town	ZA	Libreville	GO
Lilongwe	MW	Niamey	NR
Lomé	TG	Nouadhibou	MT
Luanda	AN	Nouakchott	MT
Lusaka	ZB	Oran	AL
Luxor	EG	Ouagadougou	HV
Madinah	SD	Pointe Noire	CG
Mahajanga	MG	Port Gentil	GO
Mahé	SC	Rabat	MC
Malabo	GQ	Riyadh	SD
Manzini	SV	Saint-Denis	RE
Maputo	MZ	Sal	CV
Marrakech	MC	Sao Tomé	TP
Maseru	LS	Tamanrasset	AL
Mauritius	MA	Tanger	MC
Mogadishu	SI	Tenerife	CR
Mombasa	KN	Toamasina	MG
Monrovia	LI	Tunis	TS
Moroni	IC	Tripoli	LY
Nairobi	KN	Windhoek	NM
N'Djamena	CD	Yaounde	CM

2.1.4 In bulletins prepared by BCCs, the following geographical designators should be used:

BCC	AA	BCC	AA
Addis Ababa	EA	Casablanca	MC
Alger	AF	Dakar	AO
Antananarivo	IO	Johannesburg	AP
Brazzaville	AM	Nairobi	EA
Cairo	AF	Niamey	AO

2.1.5 **ii** Number used to differentiate two or more bulletins which contain data in the same code and which originate from the same geographical area and from the same originating centre. It shall be a number with a maximum of two digits. The IROGs may use numbers 36 to 38. The numbers 31 to 35, 39 shall be used in AMBEX bulletins for purposes other than those of IROG functions. .

2.2 **CCCC**: ICAO location indicator of location preparing the AMBEX bulletin (BCCs) or AMBEX messages (offices other than BCCs).

2.3. **YYGGgg**: Date-time group. To be used as follows:

2.3.1 YY - Day of the month

2.3.2 GGgg - hours and minutes.

- For METAR bulletins/messages: the standard time of observation in UTC.
- For TAF bulletins: the full hour in UTC (the last two digits shall be 00) preceding the transmission time.
- For all other bulletin/messages - the time of compilation in UTC.

2.4. **BBB** - Optional group indicating an amended, corrected or delayed bulletin.

2.4.1 An abbreviated heading defined by TTAAii CCCC YYGGgg shall be used only once. Consequently, if this abbreviated heading has to be used again for an addition, a correction or an amendment, it shall be mandatory to add an appropriate BBB indicator, which shall be added after the date-time group. The indicator BBB shall be used as defined below:

- RRx – for delayed routine meteorological messages/bulletins;
- CCx – for corrections to previously relayed messages/bulletins;
- AAx – for amendments to TAF messages/bulletins;
- Pxx – for segmenting a large set of information into several bulletins.

Note 1: The “x” above is an alphabetic character of A through X, indicating the sequential number of the irregular bulletin of certain type. For instance, for amended TAFs, AAA is used for the first amendment, AAB for the second, AAC for the third, etc.; for delayed METARs or TAFs, RRA is used for the first delayed message, RRB for the second, etc.; and, for corrections to any OPMET bulletin, CCA is used for the first correction, CCB for the second, etc.

Note 2: The use of the third letter A, B, C, etc. permits differentiation between bulletins/messages

with the same type of information of the original bulletin/message. For example, assuming that a certain bulletin had the following abbreviated heading: "FTA031 DIAP 281000", a delayed bulletin containing TAF(s) which are missing from the original bulletin will bear the heading: "FTA033 DRRN 281000 RRA"; and a second delayed bulletin, containing additional missing TAF(s) will bear the heading: "FTA031 DIAP 281000 RRB".

Note 3: *The following data designators should be used by BCCs:*

	TAF	METAR
Addis Ababa	FTEA31 HAAB FTEA39 HAAB	SAEA 31
Alger	FTAF31 DAMM	SAAF 31
Antananarivo	FTIO31 FMMI FTIO39 FMMI	SAIO 31
Brazzaville	FTAM31 FCBB FTAM39 FCBB	SAAM 31
Cairo	FTAF32 HECA	SAAF 32
Casablanca	FTMC31 GMMC FTMC39 GMMC	SAMC 31
Dakar	FTAO32 GOOY FTAO39 GOOY	SAAO 32
Johannesburg	FTAP32 FAJS FTAP39 FAJS	SAAP 32
Nairobi	FTEA32 HKJK FTEA39 HKJK	SAEA 32
Niamey	FTAO33 DRRN	SAAO 33

APPENDIX D

EXCHANGE OF OPMET DATA BETWEEN THE AFI, EUR, MID AND ASIA REGION

IROGs RESPONSIBILITIES

1. DAKAR IROG

1.1. Outgoing responsibilities

1.1.1 The whole set of METAR, TAF, AIREP SPECIAL and SIGMET bulletins, as described in appendices A, B, C and D of this Handbook, received by RODB DAKAR shall be distributed to Rio de Janeiro and ROC Toulouse, which shall send them to the EUR ROCs deserving other adjacent regions and to the SADIS.

1.2. Incoming responsibilities

1.2.1 The bulletins containing the required international OPMET data as indicated in the FASID Table MET 1A (or 2A) shall be sent by Rio de Janeiro, Jedda and ROC Toulouse to IROG DAKAR, that shall send the bulletins following the States requirements.

1.2.2 Regular contacts with the adjacent IROG (s) shall insure the efficiency of the data exchange. A list of exchanged bulletins should be agreed and updated, as necessary.

2. PRETORIA IROG

2.1. Outgoing responsibilities

2.1.1 The whole set of METAR, TAF, AIREP SPECIAL and SIGMET bulletins, as described in appendices A, B, C and D of this Handbook received by RODB Pretoria shall be distributed to Rio de Janeiro, Jeddah, Bangkok and ROC Toulouse, that shall send to the EUR ROCs deserving other adjacent regions and to the SADIS

2.2. Incoming responsibilities

2.2.1 The bulletins containing the required international OPMET data as indicated in the FASID table MET 1A (or 2A) shall be sent by Rio de Janeiro, Jedda, Bangkok and ROC Toulouse to IROG PRETORIA, that shall send the bulletins following the States requirements.

2.2.2 Regular contacts with the adjacent IROG(s) should insure the efficiency of the data exchange. A list of exchanged bulletins should be agreed and updated, as necessary

APPENDIX E

AFI REGIONAL OPMET DATA BANKS AND SIGMET REQUIREMENTS

The AFI Regional OPMET Data Banks (RODBs) and the AFTN address to be used for direct access to the banks are shown below:

RODB	AFTN Address	AMBEX Centres of Responsibility
Dakar	GOOYYZYZ	Alger/DAMM, Brazzaville/FCBB Casablanca/GMMC Dakar/GOOO Niamey/DRNN
Pretoria	FAJS YMYX	Addis Ababa/HAAB, Antananarivo/FMMI Cairo/HECA Johannesburg/ (FAJS)** Nairobi/HKNA ** BCC located at South African Weather Service HQ.

Responsibilities:

1. Collect OPMET bulletins from AMBEX centres in the area of responsibility and store them in the data base;
2. Handle all types of OPMET bulletins;
3. Provide facilities for “request-reply” service to authorized users;
4. Maintain a catalogue of bulletins and introduce changes to the bulletins when necessary according to established procedures;
5. Quality control the incoming bulletins and inform AMBEX centres on any deficiencies;
6. Monitor the OPMET traffic by carrying on regular test on the availability and timeliness of the bulletins; report to the ICAO Regional Office on the results.

APPENDIX E-1**WMO HEADINGS FOR SIGMET BULLETINS USED BY AFI
METEOROLOGICAL WATCH OFFICES (MWOs)****EXPLANATION OF THE TABLE**

Col 1: State and name of the MWO

Col 2: ICAO location indicator of the MWO

Col 3: T₁T₂A₁A₂ii group of the WMO heading for the WS SIGMET bulletin

Col 4: T₁T₂A₁A₂ii group of the WMO heading for the WC SIGMET bulletin (tropical cyclone)

Col 5: T₁T₂A₁A₂ii group of the WMO heading for the WV SIGMET bulletin (volcanic ash)

Col 6: ICAO location indicator of the FIR/CTA served by the MWO

Col 7: Remarks

**WMO HEADINGS FOR SIGMET BULLETINS
USED BY AFI METEOROLOGICAL WATCH OFFICES**

MWO Location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
ALGERIA ALGER/Baraki	DAAL	WSAL31		WVAL31	DAAA	
ANGOLA LUANDA/4 de Fevereiro	FNLU	WSAN31		WVAN31	FNAN	
BOTSWANA GABORONE/Sir Seretse Khama	FBSK	WSBC31	WCBC31	WVBC31	FBGR	
BURUNDI BUJUMBURA/Bujumbura	HBBA	WSBI31		WVB131	HBBA	
CANARY ISLANDS (Spain) GRAN CANARIA/Gran Canary, Canary I	GCLP	WSCR31		WVCR31	GCCC	
CAPE VERDE SAL I/Amilcar Cabral	GVAC	WSCV31		WVCV31	GVSC	
CHAD N'DJAMENA/N'djamena	FTTJ	WSCD31		WVCD31	FTTT	
CONGO BRAZZAVILLE/Maya-Maya	FCBB	WSCG31		WVCG31	FCCC	
D.R. CONGO KINSHASA/N'Djili	FZAA	WSZR31	WCZR31	WVZR31	FZAA	
EGYPT CAIRO/Cairo International	HECA	WSEG31	WCEG31	WVEG31	HECC	
ETHIOPIA ADDIS ABABA/Bole Intl	HAAB	WSET31		WVET20	HAAA	
ERITREA ASMARA	HHAS	WSEI31		WVEI31	HHAA	
GHANA ACCRA/Kotoka Int'l	DGAA	WSGH31		WVGH31	DGAC	
KENYA KENYA/Jomo Kenyatta Int'l	HKJK	WSKN31	WCKN31	WVKN31	HKNA	
LIBERIA MONROVIA/Roberts Int'l	GLRB	WSLI31		WVSL31	GLRB	
LIBYAN ARAB JAMAHIRIYA TRIPOLI/Tripoli Int'l	HLLT	WSLY31		WVLY31	HLLL	
MADAGASCAR ANTANANARIVO/Ivato	FMMI	WSMG31	WCMG20	WVMG20	FMMM	
MALAWI LILONGWE/Lilongwe Int'l	FWKI	WSMW31	WCMW31	WVMW31	FWLL	

MWO Location	ICAO location indicator	WMO SIGMET Headings			FIR/ACC served	Remarks
		WS	WC	WV	ICAO location indicator	
1	2	3	4	5	6	7
MAURITIUS MAURITIUS/Sir Seewoosagur Ramgoolam Int'l	FIMP	WSMA31		WVMA31	FIMM	
MOROCCO CASABLANCA/Anfa	GMMC	WSMC31		WVMC31	GMMM	
MOZAMBIQUE MAPUTO/Maputo Int'l	FQMA	WSMZ31	WCMZ20	WVMZ31	FQBE	
NAMIBIA WINDHOEK/Hosea Kutako	FYWH	WSNM31		WVNM31	FYWH	
NIGER NIAAMEY/Diori Hmani Int'l	DRRN	WSNR31		WVNR31	DRRR	
NIGERIA KANO/Mallam Aminu Kano Int'l	DNKN	WSNI31		WVNI31	DNKK	
RWANDA KIGALI/Gregoire Kayibanda	HRYR	WSRW31		WVRW31	HRYR	
SENEGAL Leopold Sedar Senghor	GOOY	WSSG31		WVSG31	GOOO	
SEYCHELLES MAYE/Seychelles Int'l	FSIA	WSSC31	WCSC20	WVSC31	FSSS	
SOMALIA MOGADISHU/Mogadishu	HCMM	WSSI31		WVSI31	HCSM	
SOUTH AFRICA JOHANNESBURG/Johannesburg	FAJS	WSZA31	WCZA31	WVZA31	FACA FAJA FAJO	
SUDAN KHARTOUM/Khartoum	HSSS	WSSU31		WVSU31	HSSS	
TUNISIA TUNIS/Carthage	DTTA	WSTS31		WVTS31	DTTC	
UGANDA ENTEBBE/Entebbe Int'l	HUEN	WSUG31		WVUG31	HUEC	
UNITED REPUBLIC OF TANZANIA DAR-ES-SALAAM/Dar-es-Salaam	HTDA	WSTN31	WCTN31	WVTN31	HTDC	
ZAMBIA LUSAKA/Lusaka Int'l	FLLS	WSZB31		WVZB31	FLFI	
ZIMBABWE HARARE/Harare	FVHA	WSZW31	WCZW31	WVZW31	FVHA	

APPENDIX F

OPMET Quality Control and Monitoring Procedures

(To be developed and confirmed by the QC team of the OPMET Management Task Force)

1 Quality Control Procedures

1.1 OPMET Data Validation

1.1.1 The AMBEX Centres and RODBs should not modify the content of the meteorological data, e.g. visibility, QNH etc., but only items contained in the WMO bulletin headings, such as, location indicators or observation times.

1.1.2 WMO Abbreviated Heading (TTAAii CCCC YYGGgg BBB) Validation

TT	Message Type, shall comprise two alphabetical characters
AA	Location Indicator, shall comprise two alphabetical characters
ii	comprise two digits, from 01 to 99
CCCC	A 4-letter ICAO location indicator shall comprise 4 alphabetical characters
YYGGgg	The date time group of the bulletin, shall be configured to validate it with the current time
BBB	BBB is an optional group. The use of BBB group shall comply with the rules in the WMO abbreviated heading, in regard to delayed, corrected and amended bulletins.

Examples	After QC check
METAR with incorrect YYGGgg: SABM31 VYMD 100830 UTC VYMD 100830Z 18005KT 8000 FEW025 31/18 Q1000 =	SABM31 VYMD 100830 VYMD 100830Z 18005KT 8000 FEW025 31/18 Q1000 =
TAF without AHL: 112324 WIDDYMYX TAF WIDD 112324Z 1200/1224 00000KT 4000 RA BKNT017 BECMG 1203/1205 20010KT 9000 SCT017=	FTID31 WIDD 112300 TAF WIDD 112324Z 1200/1224 00000KT 4000 RA BKNT017 BECMG 1203/1205 20010KT 9000 SCT017=
TAF with invalid BBB: FTBN31 OBBI 030525 AMD TAF AMD OBBI 030525Z 0306/0406 16010KT CAVOK BECMG 0308/0312 33017KT 5000 PROB30 TEMPO 0308/0314 0800 DU=	FTBN31 OBBI 030525 AAA TAF AMD OBBI 030525Z 0306/0406 16010KT CAVOK BECMG 0308/0312 33017KT 5000 PROB30 TEMPO 0308/0314 0800 DU=

1.1.3 METAR/SPECI Validation

For each individual METAR or SPECI within a bulletin the following additional fields shall be validated:

Prefix checks	METAR METAR COR SPECI SPECI COR	SA SA SP SP
Observation Time YYGGggZ	The report shall have a valid date and time of observation, including the character 'Z'. In a SPECI bulletin, this group will be same as (or very close to) the YYGGgg, part of the abbreviated bulletin heading.	
End-of-message format “=”	Each METAR or SPECI report shall be terminated by the "=" character.	

Examples	After QC check
METAR with Observation Time error: SAPK31 OPKC 030159 RRA OPKC 030200 26004 8000 BKN020 27/23 Q1007 NOSIG=	SAPK31 OPKC 030200 RRA OPKC 030200 26004 8000 BKN020 27/23 Q1007 NOSIG=
METAR with mistyped observation time: SAID31 WADD 120100 METAR WADD 121000Z 17004KT 9999 FEW018CB SCT120 BKN300 28/26 Q1005=	SAXX31 WADD 120100 METAR WADD 120100Z 17004KT 9999 FEW018CB SCT120 BKN300 28/26 Q1005=
SPECI with incorrect Message Type, TT: SANZ31 NZKL 040000 SPECI NZWP 040000Z 17005KT 010V240 25KM FEW020 FEW020CB SCT035 BKN050 18/15 Q1018 NOSIG=	SPNZ31 NZKL 040000 AAA SPECI NZWP 040000Z 17005KT 010V240 25KM FEW020 FEW020CB SCT035 BKN050 18/15 Q1018 NOSIG=

1.1.4 TAF Validation

For each individual TAF within a bulletin, the following additional items shall be validated:

Prefix checks	TAF TAF COR TAF AMD	FT or FC FT or FC FT or FC
Issue Time YYGGggZ	If the field is included, it shall have a valid date and time of origin of forecast including 'Z'.	
Validity Y ₁ Y ₁ G ₁ G ₁ /Y ₂ Y ₂ G ₂ G ₂	Some TAFs are still produced with a 4-digit validity period. These shall be corrected by inserting a date consistent with the current date and the date time group of the bulletin header. If a TAF is received without a validity period it shall be discarded.	
End-of-Message format “=”	Each forecast shall be terminated by the “=” character.:	

Examples	After QC check
TAF with issue time error (wrong date): FCID31 WIII 181630 TAF WIII 041630Z 0418/0503 00000KT 9000 FEW025 BECMG 0422/0424 16005KT=	FCID31 WIII 181630 TAF WIII 181630Z 0418/0503 00000KT 9000 FEW025 BECMG 0422/0424 16005KT=
TAF with mistyped Validity Period: FTPH31 RPLL 132200 TAF RPLC 132200Z 1400/1428 04006KT 9999 SCT036 BKN300 TEMPO 1400/1406 02010KT 5000 –SHRA FEW020 BKN270 TX32/1405Z TN22/1421Z=	FTPH31 RPLL 132200 TAF RPLC 132200Z 1400/1424 04006KT 9999 SCT036 BKN300 TEMPO 1400/1406 02010KT 5000 –SHRA FEW020 BKN270 TX32/1405Z TN22/1421Z=
TAF with Validity error (wrong date): FCMS33 WMKK 170748 TAF WMKK 170700Z 3009/3018 30005KT 9999 FEW017CB SCT140 BKN270=	FCMS33 WMKK 170748 TAF WMKK 170700Z 1709/1718 30005KT 9999 FEW017CB SCT140 BKN270=
TAF with 4-digit Validity period: FTXX31 WIDD 170121 TAF WIDD 0618 06010G20KT 9999 SCT018 BECMG 1712/1714 00000KT 7000=	FTXX31 WIDD 170121 TAF WIDD 1706/1718 06010G20KT 9999 SCT018 BECMG 1712/1714 00000KT 7000

1.1.5 SIGMET Validation

CCCC on the AHL	A valid 4-letter ICAO location indicator indicating the FIR for which the SIGMET was	
Prefix checks	SIGMET for TS, CB, TURB, ICE, MTW, DS and SS SIGMET for VA SIGMET for TC	WS WV WC
Validity Period DDHHMM/DDHHMM	Shall have a valid period of validity. Validity periods may be corrected if: • Missing VALID string • Incorrect SIGMET number format • Incorrectly formatted validity period	
Note: For SIGMET validation, please refer to the format described in the AFI (WACAF or ESAF) Regional SIGMET Guide		

Examples	After QC check
SIGMET without TTAAii: SIGMET OYSN 121525Z OYSC SIGMET 1 VALID 121530/122130 OYSNSANAA FIR EMBD TS OBS/FCST OVER WESTERN AND SOUTHWESTERN MOUNTAINS AND COASTAL AREAS CB TOPS FL36 NC=	WSXX31 OYSN 121525Z OYSC SIGMET 1 VALID 121530/122130 OYSNSANAA FIR EMBD TS OBS/FCST OVER WESTERN AND SOUTHWESTERN MOUNTAINS AND COASTAL AREAS CB TOPS FL36 NC=
SIGMET with incorrect number format WCPH30 RPLL 210445 SIGMET NO 01 VALID 210000/210600 RPLL TC OBS N0830 E12900=	WCPH30 RPLL 210445 SIGMET 01 VALID 210000/210600 RPLL TC OBS N0830 E12900 ... =
SIGMET with incorrect formatted validity period: WSIN90 VIDP 181800 VIDP SIGMET 06 VALID 18/1600 TO 18/2000 UTC VIDPDELHI FIR ISOL TS ... = WSSD20 OEJD 220503 OEJD SIGMET 01 VALID 220500 TO 220900 OEJN- JEDDAH FIR=	WSIN90 VIDP 181800 VIDP SIGMET 06 VALID 181600/182000 VIDPDELHI FIR ISOL TS ... = WSSD20 OEJD 220503 OEJD SIGMET 01 VALID 220500/220900 OEJN-JEDDAH FIR

1.2 Quality Control Methods

OPMET Data	Elements Defining	Control Methods
METAR METAR COR SPECI (SA,SP)	• AHL • Code name • Observation date/time	Software verification Manual validate Periodic Quality Control & PI Monitoring
TAF TAF AMD TAF COR (FT,FC)	• AHL • Code name • Originating station ICAO location indicator • Date/time of issue • Date, time of starting, time of end of the period the forecast refers to	Software verification Manual validate Periodic Quality Control & PI Monitoring
SIGMET (WS, WC, WV)	• AHL • SIGMET Sequence No • Date/time groups indicating the period of validity Additional Checks (recommended): • Name of the FIR or the CTA the message is issued for • Location indicator of the MWO originating the message	Software verification Manual validate Periodic SIGMET Quality Control Monitoring
Volcanic Ash Advisory FV	• Type of message • Issue date and time Additional Checks (recommended): • Location indicator or name of the VAAC centre originating the message	Software verification Manual validate Periodic VA Quality Control Monitoring
Tropical Cyclone Advisory FK	• Type of message • Issue date and time Additional Checks (recommended): • Location indicator or name of the TCAC centre originating the message	Software verification Manual validate Periodic TC Quality Control Monitoring

2 **OPMET Monitoring**

2.1 **Monitoring of Scheduled OPMET data**

2.1.1 Performance Indicators (PIs). The indices to be used by the RODBs are based on those developed by the European BMG for monitoring the SADIS distribution (ref. SADISOPSG/8, IP/5 – *SADIS OPMET Performance Indices*).

(i) ***Compliance Index***

The AMBEX Compliance index can be calculated from:

$$V_{bul\ compliance} = \frac{\text{No of reports received for a bulletin}}{\text{No of reports required for the bulletin}}$$

The Compliance Index is to assess the level of compliance to the AMBEX scheme. The determination of the compliance index is performed as follows:

- Total number of reports received for AMBEX bulletin during the monitoring period, include reports in the retard bulletins.
- Weed out correction and amendment bulletins, as these are re-transmitted messages, can be disregarded.

(ii) **Availability Index**

The availability index measures the current coverage of the OPMET distribution against the AMBEX exchange requirements. The determination of the availability index is performed on a daily basis from the data captured during the monitoring period. If at least one non-NIL report is received from the aerodrome during the 24-hour period, that aerodrome is considered to have been available. The daily availability index of a particular bulletin can be calculated as:

$$V_{bul\ availability} = \frac{\text{No of aerodromes for which one or more non-NIL data type are received}}{\text{No of aerodromes required in the bulletins}}$$

(iii) **Regularity Index**

The regularity index measures the consistency in the number of reports provided by an aerodrome. The computation of Regularity Index assumes that the number of report follows a normal distribution and attempts to ascertain the distribution characteristics (mean and standard deviation) from a set of data. These

characteristics are used to determine if subsequent number of reports from an aerodrome is “regular”.

Denoting mean and standard deviation by μ and σ , a threshold report numbers (τ) can be established as:

$$\tau = \mu - \sigma$$

The threshold is a reporting characteristic of an aerodrome. If the subsequent daily number of reports meets or exceeds the threshold, it is considered “regular”. The daily regularity index for a bulletin can be expressed as:

$$V_{bul\ regularity} = \frac{\text{No of aerodromes for which the number of reports equals or exceeds the threshold}}{\text{No of aerodromes required in the bulletin}}$$

2.2 **Monitoring of non-scheduled OPMET data**

2.2.1 Monitoring of non-scheduled OPMET data should be executed for FK, FV, WC, WS, and WV types of bulletins.

2.2.2 The monitoring results should be presented in bulletin-oriented format, one line per bulletin indicating the abbreviated header (TTAAii CCCC YYGGgg), the FIR/UIR where applicable, receipt time and originator.

2.2.3 Example non-routine OPMET monitoring result file formats:

TT	AAii	CCCC	YYGGgg	FIR/UIR Rx	Time	Origin
WS	PF21	NTAA	271004	NTTT	271004	NTAAYMYX
WS	IN90	VIDP	271000	VIDP	271007	VECCYMYX
WS	BW20	VGZR	271100	VGZR	271030	VGZRYMYX
WS	CI31	RCTP	271150	RCTP	271150	RCTPYMYX
WS	MS31	WMKK	272013	WBFC	272013	WMKKYMYX
WS	CI35	ZGGG	272225	ZGZU	272228	ZGGGYZYX
FV	AU01	ADRM	270323		270330	YMMCYMYX
FK	PQ30	RJTD	270500		270504	RJTDYMYX

Explanations to the table:

- TT: Type of bulletin FK, FV, WC, WS, WV
- AAii: Bulletin ID
- CCCC: Compiling Station
- YYGGgg: Standard time of report
- FIR/UIR: ICAO Location indicator of the FIR/UIR or blank (4 spaces) as applicable
- RxTime: Time of receipt
- Origin: Originator address.

2.2.4 Analysis of Monitoring Results:

2.2.4.1 Each RODB collects and analyses the relevant result in order to determine the effectiveness and suitability of the quality management system and to highlight any possible improvement to ICAO Regional Offices, Dakar and Pretoria.

2.3 Examples of Monitoring Results – PI Measurements

The following tables show values of Compliance, Availability and Regularity Index for ASIA/PAC OPMET bulletins compiled by Singapore RODB in March 05:

TABLE A	ROBEX Compliance Index		
	SA	FT	FC
AE31 VECC	0.81	--	
AS31 VABB	---	0.99	
AS31 VTBB	0.96	0.99	
SA32 VABB	--	0.98	
AS32 VTBB	--	0.85	
AU31 YBBN	1.00	0.99	0.97

Note: Entry dashed out (--) means no reports of this type (SA or FT) are required

TABLE B	Availability Index		
	SA	FT	FC
AE31 VECC	0.98	--	
AS31 VABB	---	1.00	
AS31 VTBB	0.99	1.00	
SA32 VABB	--	0.99	
AS32 VTBB	--	0.96	
AU31 YBBN	1.00	1.00	1.00
.	.	.	.
.	.	.	.

TABLE C	Regularity Index		
	SA	FT	FC
AE31 VECC	0.86	--	
AS31 VABB	---	0.96	
AS31 VTBB	0.93	0.96	
SA32 VABB	--	0.96	
AS32 VTBB	--	0.96	
AU31 YBBN	0.90	0.90	0.96
.	.	.	.
.	.	.	.

APPENDIX G

AMBEX FOCAL POINTS (December 2009....)

	State/Etat/ Organisation	Name/Nom et Prénom	Address/Adresse	E-mail	Fax	Telephone
1	Algeria					
2	Cameroon	ABONDO Cyrille	Chef de Service de la Météorologie Aéronautique	abondocyrille@yahoo.com	+237 22 30 33 62	+ 237 22 30 30 90
3	Congo	OLEMBE Alexis Laurence	B.P. 218 Brazzaville Aéroport CONGO	aolembe@yahoo.fr	+242 282 00 51	+242 972 16 77 / +242 411 48 95
4	Egypt					
5	Ethiopia					
6	Kenya					
7	France					
8	Madagascar	RAKOTONDRIANA Jérôme RABENASOLO Mamitiana Alain	Direction Générale de la Météo, BP 1254 Antananarivo B.P. 46 Ivato Aéroport MADAGASCAR	madagascarmto@asecna.org ; jerome@asecna.mg mamyalain6@yahoo.fr	+261 202 258 115 +261 20 22 581 15	+ 261 33 12 108 05 +261 3410 034 54
9	Morocco					
10	Niger	YERIMA Ladan	B.P. 1096 Niamey Aéroport NIGER	E-mail : yeriladan@yahoo.fr	+227 20 73 55 12	+227 94 85 22 27
11	Nigeria	IKEKHUA O. Felix Mrs. M. O. Iso	NIMET	felix_ikekhua@yahoo.com maryottuiso@yahoo.com	+234 9 4130710 +234 9 4130711	+234 1 477 16 62 +234 9 4130709 + 234 9 4130710
12	Senegal (Rapporteur)	DIEME Saïdou	ASECNA Sénégal	saidoudieme@yahoo.fr	+221 33 820 06 00 +221 33 820 02 72/	+221 33 869 22 03 : +221 77 652 53 87

			B.P. 8132 Dakar Aéroport Yoff SENEGAL	saidoudieme@yahoo.fr	+221 33 820 06 00	
13	South Africa					
14	United Kingdom (RU)					
15	ASECNA	NGOUAKA Dieudonné	ASECNA DG BP 3144 Dakar, Sénégal	ngouakadie@asecna.org	+221 33 8234654	+221 33 8695714
16	IATA	ZOO-MINTO'O Prosper	Adjoint au Directeur régional de l'IATA	ZooMintooP@iata.org	+2711 523 2702	+2711 523 27 00
17	WMO/OMM					
18	EUR BMG					
19	IROG Toulouse					
20	ASIA/PAC/M TSF					

To be updated by Dakar and Pretoria RODB Managers

AFI OPMET DB Catalogue Section 1 :

METAR/SPECI, FT TAF and FC TAF

Structure of the tables:

- ICAO region
- State
- name of the airport
- CCCC ICAO location indicator
- IATA code (when available, XXX if not)
- the required types of reports (Y when available, N if not).

The tables are sorted by ICAO regions:

- AFI
- ASIA/PAC
- CAR/SAM
- EUR
- MID
- NAM
- NAT

then by State and by CCCC location indicator for each State.

ANNEX 1 - AFI

AFI - ALGERIA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Adrar/Touat-Cheikh Sidi Mohamed Belkebir	DAUA	AZR	Y	Y	Y	N	N
Alger/Houari Boumediene	DAAG	ALG	Y	Y	Y	N	Y
Annaba/Rabah Bitat	DABB	AAE	Y	Y	Y	N	Y
Bechar/Boudghene Ben Ali Lotfi	DAOR	CBH		Y	Y	Y	N
Bejaia/Soummam-Abane Ramdane	DAAE	BJA		Y	Y	Y	N
Biskra	DAUB	BSK		Y	Y	Y	N
Bou Saada	DAAD	BUJ		Y	Y	N	N
Constantine/Med Boudiaf	DABC	CZL	Y	Y	Y	N	Y
Djanet/Tiska	DAAJ	DJG		Y	Y	Y	N
El Golea	DAUE	ELG		Y	Y	N	N
El Oued/Guemar	DAUO	ELU		Y	Y	Y	N
Ghardaia/Noumerat-Moufdi Zakaria	DAUG	GHA	Y	Y	Y	N	N
Ghriss	DAOV			Y	Y	Y	N
Hassi Messaoud/Oued Irara-Krim Belkacem	DAUH	HME	Y	Y	Y	N	N
Illizi/Takhamalt	DAAP	WZ		Y	Y	Y	N
In Guezzam	DATG	INF		Y	Y	Y	N
In Salah	DAUI	INZ	Y	Y	Y	N	N
Jijel/Ferhat Abbas	DAAV	GJL		Y	Y	Y	N
Oran/Es Senia Y T	DAOO	ORN	Y	Y	Y	N	Y
Tamanrasset/Aguenar	DAAT	TMR	Y	Y	Y	N	Y
Tebessa/Cheikh Larbi Tebessi	DABS	TEE	Y	Y	Y	N	N
Tiaret Abdelhafid Boussouf Ain Bou Chekif	DAOB	TID		Y	Y	Y	N
Timimoun	DAUT	TMX		Y	Y	Y	N
Tlemcen/Zenata-Messali El Hadj	DAON	TUM	Y	Y	Y	N	Y
Touggourt/Sidi Mahdi	DAUK	TGR		Y	Y	Y	N
Zarzaitine/In Amenas	DAUZ	IAM		Y	Y	N	N
AFI - ANGOLA							
Cabinda	FNCA	CAB		Y	Y	N	Y
Huambo	FNHU	NOV	Y	Y	Y	N	N
Luanda/4 De Fevereiro	FNLU	LAD	Y	Y	Y	N	Y
AFI - ASCENSION I. (United Kingdom)							
ASCENSION I	FHAW	ASC		N	N	N	Y
AFI - BENIN							
Cotonou/Cadjehoun	DBBB	COO	Y	Y	Y	N	Y
AFI - BOSTWANA							
Francistown	FBFT	FRW	Y	Y	Y	N	N
Gaborone/Sir Seretse Khama Int'l Y X F	FBSK	GBE	Y	Y	Y	N	Y
Ghanzi	FBGZ			Y	Y	N	N
Kasane	FBKE	BBK	Y	Y	Y	N	N
Maun	FBMN	MUB	Y	Y	Y	N	N
Selibe-Phikwe	FBSP		Y	Y	Y	N	N

AFI - BRITISH INDIAN OCEAN TERRITORY (United Kingdom)							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Diego Garcia (See/Voir/Ves "Kjdg")	FJDG			Y	Y	N	Y
AFI - BURKINA FASO							
Bobo Dioulasso	DFOO	BOY	Y	Y	Y	N	N
Ouagadougou/Aéroport	DFFD	OUA	Y	Y	Y	N	Y
AFI - BURUNDI							
Bujumbura	HBBA	BJM	Y	Y	Y	N	Y
AFI - CAMEROON							
Douala/Aéroport	FKKD	DLA	Y	Y	Y	N	Y
Garoua	FKKR	GOU	Y	Y	Y	N	N
Maroua/Salak	FKKL	MVR	Y	Y	Y	N	N
N'gaoundere	FKKN	NGE	Y	Y	Y	N	N
Yaounde/Nsimalen	FKYS	NSI	Y	Y	Y	N	Y
AFI - CANARY ISLANDS (Spain)							
Fuerteventura Y	GCFV		Y	Y	Y	N	Y
Gran Canaria Y	GCLP		Y	Y	Y	N	Y
Hierro	GCHI		Y	Y	Y	N	N
La Palma	GCLA		Y	Y	Y	N	N
Lanzarote	GCCR		Y	Y	Y	N	Y
Tenerife Norte (Ad Civil)	GCXO		Y	Y	Y	N	Y
Tenerife Sur/Reina Sofia	GCTS		Y	Y	Y	N	Y
AFI - CAPE VERDE							
Amilcar Cabral/Sal Island	GVAC	SID	Y	Y	Y	N	Y
Praia	GVNP		Y	Y	Y	N	N
Sao Pedro/Sao Vicente Island	GVSF		N	Y	Y	N	Y
AFI - CENTRAL AFRICAN REPUBLIC							
Bangassou	FEFG	BGU	N	Y	Y	N	N
Bangui/M'poko	FEFF	BGF	Y	Y	Y	N	Y
Berberati Y F	FEFT	BBT	Y	Y	Y	N	N
AFI - CHAD							
Moundou	FTTD	MQQ	N	Y	Y	N	N
N'djamena/Hassan Djamous	FTTJ	NDJ	Y	Y	Y	N	Y
Sarh	FTTA	SRH	N	Y	Y	N	N
AFI - COMOROS							
Dzaoudzi Pamandzi	FMCZ		Y	Y	Y	N	N
Moroni/Ihahaia	FMCH	HAH	Y	Y	Y	N	Y
AFI - CONGO							
Brazzaville/Maya-Maya	FCBB	BZV	Y	Y	Y	N	Y
Dolisie	FCPD		N	Y	Y	N	N
Impfondo	FCOI		N	Y	Y	N	N
Ouessou	FCOU		N	Y	Y	N	N
Pointe Noire	FCPP	PNR	Y	Y	Y	N	Y
AFI - COTE D'IVOIRE							
Abidjan/Felix Houphouet Boigny	DIAP	ABJ	Y	Y	Y	N	Y
Bouake	DIBK	BYK	Y	Y	Y	N	N
Korhogo	DIKO	HGO	N	Y	Y	N	N
Man	DIMN	MJC	N	Y	Y	N	N
San Pedro	DISP	SPY	N	Y	Y	N	N
Yamoussoukro	DIYO	ASK	N	Y	Y	N	Y

AFI - DEMOCRATIC REPUBLIC OF THE CONGO							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Goma	FZNA	GOM	Y	Y	Y	N	N
Kalemie	FZRF	FMI	N	Y	Y	N	N
Kamina-Base	FZSA	KMN	N	Y	Y	N	Y
Kasese	FZOS		N	Y	Y	N	Y
Kindu	FZOA	KND	N	Y	Y	N	Y
Kinshasa/N'djili	FZAA	FIH	Y	Y	Y	N	Y
Kinshasa/N'dolo	FZAB	NLO	N	Y	Y	N	Y
Kisangani-Bangoka	FZIC	FKI	Y	Y	Y	N	N
Lubumbashi-Luano	FZQA	FBM	Y	Y	Y	N	N
Malebo	FZBN		N	Y	Y	N	Y
Mbandaka	FZEA	MDK	N	Y	Y	N	Y
Mbuji-Mayi	FZWA		N	Y	Y	N	N
AFI - DJIBOUTI							
Djibouti/Ambouli	HDAM	JIB	Y	Y	Y	N	Y
AFI - EGYPT							
Abu Simbel	HEBL	ABS	N	Y	Y	N	Y
Alexandria / Intl	HEAX	ALY	Y	Y	Y	N	Y
Almaza Afb / Militar	HEAZ		Y	Y	Y	N	N
Aswan / Intl	HESN	ASW	Y	Y	Y	N	Y
Asyut / Intl	HEAT		Y	Y	Y	N	N
Borg El Arab / Intl	HEBA		N	Y	Y	N	Y
Cairo/Intl	HECA	CAI	Y	Y	Y	N	Y
El Arish / Intl	HEAR		N	Y	Y	N	Y
Hurghada / Intl	HEGN	HRG	Y	Y	Y	N	Y
Luxor / Intl	HELX	LXR	Y	Y	Y	N	Y
Marsa Alam / Intl	HEMA		N	Y	Y	N	N
Mersa Matruh	HEMM	MUH	N	Y	Y	N	Y
Port Said/ Intl	HEPS		N	Y	Y	N	Y
Shark El Oweinat / Intl	HEOW		Y	Y	Y	N	N
Sharm El Sheikh / Intl	HESH		Y	Y	Y	N	Y
St.Catherine / Intl	HESC		Y	Y	Y	N	Y
Taba / Intl	HETB	TCP	Y	Y	Y	N	Y
AFI - EQUATORIAL GUINEA							
Bata	FGBT		N	Y	Y	N	N
Malabo	FGSL	SSG	Y	Y	Y	N	Y
AFI - ERITREA							
Asmara Ais/App/Com/Met/Twr	HHAS	ASM	Y	Y	Y	N	Y
Assab	HHSB		N	Y	Y	N	N
AFI - ETHIOPIA							
Addis Ababa/Bole Com/Met/Nof	HAAB	ADD	Y	Y	Y	N	Y
Dire Dawa	HADR	DIR	N	Y	Y	N	N
AFI - GABON							
Franceville/Mvengue	FOON	HVB	Y	Y	Y	N	N
Libreville/Leon M'ba	FOOL	LBV	Y	Y	Y	N	Y
Moanda	FOOD	MFF	N	Y	Y	N	N
Port-Gentil	FOOG	POG	Y	Y	Y	N	N
AFI - GAMBIA							
Banjul International	GBYD	BJL	Y	Y	Y	N	Y

AFI - GHANA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Accra/Kotoka International	DGAA	ACC	Y	Y	Y	N	Y
Kumasi	DGSI	KMS	Y	Y	Y	N	N
Tamale	DGLE		Y	Y	Y	N	N
AFI - GUINEA							
Boke/Baralande	GUOK		N	Y	Y	N	Y
Conakry/Gbessia	GUCY	CKY	Y	Y	Y	N	Y
Faranah/Badala	GUFH	FAA	N	Y	Y	N	N
Kankan/Kankan	GUXN		Y	Y	Y	N	N
Labe/Tata	GULB		Y	Y	Y	N	N
N'zerekore/Konia	GUNZ		Y	Y	Y	N	N
AFI - GUINEA-BISSAU							
Bissau/Oswaldo Vieira Intl	GGOV	BXO	Y	Y	Y	N	Y
AFI - KENYA							
Eldoret/Intl	HKEL		Y	Y	Y	N	Y
Kisumu	HKKI	KIS	N	Y	Y	N	Y
Malindi	HKML	MYD	N	Y	Y	N	Y
Mombasa/Moi Intl.	HKMO	MBA	Y	Y	Y	N	Y
Nairobi/Jomo Kenyatta Airport	HKJK	NBO	Y	Y	Y	N	Y
Nairobi/Wilson	HKNW	WIL	N	Y	Y	N	Y
AFI - LESOTHO							
Maseru Moshoeshoe	FXMM	MSU	Y	Y	Y	N	Y
AFI - LIBERIA							
Monrovia/Roberts Intl	GLRB	ROB	Y	Y	Y	N	Y
Monrovia/Spriggs Payne	GLMR	MLW	N	Y	Y	N	Y
AFI - LIBYAN ARAB JAMAHIRIYA							
Benghazi/Benina	HLLB		Y	Y	Y	N	Y
Ghadames	HLTD		N	Y	Y	N	Y
Kufra	HLKF		N	Y	Y	N	N
Sebha	HLLS		Y	Y	Y	N	N
Tripoli/International	HLLT		Y	Y	Y	N	Y
AFI - MADAGASCAR							
Antananarivo/Ivato	FMMI	TNR	Y	Y	Y	N	Y
Antsiranana/Arrachart	FMNA		Y	Y	Y	N	N
Mahajanga/Ph. Tsiranana	FMNM	MJN	Y	Y	Y	N	Y
Nosy-Be	FMNN	NOS	Y	Y	Y	N	N
Sainte-Marie	FMMS		Y	Y	Y	N	N
Toamasina	FMMT		Y	Y	Y	N	Y
Tolagnaro	FMSD		Y	Y	Y	N	N
AFI - MALAWI							
Blantyre/Chileka	FWCL	BLZ	Y	Y	Y	N	N
Lilongwe/Kamuzu International	FWKI		Y	Y	Y	N	Y

AFI - MALI							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Bamako/Senou	GABS	BKO	Y	Y	Y	N	Y
Gao	GAGO	GAQ	Y	Y	Y	N	N
Kayes	GAKD	KLB	Y	Y	Y	N	N
Kidal	GAKL		Y	Y	Y	N	N
Mopti/Ambodedjo	GAMB	MZI	Y	Y	Y	N	N
Nioro	GANR	NIX	Y	Y	Y	N	N
Tombouctou	GATB	TOM	Y	Y	Y	N	N
AFI - MAURITANIA							
Atar	GQPA	ATR	Y	Y	Y	N	N
Kaedi	GQNK	KED	N	Y	Y	N	N
Nema	GQNI	EMN	Y	Y	Y	N	N
Nouadhibou	GQPP	NDB	Y	Y	Y	N	Y
Nouakchott/Aéroport	GQNN	NKC	Y	Y	Y	N	Y
Zoueratt/Tazadit	GQPZ		Y	Y	Y	N	N
AFI - MAURITIUS							
Rodrigues/Plaine Corail Airport	FIMR	RRG	N	Y	Y	N	N
Sir Seewoosagur Ramgoolam Intl Airport	FIMP	MRU	Y	Y	Y	N	Y
AFI - MOROCCO							
Agadir/Al Massira	GMAD	AGA	Y	Y	Y	N	Y
Al Hoceima/Cherif El Idrissi	GMTA		Y	Y	Y	N	N
Casablanca/Mohammed	GMMN	CMN	Y	Y	Y	N	Y
Errachidia/Moulay Ali Cherif	GMFK		Y	Y	Y	N	Y
Fes/Saïss	GMFF	FEZ	Y	Y	Y	N	Y
Laayoune/Hassan	GMMML	EUN	N	Y	Y	N	Y
Marrakech/Menara	GMMX	RAK	Y	Y	Y	N	Y
Nador/El Aroui	GMMW	NDR	N	Y	Y	N	N
Ouarzazate	GMMZ	OZZ	Y	Y	Y	N	Y
Oujda/Angads	GMFO	OUD	Y	Y	Y	N	Y
Rabat/Sale	GMME	RBA	Y	Y	Y	N	Y
Tanger/Ibn Batouta	GMTT	TNG	Y	Y	Y	N	Y
Tan-Tan/Plage Blanche	GMAT		Y	Y	Y	N	N
Tetouan/Saniat R'mel	GMTN	TTU	Y	Y	Y	N	N
AFI - MOZAMBIQUE							
Beira	FQBR	BEW	Y	Y	Y	N	Y
Maputo	FQMA	MPM	Y	Y	Y	N	Y
Nampula	FQNP	APL	N	Y	Y	N	Y
Quelimane	FQQL	UEL	N	Y	Y	N	Y
Tete/Chingodzi	FQTT	TET	N	Y	Y	N	Y
AFI - NAMIBIA							
Hosea Kutako Intl Airport	FYWH	WDH	N	Y	Y	N	Y
Keetmanshoop	FYKT	KMP	Y	Y	Y	N	N
Walvis Bay	FYWB		Y	Y	Y	N	N

AFI - NIGER							
Agades Sud	DRZA	AJY	Y	Y	Y	N	N
Niamey	DRRN	NIM	Y	Y	Y	N	Y
Zinder	DRZR	ZND	Y	Y	Y	N	N
AFI - NIGERIA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Abuja	DNAA	ABV	Y	Y	Y	N	Y
Benin	DNBE	BNI	N	Y	Y	N	Y
Calabar	DNCA	CBQ	Y	Y	Y	N	N
Enugu	DNEN	ENU	N	Y	Y	N	Y
Ibadan (New)	DNIB	IBA	N	Y	Y	N	Y
Ilorin	DNIL	ILR	Y	Y	Y	N	N
Jos	DNJO	JOS	N	Y	Y	N	Y
Kaduna (New)	DNKA	KAD	Y	Y	Y	N	N
Kano/Mallam Aminu Kano	DNKN	KAN	Y	Y	Y	N	Y
Lagos/Murtala Muhammed	DNMM	LOS	Y	Y	Y	N	Y
Maiduguri	DNMA	MIV	Y	Y	Y	N	N
Port Harcourt	DNPO	PHC	Y	Y	Y	N	Y
Sokoto	DNSO	SKO	Y	Y	Y	N	N
AFI - REUNION (FRANCE)							
Saint Denis Gillo	FMEE	RUN	Y	Y	Y	N	Y
AFI - RWANDA							
Kigali/Gregoire Kayibanda	HRYR	KGL	Y	Y	Y	N	Y
AFI - SAO TOME AND PRINCIPE							
Sao Tome/International,Sao Tome Island	FPST	TMS	Y	Y	Y	N	Y
AFI - SENEGAL							
Cap Skiring	GOGS	CSK	Y	Y	Y	N	N
Dakar/Yoff	GOOY	DKR	Y	Y	Y	N	Y
Saint Louis	GOSS	XLS	Y	Y	Y	N	N
Tambacounda	GOTT	TUD	Y	Y	Y	N	N
Ziguinchor	GOGG	ZIG	Y	Y	Y	N	N
AFI - SEYCHELLES							
Seychelles International	FSIA	SEZ	Y	Y	Y	N	Y
AFI - SIERRA LEONE							
Freetown/Lungi	GFLI	FNA	Y	Y	Y	N	Y
AFI - SOMALIA							
Berbera	HCMH	BBO	Y	Y	Y	N	N
Burao	HCMV		Y	Y	Y	N	N
Egal International Airport	HCMH	HGA	Y	Y	Y	N	N
Kisimayu	HCMK	KMU	Y	Y	Y	N	Y
Mogadishu	HCMH	MGQ					

AFI - SOUTH AFRICA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Alexander Bay	FAAB	ALJ	N	Y	Y	N	N
Bloemfontein (Bloemfontein Airport)	FABL	BFN	Y	Y	Y	N	Y
Cape Town (Cape Town Internl Airport)	FACT	CPT	Y	Y	Y	N	Y
Durban (Durban International Airport)	FADN	DUR	Y	Y	Y	N	Y
East London	FAEL	ELS	N	Y	Y	N	N
George (George Airport)	FAGG	GJR	N	Y	Y	N	N
Kimberley (Kimberley Airport)	FAKM	KIM	N	Y	Y	N	N
Lanseria	FALA	HLA	Y	Y	Y	N	N
Mafikeng Intl. Ad	FAMM	MBD	Y	Y	Y	N	N
Nelspruit	FANS		Y	Y	Y	N	N
O.R Tambo International Airport	FAJS	JNB	Y	Y	Y	N	Y
Pietersburg (Civil)	FAPI		Y	Y	Y	N	N
Port Elizabeth (Port Elizabeth Airport)	FAPE	PLZ	Y	Y	Y	N	N
Rand	FAGM		Y	Y	Y	N	N
Upington	FAUP	UTN	Y	Y	Y	N	N
Waterkloof (Saaf)	FAWK		N	Y	Y	N	N
AFI - SPAIN							
Melilla	GEML		N	Y	Y	N	N
AFI - SUDAN							
Dongola/Dongola	HSDN	DOG	N	Y	Y	N	Y
El Obeid/El Obeid International	HSOB	EBD	N	Y	Y	N	Y
Juba/Juba	HSSJ	JUB	Y	Y	Y	N	N
Kassala/Kassala	HSKA	KSL	Y	Y	Y	N	N
Khartoum/Khartoum (Civil Aviation Dept.)	HSSS	KRT	Y	Y	Y	N	Y
Port Sudan/Port Sudan	HSPN	PZU	Y	Y	Y	N	N
AFI - SWAZILAND							
Manzini/Matsapha	FDMS	MTS	Y	Y	Y	N	Y
AFI - TOGO							
Aeroporto International Gnassingbe Eyadema	DXXX	LFW	Y	Y	Y	N	Y
Niamtougou	DXNG	LRL	Y	Y	Y	N	N
Sokode	DXSK		N	Y	Y	N	N
AFI - TUNISIA							
Djerba/Zarzis	DTTJ	DJE	Y	Y	Y	N	Y
Gabes	DTTG		N	Y	Y	Y	Y
Gafsa/Ksar	DTTF		N	Y	Y	Y	Y
Monastir/Habib Bourguiba	DTMB	MIR	Y	Y	Y	N	Y
Sfax/Thyna	DTTX	SFA	Y	Y	Y	N	N
Tabarka/7 Novembre	DTKA		Y	Y	Y	N	N
Tozeur/Nefta	DTTZ	TOE	Y	Y	Y	N	Y
Tunis/Carthage	DTTA	TUN	Y	Y	Y	N	Y
AFI - UGANDA							
Entebbe (Intl)	HUEN	EBB	Y	Y	Y	N	Y
AFI - UNITED REPUBLIC OF TANZANIA							
Dar Es Salaam	HTDA	DAR	Y	Y	Y	N	Y
Kilimanjaro	HTKJ	JRO	Y	Y	Y	N	Y
Mwanza	HTMW	MWZ	N	Y	Y	N	Y
Tanga	HTTG	TGT	N	Y	Y	N	Y
Zanzibar – Kisauni	HTZA	ZNZ	Y	Y	Y	N	Y

AFI OPMET MTF/3 – Appendix G

AFI - WESTERN SAHARA							
El Aaiun	GSAI		Y	Y	Y	N	N
Villacisneros	GSVO		Y	Y	Y	N	N
AFI - ZAMBIA							
Livingstone	FLLI	LVI	Y	Y	Y	N	N
Lusaka/Intl	FLLS	LUN	Y	Y	Y	N	Y
Mfuwe	FLMF	NFU	Y	Y	Y	N	N
Ndola	FLND	NLA	Y	Y	Y	N	N
AFI - ZIMBABWE							
Harare International	FVHA	HRE	Y	Y	Y	N	Y
J.M. Nkomo	FVBU	BUQ	Y	Y	Y	N	N
Victoria Falls	FVFA	VFA	Y	Y	Y	N	N

ANNEX 1 – ASIA/PAC

ASIA/PAC - AMERICAN SAMOA (UNITED STATES)							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Pago Pago International,Tutuila I.	NSTU	PPG	Y	Y	Y	N	Y
ASIA/PAC - AUSTRALIA							
Adelaide/Adelaide Intl	YPAD	ADL	Y	Y	Y	N	Y
Alice Springs	YBAS	ASP	Y	Y	Y	N	Y
Avalon	YMAV		N	Y	Y	N	Y
Brisbane/Brisbane Intl	YBBN	BNE	Y	Y	Y	N	Y
Broome/Broome Intl	YBRM	BME	N	Y	Y	N	Y
Cairns/Cairns Intl	YBCS	CNS	Y	Y	Y	N	Y
Canberra	YSCB	CBR	N	Y	Y	N	Y
Christmas Island	YPXM		Y	Y	Y	N	Y
Cocos (Keeling) Island Intl	YPCC	CCK	Y	Y	Y	N	Y
Darwin/Darwin Intl	YPDN	DRW	Y	Y	Y	N	Y
Dubbo	YSDU		N	Y	Y	N	Y
Gold Coast	YBCG	OOL	N	Y	Y	N	Y
Gove	YPGV		N	Y	Y	N	Y
Hamilton Island	YBHM	HTI	N	Y	Y	N	Y
Hobart	YMHB	HBA	Y	Y	Y	N	Y
Kalgoorlie-Boulder	YPKG	KGI	N	Y	Y	N	Y
Kununurra	YPKU	KNX	N	Y	Y	N	Y
Learmonth	YPLM	LEA	N	Y	Y	N	Y
Melbourne/Melbourne Intl	YMML	MLB	Y	Y	Y	N	Y
Mount Isa	YBMA	ISA	N	Y	Y	N	Y
Norfolk Island Intl	YSNF	NLK	Y	Y	Y	N	Y
Pearce	YPEA		N	Y	Y	N	Y
Perth/Perth Intl	YPPH	PER	Y	Y	Y	N	Y
Port Hedland	YPPD	PHE	Y	Y	Y	N	Y
Richmond, Nsw	YSRI	RCM	N	Y	Y	N	Y
Rockhampton	YBRK	ROK	Y	Y	Y	N	Y
Sydney/Sydney (Kingsford Smith) Intl	YSSY	SYD	Y	Y	Y	N	Y
Tindal	YPTN		Y	Y	Y	N	Y
Townsville/Townsville Intl	YBTL	TSV	Y	Y	Y	N	Y
ASIA/PAC - BANGLADESH							
M.A. Hannan Intl. Chittagong	VGEG	CGP	Y	Y	Y	N	Y
Zia Intl.Airport,Dhaka	VGZR	DAC	Y	Y	Y	N	Y
ASIA/PAC - BHUTAN							
Paro/Intl	VQPR	PBH	Y	Y	Y	N	N
ASIA/PAC - BRUNEI DARUSSALAM							
Brunei/Intl	WBSB	BWN	Y	Y	Y	N	Y
ASIA/PAC - CAMBODIA							
Phnom Penh	VDPP	PNH	Y	Y	Y	N	Y
Siem Reap	VDSR		Y	Y	Y	N	N
ASIA/PAC - CHILE							
Isla De Pascua/Ad Mataveri	SCIP	IPC	Y	Y	Y	N	Y

ASIA/PAC - CHINA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Beijing/Capital	ZBAA	NAY	Y	Y	Y	N	Y
<i>Changchun/Longjia</i>	ZYCC		N	Y	Y	N	Y
Changsha/Huanghua	ZGHA		Y	Y	Y	N	Y
Chengdu/Shuangliu	ZUUU	CTU	Y	Y	Y	N	Y
Chongqing/Jiangbei	ZUCK		Y	Y	Y	N	Y
Dalian/Zhoushuizi	ZYTL	DLC	Y	Y	Y	N	Y
Fuzhou/Changle	ZSFZ		Y	Y	Y	N	Y
Gaoxiong	RCKH	KHH	Y	Y	Y	N	Y
Guangzhou/Baiyun	ZGGG	CAN	Y	Y	Y	N	Y
Guilin/Lianjiang	ZGKL	KWL	Y	Y	Y	N	Y
<i>Haikou/Meilan</i>	ZJHK	HAK	N	Y	Y	N	Y
Hangzhou/Xiaoshan	ZSHC	HGH	Y	Y	Y	N	Y
Harbin/Taiping	ZYHB	HRB	Y	Y	Y	N	Y
Hefei/Luogang	ZSOF	HFE	Y	Y	Y	N	Y
Huhot/Baita	ZBHH		Y	Y	Y	N	Y
Jinan/Yaoqiang	ZSIN		Y	Y	Y	N	Y
Kashi/Kashi	ZWSH		Y	Y	Y	N	Y
Kunming/Wujiaba	ZPPP	KMG	Y	Y	Y	N	Y
Lanzhou/Zhongchuan	ZLLL	ZGC	Y	Y	Y	N	Y
Nanjing/Lukou	ZSNJ	NKG	Y	Y	Y	N	Y
Nanning/Wuxu	ZGNN	NNG	Y	Y	Y	N	Y
Qingdao/Liuting	ZSQD	TAO	Y	Y	Y	N	Y
Sanya/Phoenix	ZJSY		Y	N	N	N	N
Shanghai/Hongqiao	ZSSS	SHA	Y	Y	Y	N	Y
Shanghai/Pudong	ZSPD	PVG	Y	Y	Y	N	Y
<i>Shantou/Waisha</i>	ZGOW	SWA	N	Y	Y	N	Y
Shenyang/Taoxian	ZYTX	SHE	Y	Y	Y	N	Y
Shenzhen/Baoan	ZGSZ	SZX	Y	Y	Y	N	Y
Taipei City/Taipei Intl Ap	RCTP	TPE	Y	Y	Y	N	Y
Taipei/Songshan	RCSS	TSA	Y	Y	Y	N	Y
Taiyuan/Wusu	ZBYN	TYN	Y	Y	Y	N	Y
Tianjin/Binhai	ZBTJ	TSN	Y	Y	Y	N	Y
Urumqi/Diwopu	ZWWW	URC	Y	Y	Y	N	Y
Wuhan/Tianhe	ZHHH	WUH	Y	Y	Y	N	Y
Xiamen/Gaoqi	ZSAM	XMN	Y	Y	Y	N	Y
Xi'an/Xianyang	ZLXY	XIY	Y	Y	Y	N	N
Xichang/Quingshan	ZUXC		Y	Y	Y	N	N
ASIA/PAC - COOK ISLANDS							
Rarotonga Intl. Y T F	NCRG	RAR	Y	Y	Y	N	Y
ASIA/PAC - DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA							
Sunan	ZKPY	FNJ	Y	Y	Y	N	Y
ASIA/PAC - FIJI							
Nadi/Intl	NFFN	NAN	Y	Y	Y	N	Y
Nausori/Intl	NFNA		Y	Y	Y	N	N
ASIA/PAC - FRENCH POLYNESIA (FRANCE)							
Nengo-Nengo	NTGG		Y	Y	Y	N	N
Tahiti Faaa	NTAA		Y	Y	Y	N	Y

ASIA/PAC - HONG KONG, CHINA (CHINA)							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Hong Kong/International	VHHH	HKG	Y	Y	Y	N	Y
ASIA/PAC - INDIA							
Ahmedabad	VAAH	AMD	Y	Y	Y	N	Y
Amritsar	VIAR	ATQ	Y	Y	Y	N	Y
Bangalore (Military)	VOBG	BLR	N	Y	Y	N	Y
Bhubaneshwar	VEBS	BBI	N	Y	Y	N	Y
Calicut	VOCL	CCJ	Y	Y	Y	N	Y
Chennai	VOMM	MAA	Y	Y	Y	N	Y
Cochin International Airport	VOCI		N	Y	Y	N	Y
Delhi/Indira Gandhi Intl	VIDP	DEL	Y	Y	Y	N	Y
Hyderabad	VOHY	HYD	N	Y	Y	N	Y
Jaipur	VIJP	JAI	N	Y	Y	N	Y
Lucknow	VILK	LKO	N	Y	Y	N	Y
Mumbai/Chhatrapati Shivaji Intl.	VABB	BOM	Y	Y	Y	N	Y
Nagpur	VANP	NAG	Y	Y	Y	N	Y
Netaji Subhash Chandra Bose Intl Airpt, Kolkata	VECC	CCU	Y	Y	Y	N	Y
Pathankot (Iaf)	VIPK		N	Y	Y	N	Y
Patna	VEPT	PAT	Y	Y	Y	N	Y
Tiruchchirappalli	VOTR		Y	Y	Y	N	Y
Trivandrum	VOTV	TRV	Y	Y	Y	N	Y
Varanasi	VIBN	VNS	Y	Y	Y	N	Y
ASIA/PAC - INDONESIA							
Ambon/Pattimura	WAPP		Y	Y	Y	N	Y
Bali/Ngurah Rai	WADD		Y	Y	Y	N	Y
Balik Papan/Sepinggan	WALL	BPN	Y	Y	Y	N	Y
Banjarmasin/Syamsudin Noor	WAOO		Y	Y	Y	N	N
Batam/Hang Nadim	WIDD	BTH	Y	Y	Y	N	N
Biak/Frans Kaisiepo	WABB		Y	Y	Y	N	Y
Jakarta/Halimperdana Kusuma	WIHH		Y	Y	Y	N	Y
Jakarta/Soekarno Hatta	WIII	CGK	Y	Y	Y	N	N
Jayapura/Sentani	WAJJ	DJJ	Y	Y	Y	N	N
Jogyakarta/Adisucipto	WARJ		N	Y	Y	N	Y
Kupang/El Tari	WATT		Y	Y	Y	N	N
Manado/Sam Ratulangi	WAMM	MDC	Y	Y	Y	N	Y
Mataram/Selaparang	WADA	AMI	N	Y	Y	N	Y
Medan/Polonia	WIMM	MES	Y	Y	Y	N	Y
Merauke/Mopah	WAKK	KOE	Y	Y	Y	N	N
Padang/Tabing	WIMG	PDG	Y	Y	Y	N	N
Palembang/Sultan Mahmud Badaruddin II	WIPP	PLM	Y	Y	Y	N	N
Pekanbaru/Sultan Syarif Kasim II	WIBB		Y	Y	Y	N	N
Pontianak/Supadio	WIOO	PNK	Y	Y	Y	N	N
Solo/Adi Sumarmo	WARQ	SOL	N	Y	Y	N	Y
Sorong/Jefman	WASS	SOQ	N	Y	Y	N	Y
Surabaya/Juanda	WARR	SUB	Y	Y	Y	N	N
Tanjung Pinang/Kijang	WIDN		Y	Y	Y	N	N
Tarakan/Juwata	WALR		Y	Y	Y	N	N
Timika/Moses Kilangin	WABP		Y	Y	Y	N	N
Ujung Pandang/Hasanuddin	WAAA	UPG	Y	Y	Y	N	Y

ASIA/PAC - JAPAN

Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Chubu Centrair Intl	RJGG		Y	Y	Y	N	Y
Fukuoka	RJFF	FUK	Y	Y	Y	N	Y
Hakodate	RJCH	HKD	Y	Y	Y	N	Y
Hiroshima	RJOA		Y	Y	Y	N	Y
Kagoshima	RJFK	KOJ	Y	Y	Y	N	Y
Kansai Intl	RJBB	KIX	Y	Y	Y	N	Y
Kumamoto	RJFT	KMJ	Y	Y	Y	N	Y
Nagasaki	RJFU	NGS	Y	Y	Y	N	Y
Naha	ROAH	NAH	Y	Y	Y	N	Y
Narita Intl	RJAA	NRT	Y	Y	Y	N	Y
Niigata	RJSN	KIJ	Y	Y	Y	N	Y
Oita	RJFO		Y	Y	Y	N	Y
Okayama	RJOB		Y	Y	Y	N	Y
Osaka Intl	RJOO	ITM	Y	Y	Y	N	Y
Sapporo/New Chitose	RJCC	CTS	Y	Y	Y	N	Y
Sendai	RJSS	SDJ	Y	Y	Y	N	Y
Takamatsu	RJOT		Y	Y	Y	N	Y
Tokyo Intl	RJTT	TYO	Y	Y	Y	N	Y
ASIA/PAC - JOHNSTON ISLAND (UNITED STATES)							
Johnston I./Johnston Atoll	PJON	PON	N	N	N	N	N
ASIA/PAC - KIRIBATI							
christmas island	PLCH		Y	Y	Y	N	Y
tarawa/bonriki intl	NGTA	TRW	Y	Y	Y	N	Y
ASIA/PAC - LAO PEOPLE'S DEMOCRATIC REPUBLIC							
Vientiane(Wattay)	VLVT	VTE	Y	Y	Y	N	Y
ASIA/PAC - MACAO, CHINA (CHINA)							
Macaou/Intl Airport	VMMC	QMP	Y	Y	Y	N	Y
ASIA/PAC - MALAYSIA							
Alor Star/Sultan Abdul Halim	WMKA	AOR	N	Y	Y	N	Y
Bintulu	WBGB	BTU	N	Y	Y	Y	N
Ipoh/Sultan Azlan Shah	WMKI	IPH	N	Y	Y	N	Y
Johor Bahru/Sultan Ismail	WMKJ	JHB	Y	Y	Y	N	Y
Kota Bharu/Sultan Ismail Petra	WMKC	KBR	N	Y	Y	N	N
Kota Kinabalu/Intl	WBKK	BKI	Y	Y	Y	N	Y
Kuala Terengganu/Sultan Mahmud	WMKN	TGG	N	Y	Y	N	Y
Kuantan (Rmaf)	WMKD	KUA	Y	Y	Y	N	N
Kuching/Intl	WBGG	KCH	Y	Y	Y	N	Y
Kuda	WBKT		N	Y	Y	N	N
Labuan (Rmaf)	WBKL	LBU	Y	Y	Y	N	Y
Malacca	WMKM	MKZ	Y	Y	Y	N	N
Mersing	WMAU		N	Y	Y	N	N
Miri Y	WBGR	MYY	Y	Y	Y	N	Y
Penang/Intl	WMKP	PEN	Y	Y	Y	N	Y
Pulau Langkawi/Intl	WMKL	LGK	Y	Y	Y	N	Y
Sandakan	WBKS	SDK	N	Y	Y	N	Y
Sepang/Kl International Airport	WMKK	KUL	Y	Y	Y	N	Y
Sibu	WBGS	SBW	Y	Y	Y	N	Y
Sitiawan	WMBA		N	Y	Y	N	N
Subang/Sultan Abdul Aziz Shah	WMSA	SZB	Y	Y	Y	N	Y
Tawau	WBKW	TWU	Y	Y	Y	N	Y

ASIA/PAC - MALDIVES

Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Gan	VRMG	GAN	Y	Y	Y	N	Y
Male/Intl	VRMM	MLE	Y	Y	Y	N	Y
ASIA/PAC - MARSHALL ISLANDS							
Kwajalein Atoll/Bucholz Aaf, Kiribati	PKWA	KWA	Y	Y	Y	N	Y
Marshall Islands/Intl Majuro Atoll	PKMJ	MAJ	Y	Y	Y	N	Y
ASIA/PAC - MICRONESIA (FEDERATED STATES OF)							
Kosrae, Kosrae Island	PTSA	KSA	N	Y	Y	N	Y
Pohnpei Intl, Pohnpei Island	PTPN	PNI	Y	Y	Y	N	Y
Weno Island ,Fm Chuuk Intl.	PTKK	TKK	Y	Y	Y	N	N
Yap Intl, Yap Island	PTYA	YAP	Y	Y	Y	N	N
ASIA/PAC - MIDWAY (UNITED STATES)°							
Midway Naf (Henderson Field) ,Sand Island	PMDY	MDY	Y	Y	Y	N	Y
ASIA/PAC - MONGOLIA							
Ulaanbaatar	ZMUB	ULN	Y	Y	Y	N	Y
ASIA/PAC - MYANMAR							
<i>Mandalay International</i>	VYMD		N	Y	Y	N	Y
<i>Sittwe</i>	VYSW	AKY	N	Y	Y	N	Y
Yangon International	VYYY	RGN	Y	Y	Y	N	Y
ASIA/PAC - NAURU							
Nauru I.	AUUU		Y	Y	Y	N	Y
ASIA/PAC - NEPAL							
Kathmandu	VNKT	KTM	Y	Y	Y	N	Y
ASIA/PAC - NEW CALEDONIA (FRANCE)							
Noumea La Tontouta	NWWW	NOU	Y	Y	Y	N	Y
ASIA/PAC - New Zealand							
Auckland Intl	NZAA	AKL	Y	Y	Y	N	Y
Christchurch Intl	NZCH		Y	Y	Y	N	Y
Wellington Intl	NZWN	WLG	Y	Y	Y	N	Y
ASIA/PAC - NIUE (NEW ZEALAND)							
Niue Intl	NIUE	IUE	Y	Y	Y	N	Y
ASIA/PAC - NORTHERN MARIANA ISLANDS (UNITED STATES)							
Anderson Afb, Guam Island	PGUA		Y	Y	Y	N	N
Francisco C. Ada/Saipan International, Obyan	PGSN	SPN	Y	Y	Y	N	Y
Guam International, Guam Island	PGUM		Y	Y	Y	N	Y
Rota/Intl, Rota I.	PGRO		Y	Y	Y	N	Y
ASIA/PAC - PAKISTAN							
Faisalabad	OPFA	LYP	N	Y	Y	N	Y
Gwadar	OPGD	GWD	N	Y	Y	N	Y
Islamabad/Chaklala	OPRN	ISB	Y	Y	Y	N	Y
Karachi/Jinnah Int'l	OPKC	KHI	Y	Y	Y	N	Y
Lahore/Allama Iqbal Int'l	OPLA	LHE	Y	Y	Y	N	Y
Multan	OPMT	MUX	N	Y	Y	N	Y
Nawabshah	OPNH	WNS	Y	Y	Y	N	Y
Pasni	OPPI	PSI	Y	Y	Y	N	Y
Peshawar	OPPS	PEW	Y	Y	Y	N	Y
Quetta Y	OPQT	UET	N	Y	Y	N	Y

ASIA/PAC - PALAU								
Babelthuap/Koror, Babelthuap Island	PTRO	ROR	Y	Y	Y	N	Y	
ASIA/PAC - PAPUA NEW GUINEA								
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT	
Daru	AYDU		N	Y	Y	Y	N	
Goroka	AYGA		N	Y	Y	Y	N	
Madang	AYMD		N	Y	Y	Y	N	
Momote	AYMO		N	Y	Y	Y	N	
Mount Hagen	AYMH		N	Y	Y	Y	N	
Nadzab	AYNZ		N	Y	Y	Y	N	
Port Moresby Intl	AYPY	POM	Y	Y	Y	N	Y	
Vanimo	AYVN		Y	Y	Y	N	N	
Wewak	AYWK		Y	Y	Y	N	N	
ASIA/PAC - PHILIPPINES								
Clark Ab, Pampanga	RPLC		N	N	Y	N	Y	
Davao/Francisco Bangoy Intl, Davao Del Sur	RPMD	DVO	Y	Y	Y	N	N	
General Santos/Buayan, South Cotabato	RPMB		N	N	Y	N	N	
Laoag, Laoag Intl, Ilocos Norte	RPLI	LAO	Y	Y	Y	N	N	
Lapu-Lapu/Mactan, Cebu	RPVM	MBT	Y	Y	Y	N	Y	
Manila/Ninoy Aquino Intl, Pasay City, Metro Manila	RPLL	MNL	Y	Y	Y	N	Y	
Puerto Princesa, Palawan	RPVP	PPS	N	Y	Y	N	Y	
Subic Bay, Subic Bay Intl, Olongapo City, Zambales	RPLB		Y	Y	Y	N	N	
Zamboanga, Zamboanga Intl, Zamboanga Del Norte	RPMZ	ZAM	Y	Y	Y	N	N	
ASIA/PAC - REPUBLIC OF KOREA								
Cheongju	RKTU		Y	Y	Y	N	Y	
Daegu	RKTN	TAE	Y	Y	Y	N	Y	
Gimhae	RKPK	PUS	Y	Y	Y	N	Y	
Gimpo	RKSS	SEL	Y	Y	Y	N	Y	
Gunsan	RKJK	KUV	N	Y	Y	N	Y	
Gwangju	RKJJ	KWJ	N	Y	Y	N	Y	
Incheon	RKSI		Y	Y	Y	N	Y	
Jeju	RKPC		Y	Y	Y	N	Y	
Muan	RKJB		Y	Y	Y	N	N	
Osan	RKSO	OSN	N	Y	Y	N	Y	
Yangyang	RKNY		Y	Y	Y	N	Y	
ASIA/PAC - SAMOA								
Apia	NSAP	APW	Y	Y	Y	N	Y	
ASIA/PAC - SINGAPORE								
Paya Lebar (Rsf)	WSAP	QPG	Y	Y	Y	N	Y	
Seletar	WSSL	XSP	Y	Y	Y	N	Y	
Singapore/Changi	WSSS	SIN	Y	Y	Y	N	Y	
ASIA/PAC - SOLOMON ISLANDS								
Honiara (Henderson)	AGGH		Y	Y	Y	N	Y	
ASIA/PAC - SRI LANKA								
Bandaranaike International Airport Colombo	VCBI	RML	Y	Y	Y	N	Y	
Higurakgoda/Mineriyia	VCCH		Y	Y	Y	N	N	
Kankesanturai/Jaffna	VCCJ	JAF	N	Y	Y	N	Y	
Ratmalana/Colombo	VCCC	CMB	N	Y	Y	N	Y	

ASIA/PAC - THAILAND							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Bangkok/Don Mueang Intl Airport	VTBD	BKK	Y	Y	Y	N	Y
Bangkok/Suvarnabhumi Intl Airport	VTBS		Y	Y	Y	N	Y
Buri Ram	VTUO		N	Y	Y	N	Y
Chiang Mai/Chiang Mai Intl. Airport	VTCC	CNX	Y	Y	Y	N	Y
Chiang Rai/Chiang Rai Intl Airport	VTCT	CEI	Y	Y	Y	N	Y
Chumphon/Tab Gai	VTSE		N	Y	Y	N	Y
Khon Kaen	VTUK	KKL	Y	Y	Y	N	Y
Krabi	VTSG		Y	Y	Y	N	Y
Lampang	VTCL		N	Y	Y	N	Y
Loei	VTUL	LOE	N	Y	Y	N	Y
Mae Hong Son	VTCH	HGN	N	Y	Y	N	Y
Nakhon Phanom	VTUW	KOP	N	Y	Y	N	Y
Nakhon Ratchasima	VTUQ	NAK	N	Y	Y	N	Y
Nakhon Si Thammarat	VTSF		N	Y	Y	N	Y
Nan	VTCT	NNT	N	Y	Y	N	Y
Narathiwat	VTSC	NAW	N	Y	Y	N	Y
Pattani	VTSK		N	Y	Y	N	Y
Phetchabun	VTPB		N	Y	Y	N	Y
Phitsanulok	VTPP	PHS	Y	Y	Y	N	Y
Phrae	VTCP	PRH	N	Y	Y	N	Y
Phuket/Phuket Intl Airport	VTSP	HKT	Y	Y	Y	N	Y
Prachuap Khiri Khan/Hua Hin	VTPH		N	Y	Y	N	Y
Ranong	VTSR		N	Y	Y	N	Y
Rayong/U-Taphao Intl Airport	VTBU		Y	Y	Y	N	Y
Roi Et	VTUV		N	Y	Y	N	Y
Sakon Nakhon/Ban Khai	VTUI	SNO	N	Y	Y	N	Y
Songkhla/Hat Yai Intl Airport	VTSS	HDY	Y	Y	Y	N	Y
ASIA/PAC - THAILAND							
Sura Tahni/Samui	VTSM		N	Y	Y	N	Y
Surat Thani	VTSB	URT	Y	Y	Y	N	Y
Tak/Mae Sot	VTPM		N	Y	Y	N	Y
Trang	VTST	TST	N	Y	Y	N	Y
Ubon Ratchathani	VTUU	UBP	Y	Y	Y	N	Y
Udon Thani	VTUD	UTH	N	Y	Y	N	Y
ASIA/PAC - TONGA							
Fua'amotu Intl	NFTF		Y	Y	Y	N	Y
Vava'u	NFTV		Y	Y	Y	N	Y
ASIA/PAC - TUVALU							
Funafuti/Intl	NGFU		Y	Y	Y	N	Y
ASIA/PAC - UNITED STATES							
Adak Island/Adak Naf,Ak.	PADK		N	Y	Y	N	Y
Anchorage/Elmendorf Afb,Ak.	PAED		Y	Y	Y	N	Y
Annette Island,Ak.	PANT		N	Y	Y	N	Y
Barrow/Wiley Post-Will Rogers Mem,Ak.	PABR		N	Y	Y	N	Y
Barter Island Lrrs,Ak.	PABA		N	Y	Y	N	Y
Bethel,Ak.	PABE		N	Y	Y	N	Y
Bettles,Ak.	PABT		N	Y	Y	N	Y

ASIA/PAC - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Cape Lisburne Lrrs,Ak.	PALU		N	Y	Y	N	Y
Cape Newenham Lrrs,Ak	PAEH		N	Y	Y	N	Y
Cape Romanzof Lrrs,Ak.	PACZ		N	Y	Y	N	Y
Cold Bay,Ak.	PACD		Y	Y	Y	N	Y
Cordova/Merle K (Mudhole) Smith,Ak.	PACV		N	Y	Y	N	Y
Deadhorse,Ak	PASC		N	Y	Y	N	Y
Delta Junction/Allen Aaf,Ak.	PABI		N	Y	Y	N	Y
Dillingham Aprt,Ak.	PADL		N	Y	Y	N	Y
Fairbanks International, Ak.	PAFA		Y	Y	Y	N	Y
Fairbanks/Eielson Afb,Ak	PAEI		Y	Y	Y	N	Y
Fairbanks/Ft Wainwright	PAFB		N	Y	Y	N	Y
Galena,Ak.	PAGA		N	Y	Y	N	Y
Gulkana,Ak	PAGK		N	Y	Y	N	Y
Hilo International, Hilo Hi.	PHTO		Y	Y	Y	N	N
Homer,Ak.	PAHO		N	Y	Y	N	Y
Honolulu International, Oahu, Hi.	PHNL		Y	Y	Y	N	Y
Iliamna,Ak.	PAIL		N	Y	Y	N	Y
Juneau International, Ak.	PAJN		N	Y	Y	N	Y
Kahului, Hi.	PHOG		Y	Y	Y	N	Y
Kenai/Muni,Ak.	PAEN		N	Y	Y	N	Y
Ketchikan Intl,Ak.	PAKT		N	Y	Y	N	Y
King Salmon,Ak.	PAKN		Y	Y	Y	N	Y
Kodiak,Ak.	PADQ		N	Y	Y	N	Y
Kona/Keahole Kailua,Hi.	PHKO		N	Y	Y	N	Y
Kotzebue/Ralph Wien Memorial Ak.	PAOT		N	Y	Y	N	Y
Lahaina/Kapalua-West Maui, Hi.	PHJH		N	Y	Y	N	Y
Lanai City, Lanai,Hi.	PHNY		N	Y	Y	N	Y
Lihue, Kauai,Hi.	PHLI		N	Y	Y	N	Y
Mcgrath,Ak.	PAMC		N	Y	Y	N	Y
Molokai, Kaunakakai,Hi.	PHMK		N	Y	Y	N	Y
Nome,Ak.	PAOM		N	Y	Y	N	Y
Northway,Ak.	PAOR		N	Y	Y	N	Y
Sitka,Ak.	PASI		N	Y	Y	N	Y
Skagway,Ak.	PAGY		N	Y	Y	N	Y
St. Paul Island,Ak.	PASN		N	Y	Y	N	Y
Talkeetna,Ak	PATK		N	Y	Y	N	Y
Tanana/Ralph Calhoun Mem,Ak.	PATA		N	Y	Y	N	Y
Ted Stevens Anchorage International, Ak.	PANC		Y	Y	Y	N	Y
Tin City Lrrs,Ak.	PATC		N	Y	Y	N	Y
Unalakleet,Ak.	PAUN		N	Y	Y	N	Y
Unalaska,Ak.	PADU		N	Y	Y	N	Y
Valdez,Ak.	PAVD		N	Y	Y	N	Y
Yakutat,Ak.	PAYA		N	Y	Y	N	Y
ASIA/PAC - VANUATU							
Port Vila/Bauerfield	NVVV		Y	Y	Y	N	Y
Santo/Pekoa	NVSS		Y	Y	Y	N	Y

ASIA/PAC - VIET NAM							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Da Lat/Lien Khuong Y C P	VVDL		N	Y	Y	Y	N
Da Nang Y T F	VVDN		Y	Y	Y	N	Y
Dien Bien Phu Y C P	VVDB		N	Y	Y	Y	N
Ha Noi/Noi Bai	VVNB		Y	Y	Y	N	Y
Ho Chi Minh/Tan Son Nhat	VVTS		Y	Y	Y	N	Y
Hue/Phu Bai	VVPB		Y	Y	Y	N	Y
Nha Trang	VVNT		N	Y	Y	Y	N
ASIA/PAC - WAKE ISLAND (UNITED STATES)							
Wake Island Airfield, Wake I.	PWAK		N	Y	Y	N	Y
ASIA/PAC - WALLIS AND FUTUNA ISLANDS (FRANCE)							
Wallis Hihifo	NLWW		Y	Y	Y	N	N
Da Lat/Lien Khuong	VVDL		N	Y	Y	Y	N
Da Nang	VVDN		Y	Y	Y	N	Y
Dien Bien Phu	VVDB		N	Y	Y	Y	N
Ha Noi/Noi Bai	VVNB		Y	Y	Y	N	Y
Ho Chi Minh/Tan Son Nhat	VVTS		Y	Y	Y	N	Y
Hue/Phu Bai	VVPB		N	Y	Y	Y	N
Nha Trang	VVNT		N	Y	Y	Y	N

ANNEX 1 – CAR/SAM

CAR/SAM - ANGUILLA (UNITED KINGDOM)							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Wallblake,Anguilla	TQPF	AXA	Y	Y	Y	N	Y
CAR/SAM - ANTIGUA AND BARBUDA							
V.C.Bird,Antigua	TAPA		Y	Y	Y	N	Y
CAR/SAM - ARGENTINA							
Aeroparque J. Newbery, Caba	SABE	AEP	Y	Y	Y	N	Y
Comodoro Rivadavia/Gral Mosconi,Cht	SAVC		Y	Y	Y	N	Y
Cordoba/Ing. A.L.V. Taravella Cba	SACO	COR	Y	Y	Y	N	Y
Ezeiza Ministro Pistarini, Ba	SAEZ	EZE	Y	Y	Y	N	Y
Formosa,F	SARF	FMA	N	Y	Y	N	Y
Iguazu/Cataratas Del Iguazu, Ms	SARI	IGR	Y	Y	Y	N	Y
Jujuy,J.	SASJ	JUJ	Y	Y	Y	N	Y
Mar Del Plata,Ba	SAZM	MDX	Y	Y	Y	N	Y
Mendoza/El Plumerillo,Mza	SAME	MDZ	Y	Y	Y	N	Y
Neuquen,N	SAZN		Y	Y	Y	N	Y
Posadas,Ms	SARP		N	Y	Y	N	Y
Resistencia,Cho	SARE	RES	Y	Y	Y	N	Y
Rio Gallegos/Brig. Gral. D.A. Parodi (Sc)	SAWG	RGL	Y	Y	Y	N	Y
Rosario,Sf	SAAR	RSJ	Y	Y	Y	N	Y
Salta,S.	SASA		Y	Y	Y	N	Y
San Carlos De Bariloche,Rn	SAZS		Y	Y	Y	N	Y
San Fernando,Ba	SADF		Y	Y	Y	N	Y
Tucuman/Ten. Benjamin Matienzo,T	SANT		N	Y	Y	N	Y
Ushuaia/Malvinas Argentinas (Tais)	SAWH		N	Y	Y	N	Y
CAR/SAM - ARUBA (NETHERLANDS)							
Oranjestad/Beatrix	TNCA	AUA	Y	Y	Y	N	Y
CAR/SAM - BAHAMAS							
George Town	MYEG		Y	Y	Y	N	Y
Governor's Harbour	MYEM		Y	Y	Y	N	Y
Grand Bahama International	MYGF	FPO	Y	Y	Y	N	Y
Marsh Harbour	MYAM		Y	Y	Y	N	Y
Nassau International	MYNN	NAS	Y	Y	Y	N	Y
North Eleuthera	MYEH		Y	Y	Y	N	Y
Rock Sound	MYER	RSD	N	Y	Y	N	Y
San Salvador International	MYSM		Y	Y	Y	N	Y
South Bimini	MYBS		Y	Y	Y	N	Y
Stella Maris	MYLS		Y	Y	Y	N	Y
Treasure Cay	MYAT		Y	Y	Y	N	Y
CAR/SAM - BARBADOS							
Grantley Adams,Barbados	TBPB	BGI	Y	Y	Y	N	Y
CAR/SAM - BELIZE							
philip s.w. goldson international	MZBZ	BZE	Y	Y	Y	N	Y

CAR/SAM - BOLIVIA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Cobija	SLCO	CIJ	N	Y	Y	N	Y
Cochabamba	SLCB	CBB	Y	Y	Y	N	Y
El Trompillo	SLET		N	Y	Y	N	Y
La Paz Y	SLLP	LPB	Y	Y	Y	N	Y
Potosi	SLPO	POI	N	Y	Y	N	Y
Puerto Suarez	SLPS	PSZ	N	Y	Y	N	Y
Sucre	SLSU	SRE	N	Y	Y	N	Y
Tarija	SLTJ		Y	Y	Y	N	Y
Trinidad	SLTR	TOO	Y	Y	Y	N	Y
Viru Viru	SLVR	VVI	Y	Y	Y	N	Y
CAR/SAM - BRAZIL							
Belem/Val De Cans, Pa	SBBE	BEL	Y	Y	Y	N	Y
Belo Horizonte/Tancredo Neves,Mg	SBCF	CNF	Y	Y	Y	N	Y
Boa Vista/Boa Vista, Rr	SBBV	BVB	Y	Y	Y	N	Y
Brasilia/Pres. Juscelino Kubitschek, Df	SBBR	BSB	Y	Y	Y	N	Y
Campinas/Viracopos,Sp	SBKP	CPQ	Y	Y	Y	N	Y
Campo Grande/Campo Grande, Ms	SBCG	CGR	Y	Y	Y	N	Y
Corumba/Corumba, Ms	SBCR		Y	Y	Y	N	Y
Cruzeiro Do Sul/Cruzeiro Do Sul, Ac	SBCZ		Y	Y	Y	N	Y
Cuiaba/Marechal Rondon, Mt	SBCY		Y	Y	Y	N	Y
Curitiba/Afonso Pena, Pr	SBCT	CWB	Y	Y	Y	N	Y
Florianopolis/Hercilio Luz,Sc	SBFL	FLN	Y	Y	Y	N	Y
Fortaleza/ Pinto Martins, Ce	SBFZ	FOR	Y	Y	Y	N	Y
Foz Do Iguacu/Cataratas, Pr	SBFi	IGU	Y	Y	Y	N	Y
Macapa/Macapa, Ap	SBMQ	MCP	Y	Y	Y	N	Y
Maceio/Zumbi Dos Palmares, Al	SBMO	MCZ	Y	Y	Y	N	Y
Manaus/Eduardo Gomes, Am	SBEG	MAO	Y	Y	Y	N	Y
Natal/Augusto Severo, Rn	SBNT	NAT	Y	Y	Y	N	Y
Ponta Pora/Ponta Pora, Ms	SBPP		Y	Y	Y	N	Y
Porto Alegre/Salgado Filho, Rs	SBPA	PGP	Y	Y	Y	N	Y
Recife/Guararapes - Gilberto Freyre, Pe	SBRF	REC	Y	Y	Y	N	Y
Rio De Janeiro/Galeao-Antonio Carlos Jobim, Rj	SBGL	GIG	Y	Y	Y	N	Y
Salvador/Deputado Luis Eduardo Magalhaes, Ba	SBSV	SSA	Y	Y	Y	N	Y
Santarem/Santarem,Pa	SBSN		Y	Y	Y	N	Y
Sao Luis/Marechal Cunha Machado, Ma	SBSL	SLZ	Y	Y	Y	N	N
Sao Paulo/Guarulhos, Governador A. F. Montoro, Sp	SBGR	GRU	Y	Y	Y	N	N
Tabatinga/Tabatinga, Am	SBTT	TBT	Y	Y	Y	N	N
Uruguaiana/Rubem Berta, Rs	SBUG		Y	Y	Y	N	N
CAR/SAM - BRITISH VIRGIN ISLANDS (UNITED KINGDOM)							
Terrance B. Lettsome,Tortola	TUPJ		Y	Y	Y	N	Y
Virgin Gorda,B.V.	TUPW		Y	Y	Y	N	Y
CAR/SAM - CAYMAN ISLANDS (UNITED KINGDOM)							
Gerrard Smith Intl/Cayman Brac	MWCB	CYB	Y	Y	Y	N	Y
Owen Roberts Intl/Grand Cayman	MWCR	GCM	Y	Y	Y	N	Y

CAR/SAM - CHILE							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Antofagasta/Ad Cerro Moreno	SCFA	ANF	Y	Y	Y	N	Y
Arica/Ap Chacalluta	SCAR	ARI	Y	Y	Y	N	Y
Balmaceda/Ad Balmaceda	SCBA		N	Y	Y	N	Y
Calama/Ad El Loa	SCCF		N	Y	Y	N	Y
Concepcion/Ad Carriel Sur	SCIE	CCP	Y	Y	Y	N	Y
Copiapo/Ad Desierto De Atacama	SCAT		N	Y	Y	N	Y
Iquique/Ad Diego Aracena	SCDA	IQQ	Y	Y	Y	N	Y
La Serena/Ad La Florida	SCSE		N	Y	Y	N	Y
Osorno/Ad Canal Bajo-Carlos Hott Siebert	SCJO		N	Y	Y	N	Y
Pto. Natales/Ad Teniente Julio Gallardo	SCNT		N	Y	Y	N	Y
Puerto Montt/Ad El Tepual	SCTE	PMC	Y	Y	Y	N	Y
Punta Arenas/Ad Pdte. Carlos Ibanez	SCCI	PUQ	Y	Y	Y	N	Y
Santiago/Ap Arturo Merino B. Y T F	SCEL	SCL	Y	Y	Y	N	Y
Temuco/Ad Maquehue Y T F	SCTC		N	Y	Y	N	Y
CAR/SAM - COLOMBIA							
Barranquilla/Atlantico	SKBQ	BAQ	Y	Y	Y	N	Y
Bucaramanga/Santander	SKBG	BGA	N	Y	Y	N	Y
Cali/Valle	SKCL	CLO	Y	Y	Y	N	Y
Cartagena/Bolivar	SKCG	CTG	Y	Y	Y	N	Y
Cucuta/N.S/Der	SKCC		Y	Y	Y	N	Y
Leticia/Amazonas	SKLT	LET	Y	Y	Y	N	Y
Pereira/Risaralda	SKPE	PEI	N	Y	Y	N	Y
Rionegro/Antioquia	SKRG	MDE	Y	Y	Y	N	Y
S/Fe De Bogota/C/Marca	SKBO	BOG	Y	Y	Y	N	Y
San Andres/Ilsa	SKSP	ADZ	Y	Y	Y	N	Y
CAR/SAM - COSTA RICA							
Alajuela/Juan Santamaria Intl.	MROC	SJO	Y	Y	Y	N	Y
Liberia/Daniel Oduber Quiros Intl.	MRLB	LIR	Y	Y	Y	N	Y
Limon/Intl.	MRLM	LIO	Y	Y	Y	N	Y
Pavas/Tobias Bolanos Intl.	MRPV		Y	Y	Y	N	Y
CAR/SAM - Cuba							
Camaguey/Ignacio Agramonte Intl	MUCM	CMW	Y	Y	Y	N	Y
Cayo Coco/Jardines Del Rey	MUCC		N	Y	Y	N	Y
Cayo Largo Del Sur/Vilo Acuna Intl.	MUCL		Y	Y	Y	N	Y
Ciego De Avila/Maximo Gomez	MUCA		Y	Y	Y	N	Y
Habana/Jose Marti Intl.	MUHA	HAV	Y	Y	Y	N	Y
Holguin/Frank Pais Intl. - Civ/Mil	MUHG	HOG	Y	Y	Y	N	Y
Santiago De Cuba/Antonio Maceo Intl	MUCU	SCU	Y	Y	Y	N	Y
Varadero/Juan G. Gomez Intl	MUVR	VRA	Y	Y	Y	N	Y
CAR/SAM - DOMINICA							
Melville Hall,Dominica	TDPD	DOM	Y	Y	Y	N	Y
Roseau,Dominica	TDPR		Y	Y	Y	N	Y
CAR/SAM - DOMINICAN REPUBLIC							
Barahona	MDBH		Y	Y	Y	N	Y
La Romana/Intl	MDLR	LRM	Y	Y	Y	N	Y
Puerto Plata	MDPP	POP	Y	Y	Y	N	Y
Punta Cana	MDPC	PUJ	Y	Y	Y	N	Y
Santiago/Cibao	MDST	STI	Y	Y	Y	N	Y
Santo Domingo/Herrera	MDHE		Y	Y	Y	N	Y
Santo Domingo/Jose Francisco Pena Gomez	MDSD	SDX	Y	Y	Y	N	Y

CAR/SAM - ECUADOR							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Guayaquil	SEGU	GYE	Y	Y	Y	N	Y
Latacunga	SELT		Y	Y	Y	N	Y
Manta	SEMT	MEC	Y	Y	Y	N	Y
Quito	SEQU	UIO	Y	Y	Y	N	Y
CAR/SAM - EL SALVADOR							
Aeropuerto Internacional De Ilopango	MSSS		Y	Y	Y	N	Y
Aeropuerto Internacional El Salvador	MSLP	SAL	Y	Y	Y	N	Y
CAR/SAM - FRENCH ANTILLES (FRANCE)							
Fort-De-France-Le Lamentin	TFFF	FDF	Y	Y	Y	N	Y
Pointe-A-Pitre-Le Raizet	TFFR	PTP	Y	Y	Y	N	Y
Saint-Barthelemy	TFFJ		Y	Y	Y	N	Y
Saint-Martin-Grand Case	TFFG		Y	Y	Y	N	Y
CAR/SAM - FRENCH GUIANA (FRANCE)							
Cayenne-Rochambeau	SOCA	CAY	Y	Y	Y	N	Y
CAR/SAM - GRENADA							
Lauriston, Carriacou, Grenada, Grenadines	TGPZ		Y	Y	Y	N	Y
Point Salines, Grenada	TGPY		Y	Y	Y	N	Y
CAR/SAM - GUATEMALA							
La Aurora	MGGT	GUA	Y	Y	Y	N	Y
Puerto Barrios	MGPB	PBR	Y	Y	Y	N	Y
Puerto De San Jose	MGSJ	SJS	Y	Y	Y	N	Y
Tikal	MGTK	TKM	Y	Y	Y	N	Y
CAR/SAM - GUYANA							
Cheddi Jagan International	SYCJ	GEO	Y	Y	Y	N	Y
CAR/SAM - HAITI							
Cap Haitien	MTCH		Y	Y	Y	N	Y
Port-Au-Prince/Intl	MTPP	PAP	Y	Y	Y	N	Y
CAR/SAM - HONDURAS							
La Ceiba/Goloson Intl	MHLC	LCE	Y	Y	Y	N	Y
Roatan Intl.	MHRO		Y	Y	Y	N	Y
San Pedro Sula/La Mesa	MHLM	SAP	Y	Y	Y	N	Y
Tegucigalpa/Toncontin	MHTG	TGU	Y	Y	Y	N	Y
CAR/SAM - JAMAICA							
Kingston/Norman Manley	MKJP	KIN	Y	Y	Y	N	Y
Montego Bay/Sangster	MKJS	MBJ	Y	Y	Y	N	Y
CAR/SAM - MEXICO							
Acapulco	MMAA	ACA	Y	Y	Y	N	Y
Aeropuerto Del Norte	MMAN	NTR	Y	Y	Y	N	Y
Aguascalientes	MMAS	AGU	N	Y	Y	N	Y
Bahias De Huatulco	MMBT	HUX	Y	Y	Y	N	Y
Campeche	MMCP		Y	Y	Y	N	Y
Cancun	MMUN	CUN	Y	Y	Y	N	Y
Cd. Juarez	MMCS	CJS	Y	Y	Y	N	Y
Cd. Victoria	MMCV	CVM	Y	Y	Y	N	Y
Chetumal	MMCM	CTM	Y	Y	Y	N	Y
Chihuahua	MMCU	CUU	Y	Y	Y	N	Y

CAR/SAM - MEXICO							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Ciudad Acuna	MMCC		Y	Y	Y	N	Y
Ciudad Del Carmen	MMCE	CME	N	Y	Y	N	Y
Ciudad Obregon	MMCN	CEN	N	Y	Y	N	Y
Colima	MMIA		N	Y	Y	N	Y
Cozumel	MMCZ		N	Y	Y	N	Y
Cuernavaca	MMCB		N	Y	Y	N	Y
Culiacan	MMCL		Y	Y	Y	N	Y
Durango	MMDO		Y	Y	Y	N	Y
Guadalajara	MMGL	GDL	Y	Y	Y	N	Y
Guaymas	MMGM	GYM	Y	Y	Y	N	Y
Hermosillo	MMHO	HMO	Y	Y	Y	N	Y
Ixtapa-Zihuatanejo	MMZH		Y	Y	Y	N	Y
La Paz	MMLP	LAP	Y	Y	Y	N	Y
Leon	MMLO		Y	Y	Y	N	Y
Loreto	MMLT	LTO	Y	Y	Y	N	Y
Los Mochis	MMLM		N	Y	Y	N	Y
Manzanillo	MMZO	ZLO	Y	Y	Y	N	Y
Matamoros	MMMA	MAM	Y	Y	Y	N	Y
Mazatlan	MMMZ		Y	Y	Y	N	Y
Merida	MMMD	MID	Y	Y	Y	N	Y
Mexicali	MMML	MXL	Y	Y	Y	N	Y
Mexico	MMMX	MEX	Y	Y	Y	N	Y
Minatitlan	MMMT		N	Y	Y	N	Y
Monterrey	MMMY	MTY	Y	Y	Y	N	Y
Morelia	MMMM		Y	Y	Y	N	Y
Nogales	MMNG		Y	Y	Y	N	Y
Nuevo Laredo	MMNL	NLD	Y	Y	Y	N	Y
Oaxaca	MMOX	OAX	N	Y	Y	N	Y
Piedras Negras	MMPG		Y	Y	Y	N	Y
Poza Rica	MMPA		N	Y	Y	N	Y
Puebla	MMPB		N	Y	Y	N	Y
Puerto Escondido	MMPS	PXM	N	Y	Y	N	Y
Puerto Vallarta	MMPR	PVR	Y	Y	Y	N	Y
Queretaro	MMQT		Y	Y	Y	N	Y
Reynosa	MMRX	REX	Y	Y	Y	N	Y
Saltillo	MMIO		N	Y	Y	N	Y
San Felipe	MMSF		Y	Y	Y	N	Y
San Jose Del Cabo	MMSD	SJD	Y	Y	Y	N	Y
San Luis Potosi	MMSP	SLP	N	Y	Y	N	Y
Tampico	MMTM	TAM	Y	Y	Y	N	Y
Tapachula	MMTP	TAP	Y	Y	Y	N	Y
Tepic	MMEP		N	Y	Y	N	Y
Tijuana	MMTJ	TIJ	Y	Y	Y	N	Y
Toluca	MMTO	TLC	Y	Y	Y	N	Y

CAR/SAM - MEXICO							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Torreon	MMTC	TRC	Y	Y	Y	N	Y
Tuxtla Gutierrez (Civ)	MMTG		N	Y	Y	N	Y
Uruapan	MMPN		N	Y	Y	N	Y
Veracruz	MMVR	VER	Y	Y	Y	N	Y
Villahermosa	MMVA	VSA	Y	Y	Y	N	Y
Zacatecas	MMZC		Y	Y	Y	N	Y
CAR/SAM - MONTERRAT (UNITED KINGDOM)							
Gerald's Airport, Montserrat Trpg	TRPG	MNI	Y	Y	Y	N	Y
CAR/SAM - NETHERLANDS ANTILLES (NETHERLANDS)							
Bonaire/Flamingo	TNCB	BON	Y	Y	Y	N	Y
Curacao/Aeropuerto Hato	TNCC	CUR	Y	Y	Y	N	Y
St. Eustatius/F.D Roosevelt	TNCE		Y	Y	Y	N	Y
St. Maarten/Princess Juliana	TNCM	SXM	Y	Y	Y	N	Y
CAR/SAM - NICARAGUA							
Managua//Managua	MNMG	MGA	Y	Y	Y	N	Y
Puerto Cabezas/Zelaya	MNPC	PUZ	Y	Y	Y	N	Y
CAR/SAM - PANAMA							
Bocas Del Toro/Bocas Del Toro	MPBO		Y	Y	Y	N	Y
Changuinola/Manuel Nino	MPCH		Y	Y	Y	N	Y
David/Enrique Malek	MPDA		Y	Y	Y	N	Y
Panama/Marcos A. Gelabert	MPMG		Y	Y	Y	N	Y
Panama/Tocumen	MPTO	PTY	Y	Y	Y	N	Y
CAR/SAM - PARAGUAY							
Asuncion/S.Pettirossi	SGAS	ASU	Y	Y	Y	N	Y
Ciudad Del Este/Guarani	SGES	AGT	Y	Y	Y	N	Y
CAR/SAM - PERU							
Andahuaylas	SPHY		N	Y	Y	N	Y
Arequipa/Rodriguez Ballon	SPQU	AQP	Y	Y	Y	N	Y
Ayacucho/Coronel Fap Alfredo Mendivil Duarte	SPHO		N	Y	Y	N	Y
Cajamarca/Mayor General Fap Armando Revoredo I.	SPJR		N	Y	Y	N	Y
Chiclayo/Cap. Jose Abelardo Quinones Gonzalez	SPHI	CIX	Y	Y	Y	N	Y
Cusco/Velazco Astete	SPZO	CUZ	Y	Y	Y	N	Y
Ilo	SPLO		N	Y	Y	N	Y
Iquitos/Coronel Fap Francisco Secada Vignetta	SPQT	IQT	Y	Y	Y	N	Y
Juanjui	SPJI		N	Y	Y	N	Y
Juliaca	SPJL	JUL	N	Y	Y	N	Y
Lima-Callao/Intl Jorge Chavez	SPIM	LIM	Y	Y	Y	N	Y
Pisco	SPSO	PIO	Y	Y	Y	N	Y
Pto. Maldonado/Padre Aldamiz	SPTU		N	Y	Y	N	Y
Pucallpa/David Abensur R.	SPCL		N	Y	Y	N	Y
Tacna/Coronel Fap Carlos Ciriani Santa Rosa	SPTN		Y	Y	Y	N	Y
Talara/Capitan Montes	SPYL	TYL	N	Y	Y	N	Y
Tarapoto/Cdte. Guillermo Del Castillo Paredes	SPST		N	Y	Y	N	Y
Tingo Maria	SPGM		N	Y	Y	N	Y
Trujillo/Capitan Carlos Martinez De Pinillos	SPRU	TRU	Y	Y	Y	N	Y
Tumbes/Pedro Canga	SPME		N	Y	Y	N	Y
Yurimaguas/Moises Benzaquen Rengifo	SPMS		N	Y	Y	N	Y

CAR/SAM - PUERTO RICO (UNITED STATES)							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT

AFI OPMET MTF/3 – Appendix G

Aguadilla/Raphael Hernandez Pr	TJBQ	BQN	Y	Y	Y	N	Y
Fajardo/Diego Jimenez Torres Pr.	TJFA		Y	Y	Y	N	Y
Mayaguez/Eugenio Maria De Hostos, Pr.	TJMZ	MAZ	N	Y	Y	N	Y
Ponce/Mercedita,Pr.	TJPS	PSE	Y	Y	Y	N	Y
Roosevelt Roads Nas,Pr.	TJNR	NRR	N	Y	Y	N	Y
San Juan/Luis Munoz Marin International, Pr	TJSJ	SJU	Y	Y	Y	N	Y
Vieques,Isla De Viques,Pr. Y T	TJVQ		Y	Y	Y	N	Y
CAR/SAM - SAINT KITTS AND NEVIS							
Robert L. Bradshaw, St. Christopher And Nevis	TKPK	SKB	Y	Y	Y	N	Y
Vance Winkworth Amory, St. Christopher And Nevis	TKPN		Y	Y	Y	N	Y
CAR/SAM - SAINT LUCIA							
George Charles, Saint Lucia	TLPC	SLU	Y	Y	Y	N	Y
Hewanorra Saint Lucia	TLPL	UVF	Y	Y	Y	N	Y
CAR/SAM - SAINT VINCENT AND THE GRENADINES							
Canouan,St.Vincent And The Grenadines	TVSC		Y	Y	Y	N	Y
E.T.Joshua,St.Vincent, And The Grenadines	TVSV	SVD	Y	Y	Y	N	Y
J.F. Mitchell,Bequia St.Vincent And The Grenadines	TVSB		Y	Y	Y	N	N
Mustique,St.Vincent And The Grenadines	TVSM		Y	Y	Y	N	Y
Union Island,St.Vincent And The Grenadines	TVSU		Y	Y	Y	N	Y
CAR/SAM - SURINAME							
J.A. Pengel Intl.Airp	SMJP	PBM	Y	Y	Y	N	Y
Nickerie/Maj. Fernandes	SMNI		Y	Y	Y	N	Y
Zorg En Hoop	SMZO		Y	Y	Y	N	Y
CAR/SAM - TRINIDAD AND TOBAGO							
Crown Point,Togago	TTCP		Y	Y	Y	N	Y
Piarco,Trinidad	TTTP	POS	Y	Y	Y	N	Y
CAR/SAM - TURKS AND CAICOS ISLANDS (UNITED KINGDOM)							
Grand Turk	MBGT		Y	Y	Y	N	Y
Providenciales	MBPV		Y	Y	Y	N	Y
South Caicos	MBSC	XSC	Y	Y	Y	N	Y
CAR/SAM - UNITED KINGDOM							
Mount Pleasant	EGYP		N	Y	Y	Y	N
CAR/SAM - URUGUAY							
Colonia/Intl "Laguna De Los Patos"	SUCA	CYR	Y	Y	Y	N	Y
Durazno/Santa Bernardina Intl. De Alternativa	SUDU		N	Y	Y	N	Y
Maldonado/ Intl C/C Carlos A.Curbelo "Lag. D. S."	SULS		Y	Y	Y	N	Y
Montevideo/Ad Angel S. Adami	SUAA		Y	Y	Y	N	Y
Montevideo/Intl.Carrasco "Gral. Cesareo L. Berisso"	SUMU	MVD	Y	Y	Y	N	Y
Rivera/Intl. P. G. (Pil. A.M.) Don Oscar D. Gestido	SURV		Y	Y	Y	N	Y
Salto/Intl.Nueva Hesperides	SUSO		Y	Y	Y	N	Y
CAR/SAM - VENEZUELA							
Acarigua, Portuguesa	SVAC	AGV	N	Y	Y	N	Y
B.A. Generalisimo Francisco De M., Caracas, M.	SVFM		N	Y	Y	N	Y
Barcelona, Anzoategui	SVBC	BLA		Y	Y	N	Y
Barinas, Barinas	SVBI	BNS		Y	Y	N	Y
Barquisimeto, Lara	SVBM	BRM	N	Y	Y	N	Y
Calabozo, Guarico	SVCL	CLZ	N	Y	Y	N	Y
Ciudad Bolivar, Bolivar	SVCB	CBL	N	Y	Y	N	Y
Coro, Falcon	SVCR	CZE	N	Y	Y	N	Y

CAR/SAM - VENEZUELA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Cumana, Sucre	SVCU		N	Y	Y	N	Y
Guanare, Portuguesa	SVGU	GUQ	N	Y	Y	N	Y
Guiria, Sucre	SVGI		N	Y	Y	N	Y
Maiquetia, Internacional Simon Bolivar, M., Vargas	SVMI		N	Y	Y	N	Y
Maracaibo, Zulia	SVMC	MAR		Y	Y	N	Y
Margarita, Nueva Esparta	SVMG	MRX		Y	Y	N	Y
Maturin, Monagas	SVMT	MUN	N	Y	Y	N	Y
Merida, Merida	SVMD	MRD	N	Y	Y	N	Y
Paraguana, Josefa Camejo, Falcon	SVJC			Y	Y	N	Y
Puerto Ayacucho, Amazonas	SVPA		N	Y	Y	N	Y
San Antonio Del Tachira, Tachira	SVSA			Y	Y	N	Y
San Fernando De Apure, Apure	SVSR	SFD	N	Y	Y	N	Y
San Juan De Los Morros, Guarico	SVJM		N	Y	Y	N	Y
Santo Domingo, B.A.M. Buenaventura Vivas, Tachira	SVSO	STD	N	Y	Y	N	Y
Tumeremo, Bolivar	SVTM		N	Y	Y	N	Y
Valencia, Carabobo	SVVA	VLN	N	Y	Y	N	Y
Valle De La Pascua, Guarico	SVVP		N	Y	Y	N	Y
CAR/SAM - VIRGIN ISLANDS (UNITED STATES)							
Charlotte Amalie St. Thomas/Cyril E. King, Vi.	TIST		Y	Y	Y	N	Y
Henry.E.Rohlsen	TISX	STX	Y	Y	Y	N	Y

ANNEX 1 – EUR

EUR - ALBANIA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Tirana	LATI	TIA	Y	Y	Y	N	Y
EUR - ARMENIA							
Gyumri	UDSG		Y	Y	Y	N	Y
Stepanavan	UDLS		Y	Y	Y	N	Y
Yerevan	UDYZ	EVN	Y	Y	Y	N	Y
EUR - AUSTRIA							
Graz	LOWG	GRZ	Y	Y	Y	Y	N
Hohenems-Dornbirn	LOIH	HOH	Y	Y	Y	Y	N
Innsbruck	LOWI		Y	Y	Y	N	Y
Klagenfurt	LOWK	KLU	Y	Y	Y	N	Y
Linz	LOWL	LNZ	Y	Y	Y	N	Y
Salzburg	LOWS	SZG	Y	Y	Y	N	Y
St. Johann/Tirol	LOIJ		Y	N	N	N	N
Voslau	LOAV		Y	Y	Y	Y	N
Wels	LOLW		Y	N	N	N	N
Wien-Schwechat	LOWW	VIE	Y	Y	Y	N	Y
Wr. Neustadt/Ost	LOAN		N	Y	Y	Y	N
Zell Am See	LOWZ		Y	Y	Y	N	N
Zeltweg Mil	LOXZ		N	Y	Y	N	N
EUR - AZERBAIJAN							
Ganja	UBBG		Y	Y	Y	Y	N
Heydar Aliyev International Airport	UBBB	BAK	Y	Y	Y	N	Y
Nakhchivan	UBBN		Y	Y	Y	Y	N
EUR - BELARUS							
Brest	UMBB	BQT	Y	Y	Y	Y	N
Gomel	UMGG	GME	Y	Y	Y	Y	N
Grodno	UMMG	GNA	Y	Y	Y	Y	N
Lipki	UMMI		N	Y	Y	Y	N
Minsk-1	UMMM	MSQ	Y	Y	Y	Y	N
Minsk-2	UMMS		Y	Y	Y	Y	N
Mogilev	UMOO		Y	N	N	N	N
Vitebsk	UMII		Y	N	N	N	N
EUR - BELGIUM							
Antwerpen/Deurne	EBAW	ANR	Y	Y	Y	Y	N
Balen/Keiheuvel	EBKH		Y	N	N	N	N
Brussels/Brussels-National	EBBR	BRU	Y	Y	Y	N	Y
Charleroi/Brussels South	EBCI	CRL	Y	Y	Y	Y	N
Genk/Zwartberg	EBZW		Y	N	N	N	N
Grimbergen/Lint	EBGB		Y	N	N	N	N
Kortrijk/Wevelgem	EBKT		Y	N	N	N	N
Liege/Liege (Civ)	EBLG	LGG	Y	Y	Y	Y	N
Oostende-Brugge/Oostende	EBOS	OST	Y	Y	Y	N	Y
Saint-Hubert/Saint-Hubert	EBSH		Y	N	N	N	N
Spa/La Sauveniere	EBSP		Y	N	N	N	N
Tournai/Maubray	EBTY		Y	N	N	N	N

EUR - BOSNIA AND HERZEGOVINA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Banja Luka	LQBK		Y	Y	Y	Y	N
Mostar	LQMO		Y	Y	Y	N	N
Sarajevo	LQSA	SJJ	Y	Y	Y	Y	N
Tuzla	LQTZ		Y	Y	Y	N	N
EUR - BULGARIA							
Burgas	LBBG	BOJ	Y	Y	Y	Y	N
Gorna Oryahovitsa	LBGO		N	Y	Y	Y	N
Plovdiv	LBPD	PDV	N	Y	Y	Y	N
Sofia	LBSF	SOF	Y	Y	Y	N	Y
Varna	LBWN	VAR	Y	Y	Y	N	Y
EUR - CROATIA							
Brac/Brac I	LDSB		Y	Y	Y	N	N
Dubrovnik/Cilipi	LDDU	DBV	Y	Y	Y	N	Y
Losinj/Losinj I.	LDLO						
Osijek/Klisa	LDOS		Y	Y	Y	Y	N
Pula/Pula	LDPL	PUY	Y	Y	Y	N	Y
Rijeka/Krk I.	LDRI	RJK	Y	Y	Y	Y	N
Split/Kastela	LDSP	SPU	Y	Y	Y	N	Y
Vrsar/Crljenka	LDPV		Y	N	N	N	N
Zadar/Zemunik	LDZD	ZAD	Y	Y	Y	Y	N
Zagreb/Pleso	LDZA	ZAG	Y	Y	Y	N	Y
EUR - CYPRUS							
Larnaka/Intl	LCLK	LCA	Y	Y	Y	N	Y
Nicosia/Intl (Dca)	LCNC		Y	Y	Y	N	Y
Pafos/Intl	LCPH	PFO	Y	Y	Y	N	Y
EUR - CZECH REPUBLIC							
Brno/Turany	LKTB	BRQ	Y	Y	Y	N	Y
Holesov	LKHO	GTW	N	Y	Y	N	N
Karlovy Vary	LKKV	KLV	Y	Y	Y	Y	N
Kunovice	LKKU		N	Y	Y	Y	N
Ostrava/Mosnov	LKMT	OSR	Y	Y	Y	N	Y
Pardubice	LKPD		Y	Y	Y	N	N
Praha/Ruzyně	LKPR		Y	Y	Y	N	Y
EUR - DENMARK							
Aalborg (Civ/Mil)	EKYT	AAL	Y	Y	Y	N	Y
Aarhus	EKAH	AAR	Y	Y	Y	Y	N
Billund	EKBI		Y	Y	Y	N	Y
Bornholm/Ronne	EKRN	RNN	Y	Y	Y	Y	N
Esbjerg	EKEB	EBJ	Y	Y	Y	Y	N
Karup (Mil)	EKKA		Y	Y	Y	Y	N
Kobenhavn/Kastrup	EKCH	CPH	Y	Y	Y	N	Y
Kobenhavn/Roskilde	EKRK	RKE	Y	Y	Y	Y	N
Kolding/Vamdrup	EKVD		Y	Y	Y	Y	N
Lolland Falster/Maribo	EKMB	MRW	Y	Y	Y	Y	N
Odense	EKOD	ODE	Y	Y	Y	Y	N
Sindal	EKSN	CNL	Y	Y	Y	Y	N
Skive	EKSV		Y	Y	Y	Y	N
Sonderborg	EKSB	SGD	Y	Y	Y	Y	N

EUR - DENMARK							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Stauning	EKVJ	STA	Y	Y	Y	Y	N
Thisted	EKTS	TED	Y	Y	Y	Y	N
Vojens/Skrydstrup (Mil)	EKSP		Y	Y	Y	Y	N
EUR - ESTONIA							
Kardla	EEKA		Y	Y	Y	N	N
Kuressaare	EEKE		Y	Y	Y	N	N
Parnu	EEPU		Y	Y	Y	N	N
Tallinn	EETN	TLL	Y	Y	Y	Y	N
Tartu/Ulenurme	EETU	TAY	Y	Y	Y	N	N
EUR - FINLAND							
Enontekio	EFET	ENF	N	Y	Y	Y	N
Halli Y	EFHA	KEV	N	Y	Y	Y	N
Helsinki-Malmi	EFHF	HEM	Y	Y	Y	N	N
Helsinki-Vantaa (Finavia)	EFHK	HEL	Y	Y	Y	N	Y
Ivalo	EFIV	IVL	Y	Y	Y	Y	N
Joensuu	EFJO	JOE	N	Y	Y	Y	N
Jyvaskyla	EFJY	JYV	N	Y	Y	Y	N
Kajaani	EFKI	KAJ	N	Y	Y	Y	N
Kauhava	EFKA	KAU	N	Y	Y	Y	N
Kemi-Tornio	EFKE	KEM	N	Y	Y	Y	N
Kittila	EFKT	KTT	N	Y	Y	Y	N
Kruunupyy	EFKK	KOK	N	Y	Y	Y	N
Kuopio	EFKU	KUO	N	Y	Y	N	Y
Kuusamo	EFKS	KAO	N	Y	Y	Y	N
Lappeenranta	EFLP	LPP	Y	Y	Y	Y	N
Mariehamn	EFMA	MHQ	Y	Y	Y	Y	N
Mikkeli	EFMI	MIK	N	Y	Y	Y	N
Oulu	EFOU	OUL	Y	Y	Y	Y	N
Pori	EFPO	POR	N	Y	Y	Y	N
Rovaniemi	EFRO	RVN	Y	Y	Y	Y	N
Savonlinna	EFSA	SVL	N	Y	Y	Y	N
Seinäjoki	EFSI	SJY	N	Y	Y	Y	N
Tampere-Pirkkala	EFTP	TMP	Y	Y	Y	N	Y
Turku	EFTU	TKU	Y	Y	Y	N	Y
Utti	EFUT	UTI	N	Y	Y	Y	N
Vaasa	EFVA	VAA	Y	Y	Y	Y	N
Varkaus	EFVR	VRK	N	Y	Y	Y	N
EUR - FRANCE							
Agen-La Garenne	LFBA		N	Y	Y	Y	N
Aix-Les-Milles	LFMA		N	Y	Y	N	N
Ajaccio-Campo Dell'oro	LFKJ		Y	Y	Y	Y	N
Annecy-Meythet	LFLP		N	Y	Y	Y	N
Bale-Mulhouse	LFSB		N	Y	Y	N	Y
Bastia-Poretta	LFKB		Y	Y	Y	N	Y

EUR - FRANCE							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Beauvais-Tille	LFOB		Y	Y	Y	Y	N
Bergerac-Roumaniere	LFBE		N	Y	Y	Y	N
Beziers-Vias	LFMU		N	Y	Y	Y	N
Biarritz-Bayonne-Anglet	LFBZ		Y	Y	Y	Y	N
Bordeaux-Merignac	LFBD		Y	Y	Y	N	Y
Bourges	LFLD		N	Y	Y	Y	N
Brest-Guipavas	LFRB	BES	Y	Y	Y	N	Y
Caen-Carpique	LFRK	CFR	Y	Y	Y	Y	N
Calais-Dunkerque	LFAC		N	N	N	N	N
Calvi-Sainte-Catherine	LFKC	CLY	Y	Y	Y	N	Y
Cannes-Mandelieu	LFMD	CEQ	Y	Y	Y	Y	N
Carcassonne-Salvaza	LFMK	CCF	N	Y	Y	Y	N
Castelnaudary-Villeneuve	LFMW		N	Y	Y	Y	N
Chalons-Vatry	LFOK		N	Y	Y	N	Y
Chambery-Aix-Les-Bains	LFLB	CMF	Y	Y	Y	Y	N
Cherbourg-Maupertus	LFRC	CER	Y	Y	Y	Y	N
Clermont-Ferrand-Auvergne Clermont Ccer	LFLC	CFE	Y	Y	Y	Y	N
Cognac-Chateaubernard	LFBG		N	Y	Y	Y	N
Deauville-Saint-Gatien	LFRG		Y	Y	Y	Y	N
Dijon-Longvic	LFSD		N	Y	Y	Y	N
Dinard-Pleurtuit-St-Malo	LFRD	DNR	Y	Y	Y	N	Y
Dole-Tavaux	LFGJ	DLE	Y	Y	Y	Y	N
Evreux-Fauville	LFOE		N	Y	Y	Y	N
Figari-Sud-Corse	LFKF		N	Y	Y	Y	N
Grenoble-Saint-Geoirs	LFLS	GNB	Y	Y	Y	N	Y
Hyerres-Le Palyvestre	LFTH	XHE	Y	Y	Y	Y	N
Istres-Le Tube ; Istres Ccer	LFMI		N	Y	Y	Y	N
La Rochelle-Ile De Re	LFBH		Y	Y	Y	Y	N
Lannion	LFRO	LAI	Y	Y	Y	Y	N
Le Havre-Octeville	LFOH		Y	Y	Y	Y	N
Le Mans-Arnage	LFRM		N	Y	Y	N	Y
Le Touquet-Paris-Plage	LFAT		Y	N	N	N	N
Lille-Lesquin	LFQQ	LIL	Y	Y	Y	N	Y
Limoges-Bellegarde	LFBL		N	Y	Y	Y	N
Lorient-Lann-Bihoue	LFRH		N	Y	Y	Y	N
Lyon Saint-Exupery	LFLI	LYS	Y	Y	Y	N	Y
Lyon-Bron	LFLY	LYN	Y	Y	Y	Y	N
Marseille-Provence	LFML	MRS	Y	Y	Y	N	Y
Melun-Villaroche	LFPM		N	Y	Y	Y	N
Metz Nancy-Lorraine	LFJL		N	Y	Y	Y	N
Montpellier-Mediterranee	LFMT	MPL	Y	Y	Y	Y	N
Nantes Atlantique	LFRS	NTE	Y	Y	Y	N	Y
Nice-Cote D'azur	LFMN	NCE	Y	Y	Y	N	Y
Nimes-Garons	LFTW	FNI	Y	Y	Y	Y	N
Paris-Charles De Gaulle	LFPG	CDG	Y	Y	Y	N	Y
Paris-Le Bourget	LFPB	LBG	Y	Y	Y	N	Y
Paris-Orly	LFPO	ORY	Y	Y	Y	N	Y
Pau-Pyrenees	LFBP	PUF	Y	Y	Y	Y	N
Perpignan-Rivesaltes	LFMP	PGF	Y	Y	Y	Y	N
Poitiers-Biard	LFBI	PIS	Y	Y	Y	N	Y

EUR - FRANCE							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Quimper-Pluguffan	LFRQ	UIP	Y	Y	Y	Y	N
Reims-Champagne	LFSR	RHE	Y	Y	Y	Y	N
Rennes-St-Jacques	LFRN	RNS	Y	Y	Y	Y	N
Rodez-Marcillac	LFCR		N	Y	Y	Y	N
Rouen-Vallee De Seine	LFOP		N	Y	Y	Y	N
Saint-Brieuc-Armor	LFRT	SBK	Y	Y	Y	Y	N
Saint-Etienne-Bouthéon	LFMH	EBU	Y	Y	Y	Y	N
Saint-Nazaire-Montoir	LFRZ	SNR	Y	Y	Y	Y	N
Strasbourg-Entzheim	LFST	SXB	Y	Y	Y	Y	N
Tarbes Lourdes Pyrenees	LFBT	XTB	Y	Y	Y	Y	N
Toulouse-Blagnac ; Toulouse/Ccer	LFBO	TLS	Y	Y	Y	N	Y
Tours Val De Loire	LFOT	TUF	Y	Y	Y	N	Y
Toussus-Le-Noble	LFPN	TNF	Y	Y	Y	Y	N
Troyes-Barberey	LFQB		N	Y	Y	Y	N
Vichy-Charmeil	LFLV		N	Y	Y	Y	N
EUR - GEORGIA							
Kutaisi/Kopitnari	UGKO		Y	Y	Y	N	N
Tbilisi/Tbilisi	UGTB	TBS	Y	Y	Y	N	Y
EUR - GERMANY							
Altenburg-Nobitz	EDAC	AOC	Y	Y	Y	Y	N
Augsburg	EDMA	AGB	Y	Y	Y	Y	N
Barth	EDBH		Y	Y	Y	Y	N
Bautzen	EDAB		Y	N	N	N	N
Bayreuth Y	EDQD	BYU	Y	Y	Y	Y	N
Berlin-Schönefeld	EDDB	SXF	Y	Y	Y	N	Y
Berlin-Tegel	EDDT	TXL	Y	Y	Y	N	Y
Berlin-Tempelhof	EDDI	THF	Y	Y	Y	N	Y
Bielefeld	EDLI		Y	Y	Y	Y	N
Bonn-Hangelar	EDKB		Y	N	N	N	N
Braunschweig-Wolfsburg	EDVE	BWE	Y	Y	Y	Y	N
Bremen	EDDW	BRE	Y	Y	Y	Y	N
Bremerhaven	EDWB		Y	N	N	N	N
Coburg-Brandensteinsebene	EDQC		Y	N	N	N	N
Cottbus-Drewitz	EDCD		Y	N	N	N	N
Donaueschingen-Villingen	EDTD		Y	Y	Y	Y	N
Dortmund-Wickede	EDLW	DTM	Y	Y	Y	Y	N
Dresden	EDDC	DRS	Y	Y	Y	Y	N
Düsseldorf	EDDL	QDU	Y	Y	Y	N	Y
Eggenfelden	EDME		Y	N	N	N	N
Emden	EDWE		Y	Y	Y	Y	N
Erfurt	EDDE	ERF	Y	Y	Y	N	Y
Essen/Mulheim	EDLE		Y	N	N	N	N
Flensburg-Schaferhaus	EDXF		Y	Y	Y	Y	N
Frankfurt/Main	EDDF	FRA	Y	Y	Y	N	Y
Frankfurt-Egelsbach	EDFE		Y	N	N	N	N
Frankfurt-Hah	EDFH	HHN	Y	Y	Y	N	Y
Freiburg Im Breisgau	EDTF		Y	N	N	N	N

EUR - GERMANY							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Friedrichshafen	EDNY	FDH	Y	Y	Y	Y	N
Hamburg	EDDH	HAM	Y	Y	Y	N	Y
Hamburg-Finkenwerder	EDHI	XFW	Y	Y	Y	Y	N
Hannover	EDDV	HAI	Y	Y	Y	N	Y
Heringsdorf	EDAH		Y	Y	Y	Y	N
Hof-Plauen	EDQM	HOQ	Y	Y	Y	Y	N
Ingolstadt/Manching	ETSI		Y	Y	Y	Y	N
Karlsruhe/Baden-Baden	EDSB	FKB	Y	Y	Y	Y	N
Kassel-Calden	EDVK	KSF	Y	Y	Y	Y	N
Kiel-Holtenau	EDHK	KEL	Y	Y	Y	Y	N
Koln/Bonn	EDDK	CGN	Y	Y	Y	N	Y
Konstanz	EDTZ		Y	N	N	N	N
Laage	ETNL		Y	Y	Y	Y	N
Lahr	EDTL	LHA	Y	Y	Y	Y	N
Landshut	EDML		Y	Y	Y	Y	N
Leipzig/Halle	EDDP	LEJ	Y	Y	Y	N	Y
Lemwerder	EDWD	XLW	Y	N	N	N	N
Lubeck-Blankensee	EDHL	LBC	Y	Y	Y	Y	N
Magdeburg	EDBM	ZMG	Y	Y	Y	Y	N
Mannheim City	EDFM	MHG	Y	Y	Y	Y	N
Monchengladbach	EDLN	MGL	Y	Y	Y	N	Y
Munchen	EDDM	MUC	Y	Y	Y	N	Y
Munster/Osnabruck	EDDG	FMO	Y	Y	Y	Y	N
Neubrandenburg	ETNU		Y	Y	Y	Y	N
Niederrhein	EDLV		Y	Y	Y	Y	N
Nurnberg	EDDN	NUE	Y	Y	Y	N	Y
Oberpfaffenhofen	EDMO	OBF	Y	Y	Y	Y	N
Offenburg	EDTO		Y	N	N	N	N
Paderborn/Lippstad	EDLP	PAD	Y	Y	Y	Y	N
Saarbrucken	EDDR	SCN	Y	Y	Y	N	Y
Schwabish Hall-Hessental Nc	EDTY		Y	N	N	N	N
Schwerin-Parchim	EDOP		Y	Y	Y	Y	N
Siegerland	EDGS		Y	Y	Y	Y	N
Stadtlohn-Vreden	EDLS		Y	N	N	N	N
Straubing-Wallmuhle	EDMS		Y	Y	Y	Y	N
Stuttgart	EDDS	STR	Y	Y	Y	N	Y
Trier-Fohren	EDRT		Y	N	N	N	N
Westerland/Sylt	EDXW	GWT	Y	Y	Y	Y	N
Worms	EDFV		Y	N	N	N	N
Zweibrucken	EDRZ		Y	Y	Y	Y	N
Gibraltar (United Kingdom)							
EUR - GIBRALTAR (UNITED KINGDOM)							
Gibraltar (North Front)	LXGB	GIB	Y	Y	Y	Y	N
EUR - GREECE							
Alexandroupolis/Dimokritos	LGAL	AXD	Y	Y	Y	N	Y
Almiros/Nea Anchialos (Mil)	LGBL		Y	N	N	N	N
Andravida (Mil)	LGAD	PYR	Y	Y	Y	N	Y
Araxos (Mil)	LGRX	GPA	Y	N	N	N	N

EUR - GREECE							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Athinai/Eleftherios Venizelos	LGAV		Y	Y	Y	N	Y
Chania/Ioannis Daskalogiannis (Mil)	LGSA	CHQ	Y	N	N	N	N
Chios/Omiros	LGHI	JKH	Y	N	N	N	N
Elefsis (Mil)	LGEL		Y	Y	Y	N	Y
Ioannina/King Pyrros	LGIO						
Iraklion/Nikos Kazantzakis	LGIR	HER	Y	Y	Y	N	Y
Kalamata (Mil)	LGKL	KLX	Y	Y	Y	N	Y
Karpathos	LGKP	AOK	Y	N	N	N	N
Kavala/Megas Alexandros	LGKV	KVA	Y	Y	Y	Y	N
Kefallinia	LGKF	EFL	Y	Y	Y	N	Y
Kerkira/Ioannis Kapodistrias	LGKR	CFU	Y	Y	Y	N	Y
Kithira	LGKC	KIT	N	Y	Y	Y	N
Kos/Ippokratis	LGKO	KGS	Y	Y	Y	N	Y
Limnos/Ifaistos	LGLM	LXS	Y	Y	Y	Y	N
Mikonos	LGMK	JMK	Y	N	N	N	N
Mitilini/Odyseas Elytis	LGMT	MJT	Y	Y	Y	Y	N
Preveza/Aktion (Mil)	LGPZ	PVK	Y	N	N	N	N
Rodos/Diagoras	LGRP	RHO	Y	Y	Y	N	Y
Samos/Aristarchos Of Samos	LGSM	SMI	Y	Y	Y	Y	N
Santorini	LGSR	JTR	Y	Y	Y	N	Y
Skiathos/Alexandros Papadiamandis	LGSK	JSI	Y	N	N	N	N
Thessaloniki/Makedonia	LGTS	SKG	Y	Y	Y	N	Y
Zakinthos/Dionisios Solomos	LGZA	ZTH	Y	Y	Y	Y	Y
EUR - HUNGARY							
Budapest/Ferihegy	LHBP	BUD	Y	Y	Y	N	Y
Debrecen Y	LHDC	DEB	N	Y	Y	Y	N
Pecs/Pogany	LHPP	QPJ	N	Y	Y	N	N
Szeged Y	LHUD	QZD	N	Y	Y	N	N
Szombathely	LHSY		N	Y	Y	N	N
EUR - IRELAND							
Connaught	EIKN		Y	Y	Y	Y	N
Cork	EICK	ORK	Y	Y	Y	Y	N
Dublin	EIDW	DUB	Y	Y	Y	N	Y
Kerry (Farranfore)	EIKY		Y	N	N	N	N
Shannon	EINN	SNN	Y	Y	Y	N	Y
EUR - ITALY							
Albenga	LIMG	ALL	Y	Y	Y	Y	N
Alghero/Fertilia	LIEA	AHO	Y	Y	Y	Y	N
Amendola (Mil)	LIBA		N	Y	Y	Y	N
Ancona/Falconara	LIPY	AOI	Y	Y	Y	Y	N
Aosta	LIMW		Y	N	N	N	N
Aviano (Mil)	LIPA		N	Y	Y	Y	N
Bari/Palese	LIBD	BRI	Y	Y	Y	Y	N
Bergamo/Orio Al Serio	LIME	BGY	Y	Y	Y	Y	N
Bologna/Borgo Panigale	LIPE	BLQ	Y	Y	Y	Y	N
Bolzano	LIPB	BZO	Y	Y	Y	N	N
Brindisi/Casale	LIBR	BDS	Y	Y	Y	N	Y
Cagliari/Elmas (Mil)	LIEE	CAG	Y	Y	Y	Y	N

EUR - ITALY							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Cameri (Mil)	LIMN		N	Y	Y	Y	N
Catania/Fontanarossa	LICC	CTA	Y	Y	Y	Y	N
Cervia (Mil)	LIPC		N	Y	Y	Y	N
Como (Idroscalo)	LILY		Y	Y	Y	N	N
Crotone	LIBC	CRV	N	Y	Y	Y	N
Cuneo/Levaldigi	LIMZ	CUF	Y	Y	Y	Y	N
Decimomannu (Mil)	LIED	DCI	N	Y	Y	Y	N
Dobbio Y F	LIVD		N	Y	Y	Y	N
Ferrara Y C F	LIPF		N	Y	Y	Y	N
Firenze/Peretola	LIRQ	FLR	Y	Y	Y	Y	N
Foggia/Gino Lisa	LIBF	FOG	N	Y	Y	Y	N
Forlì	LIPK	FRL	Y	Y	Y	Y	N
Frontone	LIVF		N	Y	Y	Y	N
Frosinone (Mil)	LIRH		N	Y	Y	Y	N
Genova/Sestri	LIMJ	GOA	Y	Y	Y	N	Y
Ghedi (Mil)	LIPL	QBS	N	Y	Y	Y	N
Gioia Del Colle (Mil)	LIBV		N	Y	Y	Y	N
Grazzanise (Mil)	LIRM		N	Y	Y	Y	N
Grosseto (Mil)	LIRS	GRS	N	Y	Y	Y	N
Guidonia (Mil)	LIRG		N	Y	Y	Y	N
Lamezia/Terme	LICA	SUF	Y	Y	Y	Y	N
Lampedusa	LICD	LMP	N	Y	Y	Y	N
Latina (Mil)	LIRL	QLT	N	Y	Y	Y	N
Lecce/Galatina (Mil)	LIBN	LCC	N	Y	Y	Y	N
Marina Di Campo	LIRJ	EBA	N	N	N	N	N
Marina Di Ravenna	LIVM		N	Y	Y	N	N
Milano/Bresso	LIMB		N	Y	Y	Y	N
Milano/Linate	LIML	LIN	Y	Y	Y	N	Y
Milano/Malpensa	LIMC	MLP	Y	Y	Y	N	Y
Napoli/Capodichino	LIRN	NAP	Y	Y	Y	N	Y
Novi Ligure	LIMR		N	Y	Y	Y	N
Olbia/Costa Smeralda	LIEO	OLB	Y	Y	Y	Y	N
Padova	LIPU	QPA	Y	N	N	N	N
Palermo/Punta Raisi	LICJ	PMO	Y	Y	Y	N	Y
Pantelleria	LICG	PNL	Y	Y	Y	Y	N
Parma	LIMP	PMF	Y	Y	Y	N	N
Perugia/S. Egidio	LIRZ	PEG	Y	Y	Y	N	N
Pescara	LIBP	PSR	Y	Y	Y	Y	N
Piacenza/S.Damiano (Mil)	LIMS	QPZ	N	Y	Y	Y	N
Pisa/S. Giusto (Mil)	LIRP	PSA	Y	Y	Y	N	Y
Pratica Di Mare (Mil)	LIRE		N	Y	Y	Y	N
Reggio Calabria	LICR	REG	Y	Y	Y	Y	N
Rieti	LIQN		Y	Y	Y	Y	N
Rimini/Miramare (Mil.)	LIPR	RMI	Y	Y	Y	Y	N
Rivolto (Mil)	LIPI		N	Y	Y	Y	N

EUR - ITALY							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Roma/Ciampino (Mil.)	LIRA	CIA	Y	Y	Y	N	Y
Roma/Fiumicino	LIRF	FCO	Y	Y	Y	N	Y
Roma/Urbe	LIRU		Y	Y	Y	N	N
Sarzana/Luni (Mil.)	LIQW		N	Y	Y	Y	N
Taranto/Grottaglie	LIBG	TAR	N	Y	Y	Y	N
Torino/Caselle	LIMF	TRN	Y	Y	Y	N	Y
Trapani/Birgi (Mil)	LICT	TPS	Y	Y	Y	Y	N
Trevico	LIRT		N	Y	Y	N	N
Treviso/S. Angelo (Mil)	LIPH	TSF	Y	Y	Y	Y	N
Trieste/Ronchi Dei Legionari	LIPQ	TRS	Y	Y	Y	Y	N
Venezia/S. Nicolo	LIPV		Y	N	N	N	N
Venezia/Tessera	LIPZ	VCE	Y	Y	Y	N	Y
Verona/Villafranca (Mil.)	LIPX	VRN	Y	Y	Y	Y	N
Vicenza (Mil.)	LIPT	VIC	N	N	N	N	N
Viterbo (Mil)	LIRV		N	Y	Y	Y	N
EUR - KAZAKHSTAN							
Aktau	UATE		Y	Y	Y	Y	N
Aktyubinsk	UATT	AKX	Y	Y	Y	N	Y
Almaty	UAAA	ALA	Y	Y	Y	N	Y
Astana	UACC	TSE	Y	Y	Y	N	Y
Atyrau	UATG	GUW	Y	Y	Y	Y	N
Karaganda	UAKK	KGF	Y	Y	Y	Y	N
Kokshetau	UACK		Y	Y	Y	Y	N
Kostanay	UAUU	KSN	Y	Y	Y	Y	N
Kyzylorda	UAOO		Y	Y	Y	Y	N
Pavlodar	UASP	PWQ	Y	Y	Y	Y	N
Petropavlovsk	UACP	PPK	N	Y	Y	Y	N
Semipalatinsk	UASS	PLX	Y	Y	Y	Y	N
Shymkent	UAII		Y	Y	Y	Y	N
Taraz	UADD		Y	Y	Y	Y	N
Uralsk	UARR	URA	N	Y	Y	Y	N
Ust-Kamenogorsk	UASK		Y	Y	Y	Y	N
Zhezkazgan Y	UAKD		Y	Y	Y	Y	N
EUR - KYRGYZSTAN							
BISHKEK/MANAS	UAFM	FRU	Y	Y	Y	N	Y
OSH	UAFO	OSS	Y	Y	Y	N	N
EUR - LATVIA							
Daugavpils	EVDA		Y	N	N	N	N
Jekabpils	EVKA		Y	N	N	N	N
Jelgava	EVEA		Y	N	N	N	N
Liepaja Y	EVLA	LPX	Y	Y	Y	Y	N
Riga (Airport)	EVRA	RIX	Y	Y	Y	N	Y
Ventspils	EVVA		N	Y	Y	N	N
EUR - LITHUANIA							
Kaunas Intl	EYKA	KUN	Y	Y	Y	Y	N
Palanga Intl	EYPA	PLQ	Y	Y	Y	Y	N
Siauliai Intl/Civ/Mil	EYSA	SQQ	Y	Y	Y	N	N
Vilnius Intl	EYVI	VNO	Y	Y	Y	Y	N

EUR - LUXEMBOURG							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Luxembourg/Luxembourg	ELLX	LUX	Y	Y	Y	N	Y
EUR - MALTA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Luqa Airport	LMML	MLA	Y	Y	Y	N	Y
EUR - MONACO							
Monaco	LNMC		Y	Y	Y	N	N
EUR - MONTENEGRO							
Podgorica/Cemovsko Polje	LYPO		Y	Y	Y	N	Y
Tivat	LYTV		Y	Y	Y	N	Y
EUR - NETHERLANDS							
Amsterdam/Schiphol	EHAM	AMS	Y	Y	Y	N	Y
Den Helder/De Kooy	EHKD	DHR	N	Y	Y	Y	N
Deventer/Teuge	EHTE		Y	N	N	N	N
Eindhoven/Eindhoven Y	EHEH	EIN	N	Y	Y	Y	N
Enschede/Twenthe Y	EHTW	ENS	N	Y	Y	Y	N
Groningen/Eelde Y	EHGG	GRQ	Y	Y	Y	Y	N
Hilversum/Hilversum	EHHV		Y	N	N	N	N
Hoogeveen/Hoogeveen	EHHO		Y	N	N	N	N
Leiden/Valkenburg	EHVB	LID	N	Y	Y	Y	N
Lelystad/Lelystad	EHLE		Y	Y	Y	Y	N
Maastricht/Maastricht Aachen	EHBK	MST	Y	Y	Y	Y	N
Middelburg/Midden –Zeeland	EHMZ		Y	N	N	N	N
Rotterdam/Rotterdam	EHRD	RTM	Y	Y	Y	N	Y
Texel/Texel	EHTX		Y	N	N	N	N
Weert/Budel	EHBD		Y	N	N	N	N
EUR - NORWAY							
Alesund/Vigra	ENAL	AES	Y	Y	Y	Y	N
Alta	ENAT	ALF	Y	Y	Y	Y	N
Andenes/Andoya	ENAN		N	Y	Y	N	Y
Bardufoss	ENDU		N	Y	Y	Y	N
Bergen/Flesland	ENBR		Y	Y	Y	N	Y
Berlevag	ENBV		N	Y	Y	N	N
Bodo	ENBO	BOO	Y	Y	Y	N	Y
Bronnoysund/Bronnoy	ENBN	BNN	N	Y	Y	Y	N
Ekofisk	ENEK		N	Y	Y	Y	N
Fagernes/Leirin	ENFG	VDB	N	Y	Y	Y	N
Farsund/Lista	ENLI		N	Y	Y	Y	N
Floro	ENFL	FRO	N	Y	Y	Y	N
Geilo/Dagali	ENDI	DLD	N	Y	Y	Y	N
Hammerfest	ENHF	HFT	N	Y	Y	Y	N
Harstad/Narvik/Evenes	ENEV	EVE	Y	Y	Y	Y	N
Haugesund/Karmoy	ENHD	HAU	N	Y	Y	Y	N
Kirkenes/Hoybuktkmoen	ENKR	KKN	Y	Y	Y	Y	N
Kristiansand/Kjevik	ENCN	KRS	Y	Y	Y	Y	N

EUR - NORWAY							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Kristiansund/Kvernberget	ENKB		N	Y	Y	Y	N
Lakselv/Banak	ENNA	LKL	Y	Y	Y	Y	N
Orland	ENOL	OLA	N	Y	Y	Y	N
Oslo/Gardermoen	ENGM		Y	Y	Y	Y	N
Roros	ENRO	RRS	N	Y	Y	Y	N
Rygge	ENRY		N	Y	Y	Y	N
Sandefjord/Torp	ENTO	TRF	Y	Y	Y	Y	N
Stavanger/Sola	ENZV	SVG	Y	Y	Y	N	Y
Svalbard/Longyear	ENSB	LYR	Y	Y	Y	N	Y
Svolvaer/Helle	ENSH	SVJ	N	Y	Y	Y	N
Tromso/Langnes	ENTC	TOS	Y	Y	Y	Y	N
Trondheim/Vaernes	ENVA	TRD	Y	Y	Y	N	Y
EUR - POLAND							
Bydgoszcz/Szwedowo	EPBY		Y	Y	Y	N	Y
Gdansk/Lech Walesa	EPGD	GDN	Y	Y	Y	N	Y
Katowice/Pyrzowice	EPKT	KTW	Y	Y	Y	Y	N
Krakow/Balice	EPKK	KRK	Y	Y	Y	N	Y
Lodz/Lublinek	EPLL		Y	Y	Y	Y	N
Poznan/Lawica	EPPO	POZ	Y	Y	Y	Y	N
Rzeszow/Jasionka	EPRZ	RZE	Y	Y	Y	Y	N
Szczecin/Goleniow	EPSC	SZZ	Y	Y	Y	Y	N
Szczytno/Szymany	EPSY		Y	N	N	N	N
Warszawa/Okecie	EPWA	WAW	Y	Y	Y	N	Y
Wroclaw/Strachowice	EPWR	WRO	Y	Y	Y	Y	N
Zielona Gora/Babimost	EPZG		Y	Y	Y	Y	N
EUR - Portugal							
Madeira and Azores) (Portugal) FARO	LPFR	FAO	Y	Y	Y	N	Y
<i>FLORES</i>	LPFL		N	Y	Y	Y	N
<i>HORTA</i>	LPHR		N	Y	Y	N	Y
<i>LAJES</i>	LPLA		N	Y	Y	N	Y
LISBOA	LPPT	LIS	Y	Y	Y	N	Y
MADEIRA	LPMA		Y	Y	Y	N	Y
PORTO	LPPR	OPO	Y	Y	Y	N	Y
PORTO SANTO	LPPS	PXO	Y	Y	Y	N	Y
EUR - REPUBLIC OF MOLDOVA							
Balti/International	LUBL		Y	Y	Y	Y	N
Cahul/International	LUCH		Y	Y	Y	Y	N
Chisinau/International	LUKK	KIV	Y	Y	Y	N	Y
EUR - ROMANIA							
Arad/Arad	LRAR	ARW	Y	Y	Y	Y	N
Bacau/Bacau	LRBC	BCM	Y	Y	Y	Y	N
Baia Mare/Tautii Magheraus	LRBM	BAY	Y	Y	Y	Y	N
Bucuresti/Baneasa-Aurel Vlaicu	LRBS	BBU	Y	Y	Y	Y	N
Bucuresti/Henri Coanda	LROP	OTP	Y	Y	Y	N	Y
Caransebes/Caransebes	LRCS	CSB	Y	Y	Y	Y	N
Cluj Napoca/Cluj Napoca	LRCL	CLJ	Y	Y	Y	Y	N

EUR - ROMANIA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Constanta/Constanta	LRCK	CND	Y	Y	Y	Y	N
Craiova/Craiova	LRCV	CRA	Y	Y	Y	Y	N
Iasi/Iasi	LRIA	IAS	Y	Y	Y	Y	N
Oradea/Oradea	LROD	OMR	Y	Y	Y	Y	N
Satu Mare/Satu Mare	LRSM	SUJ	Y	Y	Y	Y	N
Sibiu/Sibiu	LRSB	SBZ	Y	Y	Y	Y	N
Suceava/Stefan Cel Mare-Suceava	LRSV	SCV	Y	Y	Y	Y	N
Targu Mures/Vidrasau	LRTM	TGM	Y	Y	Y	Y	N
Timisoara/Traian Vuia	LRTR	TSR	Y	Y	Y	N	Y
Tulcea/Cataloi	LRTC	TCE	Y	Y	Y	N	N
EUR - RUSSIAN FEDERATION							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Abakan	UNAA	HTA	Y	Y	Y	Y	N
Anadyr/Ugolny	UHMA	DYR	Y	Y	Y	N	Y
Anapa/Vityazevo	URKA		Y	Y	Y	Y	N
Arkhangelsk/Talagi	ULAA		Y	Y	Y	Y	N
Astrakhan	URWA		Y	Y	Y	Y	N
Barnaul	UNBB	ABA	Y	Y	Y	Y	N
Begishevo	UWKE		Y	Y	Y	Y	N
Belgorod	UUOB		Y	Y	Y	Y	N
Blagoveshchensk/Ignatyev	UHBB		Y	Y	Y	Y	N
Bratsk	UIBB	BQS	Y	Y	Y	Y	N
Bryansk	UUBP		Y	Y	Y	Y	N
Cheboksary	UWKS		Y	Y	Y	Y	N
Chelyabinsk/Balandino	USCC	CEK	Y	Y	Y	Y	N
Chita/Kadala	UIAA		Y	Y	Y	N	Y
Elista	URWI		Y	Y	Y	N	N
Irkutsk	UIII	IKT	Y	Y	Y	N	Y
Kaliningrad/Khrabrovo	UMKK	KGD	Y	Y	Y	Y	N
Kazan	UWKD	KZN	Y	Y	Y	Y	N
Kemerovo	UNEE		Y	Y	Y	Y	N
Khabarovsk/Novy	UHHH	KHV	Y	Y	Y	N	Y
Kogalym	USRK		Y	Y	Y	Y	N
Krasnodar/Pashkovskiy	URKK	KRR	Y	Y	Y	Y	N
Krasnoyarsk/Yemelyanovo	UNKL	KJA	Y	Y	Y	Y	N
Kursk/Vostochny	UUOK		Y	Y	Y	Y	N
Magadan/Sokol	UHMM	GDX	Y	Y	Y	N	Y
Magnitogorsk	USCM		Y	Y	Y	N	Y
Makhachkala/Uytash	URML	MCX	Y	Y	Y	Y	N
Maykop	URKM		Y	Y	Y	Y	N
Mineralnyye Vody	URMM	MRV	Y	Y	Y	N	Y
Mirny	UERR		N	Y	Y	N	Y
Moscow/Domodovo	UUDD	DME	Y	Y	Y	N	Y
Moscow/Sheremetyevo	UUEE	SVO	Y	Y	Y	N	Y
Moscow/Vnukovo	UUWW	VKO	Y	Y	Y	N	Y
Murmansk	ULMM	MMK	Y	Y	Y	Y	N
Nadym	USMM		N	Y	Y	N	Y

EUR - RUSSIAN FEDERATION							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Nalchik	URMN		Y	Y	Y	Y	N
Naryan-Mar	ULAM		N	Y	Y	N	Y
Nerungri/Chulma	UELL		N	Y	Y	N	Y
Nikolaevsk-Na-Amure	UHNN		N	Y	Y	N	Y
Nizhnevartovsk	USNN		N	Y	Y	N	Y
Nizhny Novgorod/Strigino	UWGG	GOJ	Y	Y	Y	Y	N
Novokuznetsk/Spichenkovo	UNWW	NOZ	N	Y	Y	N	Y
Novosibirsk/Tolmachevo	UNNT	OVV	Y	Y	Y	N	Y
Omsk/Tsentralny	UNOO	OMS	Y	Y	Y	Y	N
Orenburg	UWOO	REN	Y	Y	Y	Y	N
Orsk	UWOR		Y	Y	Y	Y	N
Pechora	UUYP		N	Y	Y	N	Y
Perm/Bolshoe Savino	USPP	PEE	Y	Y	Y	Y	N
Petropavlovsk-Kamchatsky/Yelizovo	UHPP	PKC	Y	Y	Y	N	Y
Petrozavodsk/Besovets	ULPB		Y	Y	Y	Y	N
Pevek	UHMP		N	Y	Y	N	Y
Poliarny	UERP		N	Y	Y	N	Y
Provideniya Bay	UHMD		Y	Y	Y	N	Y
Pskov	ULOO		Y	Y	Y	N	Y
Raduzhny	USNR		Y	Y	Y	Y	N
Rostov-Na-Donu	URRR		Y	Y	Y	Y	N
Salekhard	USDD		N	Y	Y	N	Y
Samara/Kurumoch	UWWW	KUF	Y	Y	Y	Y	N
Sankt-Peterburg/Pulkovo	ULLI	LED	Y	Y	Y	Y	N
Saratov/Tsentralny	UWSS	RTW	Y	Y	Y	Y	N
Sochi	URSS	AER	Y	Y	Y	Y	N
Stavropol/Shpakovskoye	URMT	STW	Y	Y	Y	Y	N
Surgut	USRR	SGC	Y	Y	Y	Y	N
Syktyvkar	UUYY	SCW	Y	Y	Y	Y	N
Tiksi	UEST		N	Y	Y	N	N
Tura	UNIT		N	Y	Y	N	Y
Tver/Migalovo	UUEM		Y	Y	Y	Y	N
Tyumen/Roschino	USTR		Y	Y	Y	Y	N
Ufa	UWUU	UFA	Y	Y	Y	Y	N
Ulan-Ude/Mukhino	UIUU	UUD	Y	Y	Y	N	Y
Ulyanovsk/Vostochny	UWLW		Y	Y	Y	N	Y
Vladikavkaz/Beslan	URMO		Y	Y	Y	N	Y
Vladivostok/Knevichi	UHWW	VVO	Y	Y	Y	N	Y
Volgograd/Gumrak	URWW	VOG	Y	Y	Y	N	Y
Vorkuta	UUYW	VKT	N	Y	Y	N	Y
Voronezh/Chertovitskoye	UUOO		Y	Y	Y	N	Y
Yakutsk	UEEE	YKS	Y	Y	Y	N	Y
Yaroslavl/Tunoshna	UUDL		Y	Y	Y	N	Y
Yekaterinburg/Koltsovo	USSS	SVX	Y	Y	Y	N	Y
Yuzhno-Sakhalinsk/Khomutovo	UHSS		Y	Y	Y	N	Y

EUR - SERBIA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Beograd/Nikola Tesla	LYBE		Y	Y	Y	N	Y
Nis	LYNI		N	Y	Y	N	Y
Pristina	LYPR		N	Y	Y	Y	N
EUR - SLOVAKIA							
Bratislava/M.R.Stefanik	LZIB	BTS	Y	Y	Y	N	Y
Kosice	LZKZ	KSC	Y	Y	Y	Y	N
Nitra	LZNI		N	Y	Y	N	N
Piestany	LZPP	PZY	Y	Y	Y	Y	N
Poprad-Tatry	LZTT	TAT	Y	Y	Y	Y	N
Prievidza	LZPE		N	Y	Y	Y	N
Sliac	LZSL	SLD	Y	Y	Y	Y	N
Zilina	LZZI	ILZ	Y	Y	Y	Y	N
EUR - SPAIN							
A Coruna	LECO	LCG	Y	Y	Y	Y	N
Alicante	LEAL	ALC	Y	Y	Y	N	Y
Almeria	LEAM	LEI	Y	Y	Y	Y	N
Asturias	LEAS	OVD	Y	Y	Y	Y	N
Badajoz	LEBZ		N	Y	Y	Y	N
Barcelona	LEBL	BCN	Y	Y	Y	N	Y
Bilbao	LEBB	BIO	Y	Y	Y	Y	N
Cordoba	LEBA		N	Y	Y	Y	N
Girona	LEGE	GRO	Y	Y	Y	N	Y
Granada/Federico Lorca Granada-Jaen	LEGR	GRX	Y	Y	Y	Y	N
Ibiza	LEIB	IBZ	Y	Y	Y	N	Y
Jerez	LEJR	XRY	Y	Y	Y	Y	N
Leon	LELN		Y	Y	Y	N	N
Madrid/Barajas	LEMD	MAD	Y	Y	Y	N	Y
Madrid/Cuatro Vientos (Civ)	LECU		Y	Y	Y	Y	N
Madrid/Cuatro Vientos (Mil)	LEVS		N	Y	Y	Y	N
Madrid/Torrejon	LETO		N	Y	Y	Y	N
Malaga	LEMG	AGP	Y	Y	Y	N	Y
Menorca	LEMH	MAH	Y	Y	Y	Y	N
Murcia/San Javier	LELC	MJV	Y	Y	Y	Y	N
Palma De Mallorca	LEPA	PMI	Y	Y	Y	N	Y
Pamplona	LEPP		N	Y	Y	Y	N
Reus	LERS	REU	Y	Y	Y	Y	N
Sabadell	LELL	QSA	Y	Y	Y	N	Y
Salamanca	LESA		Y	Y	Y	Y	N
San Sebastian	LESO	EAS	Y	Y	Y	Y	N
Santander	LEXJ	SDR	Y	Y	Y	Y	N
Santiago	LEST	SCQ	Y	Y	Y	N	Y
Sevilla	LEZL	SVQ	Y	Y	Y	N	Y
Valencia	LEVC	VLC	Y	Y	Y	N	Y
Valladolid	LEVD	VLL	Y	Y	Y	Y	N
Vigo	LEVX	VGO	Y	Y	Y	Y	N
Vitoria	LEVT	VIT	Y	Y	Y	N	Y
Zaragoza	LEZG	ZAZ	Y	Y	Y	N	Y

EUR - SWEDEN							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Angelholm	ESTA		Y	Y	Y	Y	N
Are Ostersund	ESNZ		Y	N	N	N	N
Arvidsjaur	ESNX		Y	N	N	N	N
Borlange	ESSD	BLE	Y	Y	Y	Y	N
<i>Gallivare</i>	ESNG		N	Y	Y	Y	N
Goteborg/Landvetter	ESGG	GOT	Y	Y	Y	N	Y
Goteborg/Save	ESGP	GSE	Y	Y	Y	Y	N
<i>Halmstad</i>	ESMT	HAD	N	Y	Y	Y	N
Jonkoping	ESGJ	JKG	Y	Y	Y	Y	N
Kalmar	ESMQ	KLR	Y	Y	Y	Y	N
Karlstad	ESOK		Y	Y	Y	Y	N
Kiruna	ESNQ	KRN	Y	Y	Y	Y	N
<i>Kramfors-Solleftea</i>	ESNK	KRF	N	Y	Y	Y	N
Kristianstad	ESMK	KID	Y	Y	Y	Y	N
Linkoping/Saab	ESSL	LPI	Y	Y	Y	Y	N
<i>Ljungbyhed</i>	ESTL		N	Y	Y	Y	N
Lulea/Kallax	ESPA	LLA	Y	Y	Y	Y	N
Lycksele	ESNL	LYL	N	Y	Y	N	N
Malmo/Sturup	ESMS	MMX	Y	Y	Y	N	Y
Norrkoping/KungsangenP	ESSP	NRK	Y	Y	Y	Y	N
Orebro	ESOE	ORB	Y	Y	Y	Y	N
Ornskoldsvik Y C P	ESNO	OER	N	Y	Y	Y	N
Ronneby	ESDF	RNB	Y	Y	Y	Y	N
Skelleftea	ESNS	SFT	Y	Y	Y	Y	N
Stockholm/Arlanda	ESSA	ARN	Y	Y	Y	N	Y
Stockholm/Bromma	ESSB	BMA	Y	Y	Y	Y	N
Stockholm/Skavsta	ESKN	NYO	Y	Y	Y	N	Y
Stockholm/Vasteras	ESOW	VST	Y	Y	Y	Y	N
Storumam	ESUD		N	Y	Y	N	N
Sundsvall-Harnosand	ESNN	SDL	Y	Y	Y	Y	N
Trollhattan-Vanersborg	ESGT	THN	Y	Y	Y	Y	N
Umea	ESNU	UME	Y	Y	Y	Y	N
Vaxjo/Kronoberg	ESMX	VXO	Y	Y	Y	Y	N
Visby	ESSV	VBY	Y	Y	Y	Y	N
EUR - SWITZERLAND							
Bern-Belp	LSZB	BRN	Y	Y	Y	Y	N
Buochs	LSZC		Y	Y	Y	Y	N
Geneve	LSGG	GVA	Y	Y	Y	N	Y
Grenchen	LSZG	ZHI	Y	Y	Y	N	Y
Lausanne-La Blecherette	LSGL		N	Y	Y	N	N
Les Eplatures	LSGC		Y	Y	Y	N	N
Locarno	LSZL	ZJI	Y	Y	Y	N	N
Lugano	LSZA	LUG	Y	Y	Y	Y	N
Samedan	LSZS	SMV	Y	Y	Y	Y	N
Sion	LSGS	SIR	Y	Y	Y	N	Y
St. Gallen-Altenrhein	LSZR	QGL	Y	Y	Y	N	Y
Zurich Flughafen	LSZH	ZRH	Y	Y	Y	N	Y

EUR - TAJIKISTAN							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Dushanbe	UTDD	DYU	Y	Y	Y	N	Y
Khudzhand	UTDL		N	Y	Y	Y	N
EUR - THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA							
Ohrid	LWOH		Y	Y	Y	Y	N
Skopje	LWSK		Y	Y	Y	Y	N
EUR - TURKEY							
Adana	LTAF	ADA	Y	Y	Y	N	Y
Ankara/Esenboga	LTAC	ESB	Y	Y	Y	N	Y
Antalya (Civ/Mil)	LTAI	AYT	Y	Y	Y	N	Y
Batman (Mil-Civ)	LTCJ		N	Y	Y	N	Y
Bursa/Yenisehir (Mil-Civ)	LTBR		Y	Y	Y	N	Y
Elazig (Mil-Civ)	LTCA		N	Y	Y	N	Y
Erzurum (Civ/Mil)	LTCE	ERZ	Y	Y	Y	N	Y
Gaziantep	LTAJ	GZT	Y	Y	Y	N	Y
Isparta/S.Demirel	LTFC		Y	Y	Y	N	Y
Istanbul/Ataturk	LTBA	IST	Y	Y	Y	N	Y
Istanbul/Sabiha Gokcen	LTFJ		Y	Y	Y	N	Y
Izmir/Adnan Menderes	LTBJ	ADB	Y	Y	Y	N	Y
EUR - TURKEY							
Kars	LTCF		Y	Y	Y	N	N
Kayseri/Erkilet (Mil-Civ)	LTAU		Y	Y	Y	N	Y
Konya (Mil-Civ)	LTAN	KYA	Y	Y	Y	N	Y
Mugla/Dalaman (Mil.Civ.)	LTBS	DLM	Y	Y	Y	N	Y
Mugla/Milas-Bodrum	LTFE		Y	Y	Y	N	Y
Nevsehir/Kapadokya	LTAZ		Y	Y	Y	N	Y
Samsun/Carsamba	LTFH		Y	Y	Y	N	Y
Tekirdag/Corlu (Mil)	LTBU		Y	Y	Y	N	Y
Trabzon	LTCG	TZX	Y	Y	Y	N	Y
Van/ Ferit Melen	LTCI	VAN	Y	Y	Y	N	Y
EUR - TURKMENISTAN							
Ashgabat	UTAA	ASB	Y	Y	Y	N	Y
Dashoguz	UTAT		Y	Y	Y	Y	N
Turkmenabat	UTAV	CRZ	N	Y	Y	Y	N
Turkmenbashi	UTAK		Y	Y	Y	Y	N
EUR - UKRAINE							
Cherkasy	UKKE		Y	Y	Y	Y	N
Chernivtsi	UKLN		Y	Y	Y	N	Y
Dnipropetrovs'k	UKDD	DNK	Y	Y	Y	N	Y
Donets'k	UKCC		Y	Y	Y	N	Y
Hostomel	UKKM		Y	Y	Y	N	Y
Ivano-Frankivs'k	UKLI	IFO	Y	Y	Y	N	Y
Kharkiv	UKHH		Y	Y	Y	N	Y
Kryvyi Rih	UKDR	KWG	Y	Y	Y	N	Y
Kyiv/Boryspil	UKBB	KBP	Y	Y	Y	N	Y
Kyiv/Zhulyany	UKKK	IEV	Y	Y	Y	N	Y

EUR - UKRAINE							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Luhans'k	UKCW		Y	Y	Y	N	Y
L'viv	UKLL	LWO	Y	Y	Y	N	Y
Mykolaiv	UKON		Y	Y	Y	N	Y
Odesa	UKOO	ODS	Y	Y	Y	N	Y
Rivne	UKLR	RWN	Y	Y	Y	N	Y
Simferopol	UKFF	SIP	Y	Y	Y	N	Y
Uzhhorod	UKLU	UDL	Y	Y	Y	Y	N
Zaporizhzhia	UKDE		Y	Y	Y	Y	N
EUR - UNITED KINGDOM							
Aberdeen	EGPD	ABZ	Y	Y	Y	N	Y
Alderney	EGJA	ACI	N	Y	Y	Y	N
Belfast/Aldergrove	EGAA	BFS	Y	Y	Y	N	Y
Belfast/City	EGAC	BHD	Y	Y	Y	N	Y
Benbecula	EGPL	BEB	N	Y	Y	Y	N
Biggin Hill	EGKB	BHQ	Y	Y	Y	Y	N
Birmingham	EGBB	BHX	Y	Y	Y	Y	N
Blackpool	EGNH	BLK	Y	Y	Y	Y	N
Bournemouth	EGHH	BOH	Y	Y	Y	Y	N
Bristol	EGGD	BRS	Y	Y	Y	Y	N
Bristol Filton	EGTG	FZO	N	Y	Y	Y	N
Brize Norton	EGVN	BZZ	Y	Y	Y	N	Y
Cambridge	EGSC	CBG	N	Y	Y	Y	N
Campbeltown	EGEC		N	Y	Y	Y	N
Cardiff	EGFF	CWL	Y	Y	Y	N	Y
Carlisle	EGNC	CAX	Y	Y	Y	Y	N
Coventry	EGBE	CVT	N	Y	Y	N	Y
Cranfield	EGTC		Y	Y	Y	Y	N
Doncaster Sheffield	EGCN		N	Y	Y	Y	N
Dundee	EGPN	PND	N	Y	Y	Y	N
Durham Tees Valley	EGNV		Y	Y	Y	Y	N
Edinburgh	EGPH	EDI	Y	Y	Y	N	Y
Exeter	EGTE	EXT	Y	N	N	N	N
Farnborough	EGLF	FAB	N	Y	Y	Y	N
Glasgow	EGPF	GLA	Y	Y	Y	N	Y
Glasgow Prestwick	EGPK	PIK	Y	Y	Y	N	Y
Gloucestershire	EGBJ	GLO	Y	Y	Y	Y	N
Guernsey	EGJB	GCI	Y	Y	Y	Y	N
Hawarden	EGNR		Y	Y	Y	Y	N
Humberside	EGNJ	HUY	Y	Y	Y	Y	N
Inverness	EGPE	ZIV	N	Y	Y	Y	N
Islay	EGPI		N	Y	Y	Y	N
Isle Of Man	EGNS	IOM	Y	Y	Y	N	N
Jersey	EGJJ	JER	Y	Y	Y	Y	N
Kirkwall	EGPA	KOI	Y	Y	Y	Y	N
Leeds Bradford	EGNM	LBA	Y	Y	Y	N	Y
Liverpool	EGGP	LPL	Y	Y	Y	N	Y
London Gatwick	EGKK	LGW	Y	Y	Y	N	Y

EUR - UNITED KINGDOM							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
London Heathrow	EGLL	LHR	Y	Y	Y	N	Y
London Luton	EGGW	LTN	Y	Y	Y	N	Y
London Stansted	EGSS	STN	Y	Y	Y	N	Y
London/City	EGLC	LCY	Y	Y	Y	Y	N
Londonderry/Eglinton	EGAE	LDY	N	Y	Y	N	N
Lydd	EGMD	LYX	Y	Y	Y	Y	N
Lyneham	EGDL	LYE	N	Y	Y	N	Y
Manchester	EGCC	MAN	Y	Y	Y	Y	N
Manston	EGMH	MSE	N	Y	Y	Y	N
Mildenhall	EGUN		N	Y	Y	N	N
Newcastle	EGNT	NCL	Y	Y	Y	N	Y
Northolt	EGWU	NHT	N	Y	Y	N	Y
Norwich	EGSH	NWI	Y	Y	Y	Y	N
Nottingham East Midlands	EGNX	EMA	Y	Y	Y	N	Y
Penzance Heliport	EGHK		Y	Y	Y	N	N
Plymouth	EGHD	PLH	Y	Y	Y	Y	N
Scatsta	EGPM	SCS	N	Y	Y	Y	N
Scilly Isles/St Mary's	EGHE	ISC	Y	Y	Y	Y	N
Shoreham	EGKA	ESH	Y	Y	Y	Y	N
Southampton	EGHI	SOU	Y	Y	Y	Y	N
Southend	EGMC	SEN	Y	Y	Y	Y	N
St. Mawgan	EGDG		N	Y	Y	N	Y
Stornoway	EGPO	SYT	N	Y	Y	N	Y
Sumburgh	EGPB	LSI	Y	Y	Y	Y	N
Tiree	EGPU	TRE	N	Y	Y	Y	N
Wick	EGPC	WIC	N	Y	Y	Y	N
Wickenby	EGNW		N	Y	Y	N	Y
EUR - UZBEKISTAN							
Bukhara	UTSB		Y	Y	Y	N	Y
Fergana	UTFF		N	Y	Y	N	Y
Karshi	UTSK		N	Y	Y	N	Y
Nukus	UTNN	NCU	N	Y	Y	N	Y
Samarkand	UTSS	SKD	Y	Y	Y	N	Y
Tashkent/Yuzhny	UTTT	TAS	Y	Y	Y	N	Y
Termez	UTST		Y	Y	Y	N	Y
Urgench	UTNU	UGC	Y	Y	Y	N	Y

ANNEX 1 – MID

MID - AFGHANISTAN							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Kabul International Airport	OAKB	KBL	Y	Y	Y	N	Y
Kandahar	OAKN	KDH	Y	Y	Y	N	Y
MID - BAHRAIN							
Bahrain International	OBBI	BAH	Y	Y	Y	N	Y
MID - IRAN (ISLAMIC REPUBLIC OF)							
Abadan	OIAA	ABD	N	Y	Y	N	Y
Bandar Abbass/Intl	OIKB	BND	Y	Y	Y	N	Y
Esfahan / Shahid Beheshti Intl	OIFM	EFN	Y	Y	Y	N	Y
Mashhad/Shahid Hashemi Nejad Intl	OIMM	MHD	Y	Y	Y	N	Y
Shiraz/Shahid Dastghaib Intl	OISS	SYZ	Y	Y	Y	N	Y
Tabriz/Intl	OITT	TBZ	Y	Y	Y	N	Y
Tehran/Imam Khomains Intl	OIIE		Y	Y	Y	N	Y
Tehran/Mehrabad Intl	OIII	THR	Y	Y	Y	N	Y
Uromiyeh	OITR		N	Y	Y	N	Y
Zahedan/Intl	OIZH	ZAH	Y	Y	Y	N	Y
MID - IRAQ							
Baghdad International Airport	ORBI	SDA	Y	Y	Y	N	Y
Basrah Intl Airport	ORMM	BSR	Y	Y	Y	N	Y
Erbil Intl Airport	ORER		Y	Y	Y	N	Y
Sulaymaniyah International Airport	ORSU		Y	Y	Y	N	Y
MID - ISRAEL							
Beer-Sheba/Teyman Airstrip	LLBS	BEV	N	Y	Y	Y	N
Eilat/J. Hozman Airport	LLET	ETH	Y	Y	Y	Y	N
Haifa/U. Michaeli Airport	LLHA		Y	Y	Y	N	Y
Ovda Airport	LLOV	VDA	Y	Y	Y	Y	N
Tel-Aviv/Ben Gurion Airport	LLBG	TLV	Y	Y	Y	N	Y
Tel-Aviv/Sde-Dov Airport	LLSD						
MID - JORDAN							
Amman/Marka	OJAM	ADJ	Y	Y	Y	N	Y
Amman/Queen Alia	OJAI	AMM	Y	Y	Y	N	Y
Aqaba/King Hussein International Airport	OJAQ	AQJ	Y	Y	Y	N	N
Jerusalem/Jerusalem	OJJR		Y	N	N	N	N
MID - KUWAIT							
Kuwait/Intl Airport	OKBK	KWI	Y	Y	Y	N	Y
MID - LEBANON							
Beirut/Beirut Intl	OLBA	BEY	Y	Y	Y	N	Y
MID - OMAN							
Masirah Y	OOMA	MSH	N	Y	Y	N	Y
Muscat/Seeb Intl	OOMS	MCT	Y	Y	Y	N	Y
Salalah	OOSA	SLL					
MID - QATAR							
Doha International	OTBD	DOH	Y	Y	Y	N	Y
MID - SAUDI ARABIA							
Abha	OEAB	AHB	N	Y	Y	N	Y
Al-Baha	OEBA	ABT	N	Y	Y	N	Y
Al-Jouf	OESK	AJF	N	Y	Y	N	Y
Arar	OERR	RAE	N	Y	Y	N	Y

MID - SAUDI ARABIA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Bisha	OEBH	BHH	N	Y	Y	N	Y
Dammam/King Fahd International	OEDF		Y	Y	Y	N	Y
Gassim	OEGS	ELQ	N	Y	Y	N	Y
Guriat	OEGT		N	Y	Y	N	Y
Hail	OEHL	HAS	N	Y	Y	N	Y
Jazan/King Abdullah Bin Abdulaziz	OEGN		N	Y	Y	N	Y
Jeddah/King Abdulaziz Intl	OEJN	JED	Y	Y	Y	N	Y
Jubail	OEJB	QJB	N	Y	Y	N	Y
Madinah/Prince Mohammad Bin Abdulaziz Intl	OEMA	MED	Y	Y	Y	N	Y
Nejran	OENG		N	Y	Y	N	Y
Qaisumah/Hafr Al-Batin	OEPA		N	Y	Y	N	Y
Rafha	OERF		N	Y	Y	N	Y
Riyadh/King Khaled Intl	OERK	RUH	Y	Y	Y	N	Y
Sharurah	OESH	SHW	N	Y	Y	N	Y
Tabuk	OETB		N	Y	Y	N	Y
Taif	OETF	TIF	N	Y	Y	N	Y
Turaif	OETR		N	Y	Y	N	Y
Wadi Al-Dawasir	OEWD		N	Y	Y	N	Y
Wejh	OEWJ		N	Y	Y	N	Y
Yenbo	OEYN		N	Y	Y	N	Y
MID - SYRIAN ARAB REPUBLIC							
Aleppo/Intl	OSAP	ALP	Y	Y	Y	N	Y
Bassel Al-Assad/Intl. Lattakia	OSLK	LTK	Y	Y	Y	N	Y
Damascus/Intl	OSDI	DAM	Y	Y	Y	N	Y
MID - UNITED ARAB EMIRATES							
Abu Dhabi International	OMAA	AUH	Y	Y	Y	N	Y
Al Ain	OMAL	AAN	Y	Y	Y	N	Y
Dubai International	OMDB	DXB	Y	Y	Y	N	Y
Fujairah International	OMFJ		Y	Y	Y	N	Y
Jebel Ali International	OMJA		Y	N	N	N	N
Ras Al Khaimah International	OMRK	RKT	Y	Y	Y	N	Y
Sharjah International	OMSJ	SHJ	Y	Y	Y	N	Y
MID - YEMEN							
Aden/Intl	OYAA	ADE	Y	Y	Y	N	Y
Hodeidah	OYHD	HOD	Y	Y	Y	N	Y
Mukalla/Intl	OYRN		Y	Y	Y	N	Y
Sanaa/Intl	OYSN	SAH	N	Y	Y	N	Y
Sayun/Intl	OYSY		N	Y	Y	N	Y
Taiz/Intl	OYTZ	TAI	Y	Y	Y	N	Y

ANNEX 1 – NAM

NAM - CANADA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Abbotsford, B.C.	CYXX	YXX	Y	Y	Y	N	Y
Alert, N.W.T.	CYLT	YLT	N	Y	Y	N	Y
Arviat, N.W.T.	CYEK	YEK	N	Y	Y	N	Y
Aupaluk, Que.	CYLA	YLA	N	Y	Y	N	Y
Bagotville, Que.	CYBG	YBG	N	Y	Y	N	Y
Baie Comeau, Que.	CYBC	YBC	N	Y	Y	N	Y
Baker Lake, N.W.T.	CYBK	YBK	N	Y	Y	N	Y
Bella Coola, B.C.	CYBD	YBD	N	Y	Y	N	Y
Berens River, Man.	CYBV	YBV	N	Y	Y	N	Y
Big Trout Lake, Ont.	CYTL	YTL	N	Y	Y	N	Y
Brandon, Man.	CYBR	YBR	N	Y	Y	N	Y
Broughton Island, N.W.T.	CYVM	YVM	N	Y	Y	N	Y
Buffalo Narrows, Sask.	CYVT	YVT	N	Y	Y	N	Y
Burwash, Y.T.	CYDB	YDB	N	Y	Y	N	Y
Calgary Intl, Alta.	CYYC	YYC	Y	Y	Y	N	Y
Calgary/Springbank, Alta.	CYBW	YBW	N	Y	Y	N	Y
Cambridge Bay, N.W.T	CYCB	YCB	N	Y	Y	N	Y
Campbell River, B.C.	CYBL	YBL	N	Y	Y	N	Y
Cape Dorset, N.W.T.	CYTE	YTE	N	Y	Y	N	Y
Castlegar, B.C.	CYCG	YCG	N	Y	Y	N	Y
Charlo, N.B.	CYCL	YCL	N	Y	Y	N	Y
Charlottetown, P.E.I.	CYYG	YYG	N	Y	Y	N	Y
Chibougamou/Chapais, Que.	CYMT	YMT	N	Y	Y	N	Y
Churchill, Man.	CYYQ	YYQ	N	Y	Y	N	Y
Clyde River, N.W.T.	CYCY	YCY	N	Y	Y	N	Y
Cold Lake, Alta	CYOD	YOD	N	Y	Y	N	Y
Comox, B.C.	CYQQ	YQQ	Y	Y	Y	N	Y
Coral Harbour, N.W.T.	CYZS	YZS	N	Y	Y	N	Y
Cranbrook, B.C.	CYXC	YXC	N	Y	Y	N	Y
Dauphin, Man.	CYDN	YDN	N	Y	Y	N	Y
Dawson Creek, B.C.	CYDQ	YDQ	N	Y	Y	N	Y
Dawson, Y.T.	CYDA	YDA	N	Y	Y	N	Y
Deer Lake, Nfld.	CYDF	YDF	N	Y	Y	N	Y
Dryden Regional, Ont.	CYHD	YHD	N	Y	Y	N	Y
Edmonton Intl, Alta.	CYEG	YEG	Y	Y	Y	N	Y
Edmonton Muni, Alta.	CYXD	YXD	N	Y	Y	N	Y
Elliot Lake Muni, Ont.	CYEL	YEL	N	Y	Y	N	Y
Eureka, N.W.T.	CYEU	YEU	N	Y	Y	N	Y
Flin Flon, Man.	CYFO	YFO	N	Y	Y	N	Y
Fort Chipewyan, Alta.	CYPY	YPY	N	Y	Y	N	Y
Fort McMurray, Alta.	CYMM	YMM	N	Y	Y	N	Y
Fort Nelson, B.C.	CYYE	YYE	N	Y	Y	N	Y

NAM - CANADA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Fort Simpson, N.W.T.	CYFS	YFS	N	Y	Y	N	Y
Fort Smith, N.W.T.	CYSM	YSM	N	Y	Y	N	Y
Fort St John, B.C.	CYXJ	YXJ	N	Y	Y	N	Y
Fredericton, N.B.	CYFC	YFC	N	Y	Y	N	Y
Gander Intl, Nfld.	CYQX	YQX	Y	Y	Y	N	Y
Gaspe, Que.	CYGP	YGP	N	Y	Y	N	Y
Geraldton, Ont.	CYGQ	YGQ	N	Y	Y	N	Y
Gillam, Man.	CYGX	YGX	N	Y	Y	N	Y
Gjoa Haven, N.W.T.	CYHK	YHK	N	Y	Y	N	Y
Goose Bay/Goose, Nfld.	CYYR	YYR	Y	Y	Y	N	Y
Gore Bay-Manitoulin, Ont.	CYZE	YZE	N	Y	Y	N	Y
Grande Prairie, Alta.	CYQU	YQU	N	Y	Y	N	Y
Greenwood, N.S.	CYZX	YZX	N	Y	Y	N	Y
Halifax Intl, N.S.	CYHZ	YHZ	Y	Y	Y	N	Y
Halifax/Shearwater, N.S.	CYAW	YAW	N	Y	Y	N	Y
Hall Beach, N.W.T.	CYUX	YUX	N	Y	Y	N	Y
Hamilton, Ont.	CYHM	YHM	N	Y	Y	N	Y
Havre St-Pierre, Que.	CYGV	YGV	N	Y	Y	N	Y
Hay River, Y.T.	CYHY	YHY	N	Y	Y	N	Y
High Level, Alta.	CYOJ	YOJ	N	Y	Y	N	Y
Holman, N.W.T.	CYHI	YHI	N	Y	Y	N	Y
Hope, B.C.	CYHE	YHE	N	Y	Y	N	Y
Igloolik, N.W.T.	CYGT	YGT	N	Y	Y	N	Y
Iles-De-La-Madeleine, Que.	CYGR	YGR	N	Y	Y	N	Y
Inuvik (Mike Zubko) N.W.T.	CYEV	YEV	N	Y	Y	N	Y
Iqaluit, N.W.T.	CYFB	YFB	Y	Y	Y	N	Y
Island Lake, Man.	CYIV	YIV	N	Y	Y	N	Y
Kamloops, B.C.	CYKA	YKA	N	Y	Y	N	Y
Kangirsuk, Que.	CYAS	YAS	N	Y	Y	N	Y
Kapuskasing, Ont.	CYYU	YYU	N	Y	Y	N	Y
Kelowna, B.C.	CYLW	YLW	N	Y	Y	N	Y
Kenora, Ont.	CYQK	YQK	N	Y	Y	N	Y
Kitchener/Waterloo Regional, Ont.	CYKF	YKF	N	Y	Y	N	Y
Koala Nwt	CYOA	YOA	N	Y	Y	N	Y
Kugluktuk, N.W.T.	CYCO	YCO	N	Y	Y	N	Y
Kuujuuaq, Que.	CYVP	YVP	N	Y	Y	N	Y
Kuujuarapik, Que.	CYGW	YGW	N	Y	Y	N	Y
La Grande Riviere, Que.	CYGL	YGL	N	Y	Y	N	Y
La Grande-3, Que.	CYAD	YAD	N	Y	Y	N	Y
La Grande-4, Que.	CYAH	YAH	N	Y	Y	N	Y
La Ronge, Sask.	CYVC	YVC	N	Y	Y	N	Y
Lethbridge, Alta.	CYQL	YQL	N	Y	Y	N	Y
Lloydminster, Alta.	CYLL	YLL	N	Y	Y	N	Y
London, Ont.	CYXU	YXU	N	Y	Y	N	Y

NAM - CANADA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Lourdes-De-Blanc-Sablon, Que	CYBX	YBX	N	Y	Y	N	Y
Lupin, N.W.T.	CYWO	YWO	N	Y	Y	N	Y
Lynn Lake, Man.	CYYL	YYL	N	Y	Y	N	Y
Mackenzie, B.C.	CYZY	YZY	N	Y	Y	N	Y
Matagami, Que.	CYNM	YNM	N	Y	Y	N	Y
Meadow Lake, Sask.	CYLJ	YLJ	N	Y	Y	N	Y
Medicine Hat, Alta.	CYXH	YXH	N	Y	Y	N	Y
Miramichi Airport	CYCH	YCH	N	Y	Y	N	Y
Moncton, N.B.	CYQM	YQM	N	Y	Y	N	Y
Mont-Joli, Que.	CYYY	YYY	N	Y	Y	N	Y
Montreal Intl (Mirabel), Que.	CYMX	YMX	Y	Y	Y	N	Y
Montreal/Pierre Elliot Trudeau International Airport	CYUL	YUL	Y	Y	Y	N	Y
Montreal/St-Hubert, Que	CYHU	YHU	N	Y	Y	N	Y
Moose Jaw, Sask.	CYMJ	YMJ	N	Y	Y	N	Y
Moosonee, Ont.	CYMO	YMO	N	Y	Y	N	Y
Muskoka, Ont.	CYQA	YQA	N	Y	Y	N	Y
Nanaimo, B.C.	CYCD	YCD	N	Y	Y	N	Y
Nanisivik, N.W.T.	CYSR	YSR	N	Y	Y	N	Y
Natashquan, Que.	CYNA	YNA	N	Y	Y	N	Y
Norman Wells, N.W.T.	CYVQ	YVQ	N	Y	Y	N	Y
North Battleford(Cameron Mcintosh),Sask.	CYQW	YQW	N	Y	Y	N	Y
North Bay, Ont.	CYYB	YYB	N	Y	Y	N	Y
Norway House, Man.	CYNE	YNE	N	Y	Y	N	Y
Ottawa/Gatineau, Que.	CYND	YND	N	Y	Y	N	Y
Ottawa/Macdonald-Cartier Intl, Ont.	CYOW	YOW	Y	Y	Y	N	Y
Paulatuk, N.W.T.	CYPC	YPC	N	Y	Y	N	Y
Peace River, Alta.	CYPE	YPE	N	Y	Y	N	Y
Pelly Bay (Town Site), N.W.T.	CYBB	YBB	N	Y	Y	N	Y
Penticton, B.C.	CYYF	YYF	N	Y	Y	N	Y
Peterborough, Ont.	CYPQ	YPQ	N	Y	Y	N	Y
Pickle Lake, Ont.	CYPL	YPL	N	Y	Y	N	Y
Pond Inlet, N.W.T.	CYIO	YIO	N	Y	Y	N	Y
Port Hardy, B.C.	CYZT	YZT	N	Y	Y	N	Y
Portage La Prairie/Southport, Man.	CYPG	YPG	N	Y	Y	N	Y
Powell River, B.C.	CYPW	YPW	N	Y	Y	N	Y
Prince Albert, Sask.	CYPA	YPA	N	Y	Y	N	Y
Prince George, B.C.	CYXS	YXS	N	Y	Y	N	Y
Prince Rupert, B.C.	CYPR	YPR	N	Y	Y	N	Y
Puvirnituq, Que.	CYPX	YPX	N	Y	Y	N	Y
Quebec/Jean Lesage Intl, Que.	CYQB	YQB	N	Y	Y	N	Y
Riviere-Du-Loup, Que.	CYRI	YRI	N	Y	Y	N	Y
Saint John, N.B.	CYSJ	YSJ	N	Y	Y	N	Y
Saskatoon/John G. Diefenbaker, Sask.	CYXE	YXE	N	Y	Y	N	Y

NAM - CANADA							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Schefferville, Que.	CYKL	YKL	N	Y	Y	N	Y
Sept-Iles, Que.	CYZV	YZV	N	Y	Y	N	Y
St. John's Intl, Nfld.	CYYT	YYT	Y	Y	Y	N	Y
Stephenville, Nfld.	CYJT	YJT	N	Y	Y	N	Y
Sydney, N.S.	CYQY	YQY	N	Y	Y	N	Y
Thunder Bay, Ont.	CYQT	YQT	N	Y	Y	N	Y
Toronto/Lester B. Pearson Intl, Ont.	CYYZ	YYZ	Y	Y	Y	N	Y
Trenton, Ns	CYTN	YTN	N	Y	Y	N	Y
Val-D'or, Que.	CYVO	YVO	N	Y	Y	N	Y
Vancouver Intl, B.C.	CYVR	YVR	Y	Y	Y	N	Y
Victoria Intl, B.C.	CYYJ	YYJ	Y	Y	Y	N	Y
Wabush, Nfld.	CYWK	YWK	N	Y	Y	N	Y
Whitehorse,	CYXY	YXY	N	Y	Y	N	Y
Windsor, Ont.	CYQG	YQG	Y	Y	Y	N	Y
Winnipeg Intl, Man.	CYWG	YWG	Y	Y	Y	N	Y
Yellowknife, N.W.T.	CYZF	YZF	N	Y	Y	N	Y
NAM - FRANCE							
Saint Pierre	LFVP		N	Y	Y	Y	N
NAM - NORTHERN MARIANA ISLANDS (UNITED STATES)							
West Tinian, Tinian Island	PGWT		N	Y	Y	N	Y
NAM - UNITED STATES							
Aberdeen Regional, Sd.	KABR	ABR	N	Y	Y	N	Y
Aberdeen/Phillips Aaf Proving Ground, Md.	KAPG	APG	N	Y	Y	N	Y
Abilene/Regional, Tx.	KABI	ABI	N	Y	Y	N	Y
Akron, Oh.	KAKR	AKR	N	Y	Y	N	Y
Akron-Canton Regional, Oh.	KCAK	CAK	N	Y	Y	N	Y
Albany County, Ny.	KALB	ALB	N	Y	Y	N	Y
Albuquerque/Intl, Nm.	KABQ	ABQ	N	Y	Y	N	Y
Alexandria/Chandler Field, Mn.	KAXN	AXN	N	Y	Y	N	Y
Alexandria/England Afb, La	KAEX	AEX	N	Y	Y	N	Y
Alexandria/Esler Regional La	KESF	ESF	N	Y	Y	N	Y
Alice/Intl, Tx.	KALI	ALI	N	Y	Y	N	Y
Allentown-Bethlehem-Easton, Pa.	KABE	ABE	N	Y	Y	N	Y
Alpena County Regional, Mi.	KAPN	APN	N	Y	Y	N	Y
Alton/St Louis Regional, Il.	KALN	ALN	N	Y	Y	N	Y
Altoona-Blair County, Pa.	KAOO	AOO	N	Y	Y	N	Y
Amarillo Intl, Tx.	KAMA	AMA	N	Y	Y	N	Y
Anderson County, Sc.	KAND	AND	N	Y	Y	N	Y
Anniston Metropolitan, Al.	KANB	ANB	N	Y	Y	N	Y
Arcata/Eureka, Ca.	KACV	ACV	N	Y	Y	N	Y
Asheville Regional, Nc.	KAVL	AVL	N	Y	Y	N	Y
Aspen-Pitkin Co/Sardy Field, Co.	KASE	ASE	N	Y	Y	N	Y
Athens/Ben Epps, Ga.	KAHN	AHN	N	Y	Y	N	Y
Atlanta/De Kalb-Peachtree, Ga.	KPDK	PDK	N	Y	Y	N	N
Atlanta/Fulton County-Brown, Ga.	KFTY	FTY	N	Y	Y	N	Y
Atlantic City/Intl, Nj.	KACY	ACY	N	Y	Y	N	Y
Augusta/Bush Field, Ga.	KAGS	AGS	N	Y	Y	N	Y
Aurora/Buckley Angb, Co	KBKF	BKF	N	Y	Y	N	Y

NAM - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Austin/Robert Mueller Municipal,Tx.	KAUS	BSM	N	Y	Y	N	Y
Baker/Muni,Or.	KBKE	BKE	N	Y	Y	N	Y
Bakersfield/Meadows Field, Ca.	KBFL	BFL	N	Y	Y	N	Y
Baltimore/Martin State,Md.	KMTN	MTN	N	Y	Y	N	Y
Baltimore-Washington I. Thurgood Marshall, Md.	KBWI	BWI	Y	Y	Y	N	Y
Bangor International, Me.	KBGR	BGR	Y	Y	Y	N	Y
Baton Rouge Metropolitan/Ryan Field,La.	KBTR	BTR	N	Y	Y	N	Y
Battle Creek/W.K.Kellogg,Mi.	KBTL	BTL	N	Y	Y	N	Y
Baudette Intl, Mn.	KBDE	BDE	N				
Beaumont Port-Arthur/Jefferson County, Tx.	KBPT	BPT	N	Y	Y	N	Y
Beckley/Raleigh County Memorial, Wv.	KBKW	BKW	N	Y	Y	N	Y
Bedford/Laurence G.Hanscom Field,Ma.	KBED	BED	N	Y	Y	N	Y
Bellingham/Intl, Wa.	KBLI	BLI	N	Y	Y	N	Y
Beverly/Muni,Ma.	KBVY	BVY	N	Y	Y	N	Y
Billings Logan Intl,Mt.	KBIL	BIL	N	Y	Y	N	Y
Binghamton Regional/Edwin A Linkfield,Ny.	KBGM	BGM	N	Y	Y	N	Y
Birmingham, Al.	KBHM	BHM	N	Y	Y	N	Y
Bismarck Muni,Nd.	KBIS	BIS	N	Y	Y	N	Y
Boise Air Terminal/Gowen Fld ,Id.	KBOI	BOI	N	Y	Y	N	Y
Boston/General Edward Lawrence Logan Intl, Ma.	KBOS	BOS	Y	Y	Y	N	Y
Bozeman Mt.Gallatin Fld.	KBZN	BZN	N	Y	Y	N	Y
Bradford Regional,Pa.	KBFD	BFD	N	Y	Y	N	Y
Bradley International, Ct.	KBDL	BDL	Y	Y	Y	N	Y
Bridgeport/Igor I Sikorsky Memorial,Ct.	KBDR	BDR	N	Y	Y	N	Y
Bristol-Kingsport-Johnson City/Tri City Rgnal,Tn.	KTRI	TRI	N	Y	Y	N	Y
Brownsville/South Padre Is. Intl, Tx.	KBRO	BRO	Y	Y	Y	N	Y
Brunswick/Glynco Jetport,Ga.	KBQK	BQK	N	Y	Y	N	Y
Brunswick/Malcom-Mckinnon,Mo	KSSI	SSI	N	Y	Y	N	Y
Buffalo/Greater Buffalo Intl, Ny.	KBUF	BUF	N	Y	Y	N	Y
Burbank/Glendale-Pasadena, Ca.	KBUR	BUR	N	Y	Y	N	Y
Burley Muni,Id.	KBYI	BYI	N	Y	Y	N	Y
Burlington Muni,Ia.	KBRL	BRL	N	Y	Y	N	Y
Burlington/Intl, Vt.	KBTV	BTV	N	Y	Y	N	Y
Butte/Bert Mooney,Mt.	KBTM	BTM	N	Y	Y	N	Y
Calexico/Intl, Ca.	KCXL	CXL	Y	Y	Y	N	Y
Cape Girardeau Muni,Mo.	KCGI	CGI	N	Y	Y	N	Y
Caribou Muni, Me.	KCAR	CAR	N	Y	Y	N	Y
Carlsbad/Cavern City Air Terminal,Nm.	KCNM	CNM	N	Y	Y	N	Y
Casper/Natrona County Intl, Wy.	KCPR	CPR	N	Y	Y	N	Y
Cedar City Muni,Ut.	KCDC	CDC	N	Y	Y	N	Y
Cedar Rapids Muni,Ia.	KCID	CID	N	Y	Y	N	Y
Champaign-Urbana/University Of Il. Willard,Il.	KCMI	CMI	N	Y	Y	N	Y
Chandler/Williams Afb,Az.	KIWA	IWA	N	Y	Y	N	Y
Charleston/Afb Intl,Sc.	KCHS	CHS	N	Y	Y	N	Y
Charleston/Yeager,Wv.	KCRW	CRW	N	Y	Y	N	Y
Charlotte/Douglas International, Nc.	KCLT	CLT	N	Y	Y	N	Y
Charlottesville-Albemarle,Va	KCHO	CHO	N	Y	Y	N	Y
Chattanooga/Lovell, Tn.	KCHA	CHA	N	Y	Y	N	Y
Cherry Point Mcas/Cunningham Field,Nc.	KNKT	NKT	N	Y	Y	N	Y

NAM - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Cheyenne/Cheyenne,Wy.	KCYS	CYS	N	Y	Y	N	Y
Chicago - O'hare International, Il.	KORD	ORD	Y	Y	Y	N	Y
Chicago/Chicago Midway,Il.	KMDW	MDW	Y	Y	Y	N	Y
Cincinnati/Muni Lunken Field Oh.	KLUK	LUK	N	Y	Y	N	Y
Clarksburg/Benedum,Wv.	KCKB	CKB	N	Y	Y	N	Y
Cleveland/Burke Lakefront, Oh.	KBKL	BKL	N	Y	Y	N	Y
Cleveland-Hopkins International, Oh.	KCLE	CLE		Y	Y	N	Y
College Station/ Easterwood Field, Tx.	KCLL	CLL	N	Y	Y	N	Y
Colorado Springs Municipal	KCOS	COS	N	Y	Y	N	Y
Columbia Mtropolitan,Sc.	KCAE	CAE	N	Y	Y	N	Y
Columbia Regional.Mo.	KCOU	COU	N	Y	Y	N	Y
Columbus Metropolitan,Ga.	KCSG	CSG	N	Y	Y	N	Y
Columbus/Port Columbus International, Oh.	KCMH	CMH	N	Y	Y	N	Y
Columbus/Rickenbacker,Oh.	KLCK	LCK	N	Y	Y	N	Y
Corpus Christi/Corpus Christi Nas	KNGP	NGP	N	Y	Y	N	Y
Corpus Christi/Intl,Tx.	KCRP	CRP	Y	Y	Y	N	Y
Covington-Cincinnati/Northern Kentucky Intl, Ky.	KCVG	CVG	N	Y	Y	N	Y
Crescent City/Jack Mcnamara Field Arpt,Ca.	KCEC	CEC	N	Y	Y	N	Y
Crestview/Bob Sikes, Fl.	KCEW	CEW	N	Y	Y	N	Y
Crossville Memorial,Tn.	KCSV	CSV	N	Y	Y	N	Y
Cut Bank Muni, Mt.	KCTB	CTB	N	Y	Y	N	Y
Dallas/Dallas-Love Field,Tx.	KDAL	DAL	N	Y	Y	N	Y
Dallas-Fort Worth International, Tx.	KDFW	DFW	Y	Y	Y	N	Y
Danville Regional,Va.	KDAN	DAN	N	Y	Y	N	Y
Dayton/James M. Cox Dayton Intl, Oh.	KDAY	DAY	N	Y	Y	N	Y
Daytona Beach Regional,Fl.	KDAB	DAB	N	Y	Y	N	Y
Decatur/Decatur,Il.	KDEC	DEC	N	Y	Y	N	Y
Del Rio/Laughlin Afb, Tx.	KDLF	DLF	Y	Y	Y	N	Y
Deming Muni,Nm.	KDMN	DMN	N	Y	Y	N	Y
Denver International	KDEN	DEN	Y	Y	Y	N	Y
Denver Jeffco Airpor	KBJC	BJC	N	Y	Y	N	Y
Des Moines Intl,Ia.	KDSM	DSM	N	Y	Y	N	Y
Detroit Metropolitan Wayne County, Mi.	KDTW	DTW	Y	Y	Y	N	Y
Detroit/Detroit City, Mi.	KDET	DET	N	Y	Y	N	Y
Detroit/Willow Run, Mi.	KYIP	YIP	N	Y	Y	N	Y
Dodge City Regional,Ks.	KDDC	DDC	N	Y	Y	N	Y
Dothan, Al.	KDHN	DHN	N	Y	Y	N	Y
Du Bois/Jefferson County,Pa.	KDUJ	DUJ	N	Y	Y	N	Y
Duluth/Intl, Mn.	KDLH	DLH	N	Y	Y	N	Y
Eagle County,Co.	KEGE	EGE	N	Y	Y	N	Y
Eau Claire County,Wi.	KEAU	EAU	N	Y	Y	N	Y
El Paso International, Tx.	KELP	ELP	N	Y	Y	N	Y
Elizabeth City Coast Guard, Nc.	KECG	ECG	N	Y	Y	N	Y
Elkins/Jennings Randolph Fld ,Wv.	KEKN	EKN	N	Y	Y	N	Y
Elko Muni-J.C. Harris Field, Nv	KEKO	EKO	N	Y	Y	N	Y
Elmira/Corning Regional,Ny.	KELM	ELM	N	Y	Y	N	Y
Ely/Muni,Mn.	KELO	ELO	N	Y	Y	N	Y
Erie Intl,Pa.	KERI	ERI	N	Y	Y	N	Y

NAM - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Eugene/Mahlon Sweet Field,Or	KEUG	EUG	N	Y	Y	N	Y
Evansville Regional,In.	KEVV	EVV	N	Y	Y	N	Y
Everett/Snohomish County (Paine Field), Wa.	KPAE	PAE	Y	Y	Y	N	Y
Fargo/Hector Intl,Nd.	KFAR	FAR	N	Y	Y	N	Y
Farmingdale/Republic,Ny.	KFRG	FRG	N	Y	Y	N	Y
Fayetteville/Regional Grannis Field,Nc.	KFAY	FAY	N	Y	Y	N	Y
Flagstaff/Pulliam,Az.	KFLG	FLG	N	Y	Y	N	Y
Flint/Bishop Intl,Mi.	KFNT	FNT	N	Y	Y	N	Y
Florence Regional, Sc.	KFLO	FLO	N	Y	Y	N	Y
Fort Lauderdale/Hollywood International, Fl.	KFLL	FLL	Y	Y	Y	N	Y
Fort Myers/Southwest Florida International,	KRSW	RSW	N	Y	Y	N	Y
Fort Smith/Regional,Ar.	KFSM	FSM	N	Y	Y	N	Y
Fort Wayne International,In.	KFWA	FWA	N	Y	Y	N	Y
Fort Worth Alliance, Tx.	KAFW	AFW	N	Y	Y	N	Y
Fort Worth/Meacham,	KFTW	FTW	N	Y	Y	N	Y
Frenchville/Northern Aroostook Rgnl,Me.	KFVE	FVE	N	Y	Y	N	Y
Fresno Yosemite International, Ca.	KFAT	FAT	N	Y	Y	N	Y
Gainesville Regional, Fl.	KGNV	GNV	N	Y	Y	N	Y
Gallup,Nm.	KGUP	GUP	N	Y	Y	N	Y
Galveston,Tx,Scholes Fld.	KGLS	GLS	N	Y	Y	N	Y
Galveston/Walker Field,Co,	KGJT	GJT	N	Y	Y	N	Y
Garden City, Ks.	KGCK	GCK	N	Y	Y	N	Y
Gary,In.	KGYY	GY Y	N	Y	Y	N	Y
George Bush Intercontinental/Houston,	KIAH	IAH	Y	Y	Y	N	Y
Glasgow/Intl,Mt.	KGGW	GGW	N	Y	Y	N	Y
Glens Falls/Warren County, Ny.	KGFL	GFL	N	Y	Y	N	Y
Grand Canyon/National Park, Az.	KGCN	GCN	N	Y	Y	N	Y
Grand Forks/Intl, Nd.	KGFK	GFK	N	Y	Y	N	Y
Grand Rapids/Kent County Intl,Mi.	KGRR	GRR	N	Y	Y	N	Y
Grande Island/Central Nebraska Regional,Ne.	KGRI	GRI	N	Y	Y	N	Y
Great Falls/Intl, Mt.	KGTF	GTF	N	Y	Y	N	Y
Greenbay/Austin Straubel,Wi.	KGRB	GRB	N	Y	Y	N	Y
Greensboro,N.C,Piedmont Triad Intl.	KGSO	GSO	N	Y	Y	N	Y
Greenwood/Le Flore Arpt,Ms.	KGWO	GWO	N	Y	Y	N	Y
Greer/Greenville-Spartanburg ,Sc.	KGSP	GSP	N	Y	Y	N	Y
Groton-New London,Ct.	KGON	GON	N				
Gulfport/Biloxi Regional,Ms	KGPT	GPT	N	Y	Y	N	Y
Gwinn/K.I. Sawyer Afb,Mi.	KSAW	SAW	N	Y	Y	N	Y
Hancock, Mi Houghton County Memorial	KCMX	CMX	N	Y	Y	N	Y
Harlingen/Rio Grande Valley Intl,Tx.	KHRL	HRL	Y	Y	Y	N	Y
Harrisburg/Intl,Pa.	KMDT	DT	N	Y	Y	N	Y
Harrison/Boone County, Ar.	KHRO	HRO	N	Y	Y	N	Y
Hartford/Brainard ,Ct.	KHFD	HFD	N	Y	Y	N	Y
Hartsfield - Jackson Atlanta International, Ga.	KATL	ATL	N	Y	Y	N	Y
Helena Regional,Mt.	KHLN	HLN	N	Y	Y	N	Y
Hibbing/Chisholm-Hibbing, Mn.	KHIB	HIB	N	Y	Y	N	Y
Hickory/Regional, Nc	KHKY	HKY	N	Y	Y	N	Y
Hoqiam/Bowerman Fld,Wa.	KHQM	HQM	N	Y	Y	N	Y
Hot Springs/Memorial Field, Ar.	KHOT	HOT	N	Y	Y	N	Y

NAM - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Houston/William P. Hobby,Tx.	KHOU	HOU	N	Y	Y	N	Y
Huntington/Tri-State Milton J.Ferguson Field,W	KHTS	HTS	N	Y	Y	N	Y
Huntsville/Intl Carl T.Jones Field,Al.	KHSV	HSV	N	Y	Y	N	Y
Huron Regional,Sd.	KHON	HON	N	Y	Y	N	Y
Hutchinson, Ks.	KHUT	HUT	N	Y	Y	N	Y
Hyannis/Barnstable Muni-Boardman P. Field,Ma.	KHYA	HYA	N	Y	Y	N	Y
Idaho Falls/Fanning Field,Id .	KIDA	IDA	N	Y	Y	N	Y
Indianapolis International,	KIND	IND	Y	Y	Y	N	Y
International Falls, Mn Y	KINL	INL	N	Y	Y	N	Y
Islip/Long Island Macarthur, Ny.	KISP	ISP	N	Y	Y	N	Y
Jackson County/Reynolds Field,Mi.	KJXN	JXN	N	Y	Y	N	Y
Jackson Hole,Wy	KJAC	JAC	N	Y	Y	N	Y
Jackson/Intl ,Ms.	KJAN	JAN	N	Y	Y	N	Y
Jackson/Mc Kellar-Sipes Regional,Tn.	KMKL	MKL	N	Y	Y	N	Y
Jacksonville/Intl, Fl..	KJAX	JAX	N	Y	Y	N	Y
Jamestown Muni,Nd.	KJMS	JMS	N	Y	Y	N	Y
Johnstown-Cambria County,Pa.	KJST	JST	N	Y	Y	N	Y
Jonesboro Muni,Ar.	KJBR	JBR	N	Y	Y	N	Y
Joplin Regional,Mo.	KJLN	JLN	N	Y	Y	N	Y
Kalamazoo/Battle Creek Intl, Mi.	KAZO	AZO	N	Y	Y	N	Y
Kankakee/Greater,Il.	KIKK	IKK	N	Y	Y	N	Y
Kansas City International, Mo.	KMCI	MCI	N	Y	Y	N	Y
Kansas City/Kansas City Downtown,Mo.	KMKC	MKC	N	Y	Y	N	Y
Key West/Key West Intl, Fl.	KEYW	EYW	N	Y	Y	N	Y
Kirksville/ Regional,Mo.	KIRK	IRK	N	Y	Y	N	Y
Klamath Falls Intl,Or.	KLMT	LMT	N	Y	Y	N	Y
Knoxville/Mcgee Tyson,Tn.	KTYS	TYS	N	Y	Y	N	Y
La Crosse Muni,Wi.	KLSE	LSE	N	Y	Y	N	Y
Lafayette/Regional, La.	KLFT	LFT	N	Y	Y	N	Y
Lake Charles/Regional,La.	KLCH	LCH	N	Y	Y	N	Y
Lansing/Capital City,Mi.	KLAN	LAN	N	Y	Y	N	Y
Laramie/General Brees Field Wy.	KLAR	LAR	N	Y	Y	N	Y
Laredo International, Tx.	KLRD	LRD	Y	Y	Y	N	Y
Las Cruces/Intl,Nm.	KLRU	LRU	N	Y	Y	N	Y
Las Vegas/Mccarran International, Nv.	KLAS	LAS	Y	Y	Y	N	Y
Latrobe/Westmorland County, Pa.	KLBE	LBE	N	Y	Y	N	Y
Lawrence/Muni,Ma.	KLWM	LWM	N	Y	Y	N	Y
Lebanon Muni,Nh.	KLEB	LEB	N	Y	Y	N	Y
Lexington/Blue Grass,Ky.	KLEX	LEX	N	Y	Y	N	Y
Liberal Muni,Ks.	KLBL	LBL	N	Y	Y	N	Y
Lincoln/Municipal, Ne.	KLNK	LNK	N	Y	Y	N	Y
Little Rock/Adams Field,Ar.	KLIT	LIT	N	Y	Y	N	Y
Livingston/Mission Field,Mt.	KLVM	LVM	N	Y	Y	N	Y
London-Corbin/Mage Field,Ky.	KLOZ	LOZ	N	Y	Y	N	Y
Long Beach/Daugherty Field, Ca.	KLGB	LGB	N	Y	Y	N	Y
Longview/Gregg County, Tx.	KGGG	GGG	N	Y	Y	N	Y
Los Angeles International, Ca.	KLAX	LAX	N	Y	Y	N	Y
Louisville/Bowman Field,Ky.	KLOU	LOU	N	Y	Y	N	Y
Louisville/Standiford,Ky.	KSDF	SDF	N	Y	Y	N	Y

NAM - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Lubbock/Intl, Tx.	KLBB	LBB	N	Y	Y	N	Y
Lynchburg/Regional Preston Glenn Field,Va.	KLYH	LYH	N	Y	Y	N	Y
Macon/Middle Georgia Regional,Ga.	KMCN	MCN	N	Y	Y	N	Y
Madison/Dane County Regional Truax Field,Wi.	KMSN	MSN	N	Y	Y	N	Y
Manchester/Manchester,Nh.	KMHT	MHT	N	Y	Y	N	Y
Manhattan/Muni,Ks.	KMHK	MHK	N	Y	Y	N	Y
Mansfield/Lahm Muni,Oh.	KMFD	MFD	N	Y	Y	N	Y
Martinsburg/Eastern Wv. Regl-Shepherd Field,Wv.	KMRB	MRB	N	Y	Y	N	Y
Marysville/Yuba County Aprt, Ca.	KMYV	MYV	N	Y	Y	N	Y
Massena/Intl Richards Field, Ny	KMSS	MSS	N	Y	Y	N	Y
Mcalester/Regional,Ok.	KMLC	MLC	N	Y	Y	N	Y
Mcallen/Miller Intl, Tx.	KMFE	MFE	N	Y	Y	N	Y
Medford-Jackson County,Or.	KMFR	MFR	N	Y	Y	N	Y
Melbourne/Regional,Fl.	KMLB	MLB	N	Y	Y	N	Y
Memphis International, Tenn.	KMEM	MEM	N	Y	Y	N	Y
Meridian/Key Field,Ms.	KMEI	MEI	N	Y	Y	N	Y
Metropolitan Oakland International, Ca.	KOAK	OAK	N	Y	Y	N	Y
Miami International, Fl.	KMIA	MIA	Y	Y	Y	N	Y
Midland/Intl,Tx.	KMAF	MAF	N	Y	Y	N	Y
Miles City/Frank Wiley Field Mt.	KMLS	MLS	N	Y	Y	N	Y
Millville/Muni, Nj.	KMIV	MIV	N	Y	Y	N	Y
Milwaukee/General Mitchell International, Wi.	KMKE	MKE	Y	Y	Y	N	Y
Minneapolis-St. Paul Intl (Wold Chamberlain), Mn.	KMSP	MSP	Y	Y	Y	N	Y
Minot/Intl, Nd.	KMOT	MOT	N	Y	Y	N	Y
Missoula/Intl,Mt.	KMSO	MSO	N	Y	Y	N	Y
Mobile Downtown, Al	KBFM	BFM	N	Y	Y	N	Y
Mobile/Regional, Al.	KMOB	MOB	N	Y	Y	N	Y
Moline/Quad-City,Il.	KMLI	MLI	N	Y	Y	N	Y
Monroe/Monroe Regional,La.	KMLU	MLU	N	Y	Y	N	Y
Monterey/Peninsula,Ca.	KMRY	MRY	N	Y	Y	N	Y
Montgomery/Dannelly Field,Al	KMGH	MGM	N	Y	Y	N	Y
Morgantown/Muni-Walter L. Bill Hart Fld,Wv.	KMGW	MGW	N	Y	Y	N	Y
Morristown/Muni,Nj.	KMMU	MMU	N	Y	Y	N	Y
Muscle Shoals/Regional,Ms.	KMSL	MSL	N	Y	Y	N	Y
Muskegon/County,Mi.	KMKG	MKG	N	Y	Y	N	Y
Myrtle Beach/Myrtle Beach Afb, Sc.	KMYR	MYR	N	Y	Y	N	Y
Nantucket Memorial, Ma.	KACK	ACK	N	Y	Y	N	Y
Naples-Muni,Fl.	KAPF	APF	N	Y	Y	N	Y
Nashville International, Tn.	KBNA	BNA	N	Y	Y	N	Y
New Bedford/Muni,Ma.	KEWB	EWB	N	Y	Y	N	Y
New Bern/Craven County Regional,Nc.	KEWN	EWN	N	Y	Y	N	Y
New Haven/Tweed,Ct.	KHVN	HVN	N	Y	Y	N	Y
New Orleans/Lakefront,La.	KNEW	NEW	N	Y	Y	N	Y
New Orleans/Louis Armstrong New Orleans Intl,	KMSY	MSY	N	Y	Y	N	Y
New York/John F. Kennedy International, Ny.	KJFK	JFK	Y	Y	Y	N	Y
New York/La Guardia, Ny.	KLGA	LGA	N	Y	Y	N	Y
Newark Liberty International, Nj.	KEWR	EWR	Y	Y	Y	N	Y
Newburgh/Stewart Intl,Ny.	KSWF	SWF	N	Y	Y	N	Y

NAM - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Newport News/Williamsburg Intl,Va.	KPHF	PHF	N	Y	Y	N	Y
Niagara Falls International, Ny.	KIAG	IAG	N	Y	Y	N	Y
Norfolk/Intl,Va.	KORF	ORF	N	Y	Y	N	Y
North Bend Muni,Or.	KOTH	OTH	N	Y	Y	N	Y
North Kingstown/Quonset State,Ri.	KOQU	OQU	N	Y	Y	N	Y
North Platte/Regional,Ne.	KLBF	LBF	N	Y	Y	N	Y
Ogden/Hinckley,Ut.	KOGD	OGD	N	Y	Y	N	Y
Oklahoma City/Will Roger World, Ok.	KOKC	OKC	N	Y	Y	N	Y
Olympia, Wa.	KOLM	OLM	N	Y	Y	N	Y
Omaha/Eppley Air Field,Ne.	KOMA	OMA	N	Y	Y	N	Y
Omaha/Offut Afb,Ne.	KOFF	OFF	N	Y	Y	N	Y
Ontario International, Ca.	KONT	ONT	Y	Y	Y	N	Y
Orlando International, Fl.	KMCO	MCO	N	Y	Y	N	Y
Orlando/Central Florida Regional,Fl.	KSFB	SFB	N	Y	Y	N	Y
Oshkosh/Wittman Regional,Wi.	KOSH	OSH	N	Y	Y	N	Y
Ottumwa/Industrial,Ia.	KOTM	OTM	N	Y	Y	N	Y
Owensboro-Davies County,Ky.	KOWB	OWB	N	Y	Y	N	Y
Paducah/Barkley Regional,Ky.	KPAH	PAH	N	Y	Y	N	Y
Palm Beach International, Fl.	KPBI	PBI	Y	Y	Y	N	Y
Palm Springs/Regional,Ca	KPSP	PSP	N	Y	Y	N	Y
Palmdale Production Flight/Test Intl Af Plant Ca.	KPMD	PMD	Y	Y	Y	N	Y
Panama City/Bay County,Fl.	KPFN	PFN	N	Y	Y	N	Y
Parkeresburg/Wood County-Gil Robb Wilson Arpt	KPKB	PKB	N	Y	Y	N	Y
Paso Robles/Muni,Ca.	KPRB	PRB	N	Y	Y	N	Y
Pellston/Regional Airport Of Emmet County,Mi.	KPLN	PLN	N	Y	Y	N	Y
Pensacola/Regional, Fl.	KPNS	PNS	N	Y	Y	N	Y
Peoria/Greaterpeoria Regional,Il.	KPIA	PIA	N	Y	Y	N	Y
Philadelphia International, Pa.	KPHL	PHL	N	Y	Y	N	Y
Phoenix Sky Harbor International, Az.	KPHX	PHX	N	Y	Y	N	Y
Pierre/Muni,Sd.	KPIR	PIR	N	Y	Y	N	Y
Pittsburgh/Allegheny County, Pa.	KAGC	AGC	N	Y	Y	N	Y
Pittsburgh/Pittsburgh International, Pa.	KPIT	PIT	Y	Y	Y	N	Y
Plattsburgh/Canton Co,Ny.	KPLB	PLB	N	Y	Y	N	Y
Pocatello/Regional,Id.	KPIH	PIH	N	Y	Y	N	Y
Point Mugu/Point Mugu Nas, Ca.,U.S	KNTD	NTD	N	Y	Y	N	Y
Pontiac-Oakland,Mi.	KPTK	PTK	N	Y	Y	N	Y
Port Angeles/William R. Fairchild Intl,Wa.	KCLM	CLM	N	Y	Y	N	Y
Portland International, Or.	KPDX	PDX	Y	Y	Y	N	Y
Portland/Intl Jetport,Me.	KPWM	PWM	N	Y	Y	N	Y
Portsmouth/Pease Intl Tradeport,Nh.	KPSM	PSM	N	Y	Y	N	Y
Poughkeepsie/Dutchess County Ny.	KPOU	POU	N	Y	Y	N	Y
Prescott/Ernest A. Love Field,Az.	KPRC	PRC	N	Y	Y	N	Y
Presque Is/Northern Maine Regional Arpt,Me.	KPQI	PQI	N	Y	Y	N	Y
Providence/Theodore Francis Greene State,Ri.	KPVD	PVD	N	Y	Y	N	Y
Pueblo Memorial, Co.	KPUB	PUB	Y	Y	Y	N	Y
Quincy/Muni Baldwin Field, Il.	KUIN	UIN	N	Y	Y	N	Y
Raleigh-Durham International, Nc.	KRDU	RDU	N	Y	Y	N	Y
Rapid City/Regional,Sd.	KRAP	RAP	N	Y	Y	N	Y
Reading/Regional Carl A. Spaatz Field,Pa.	KRDG	RDG	N	Y	Y	N	Y

NAM - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Red Bluff/Muni,Ca.	KRBL	RBL	N	Y	Y	N	Y
Redding/Muni,Ca.	KRDD	RDD	N	Y	Y	N	Y
Redmond/Roberts Field,Or.	KRDM	RDM	N	Y	Y	N	Y
Reno/Tahoe International, Nv.	KRNO	RNO	N	Y	Y	N	Y
Renton/Muni,Wa.	KRNT	RNT	N	Y	Y	N	Y
Richmond/Intl (Byrd Field), Va.	KRIC	RIC	N	Y	Y	N	Y
Roanoke/Regional Woodrum Field,Va.	KROA	ROA	N	Y	Y	N	Y
Rochester/Greater Rochester Intl,Ny.	KROC	ROC	N	Y	Y	N	Y
Rochester/Muni,Mn.	KRST	RST	N	Y	Y	N	Y
Rockford/Greater Rockford,Il	KRFD	RFD	N	Y	Y	N	Y
Rocksprings/Swetwater County Wy.	KRKS	RKS	N	Y	Y	N	Y
Rocky-Mount/Wilson,Nc.	KRWI	RWI	N	Y	Y	N	Y
Roswell/Industrial Air Center, Nm.	KROW	ROW	N	Y	Y	N	Y
Sacramento International, Ca.	KSMF	SMF	N	Y	Y	N	Y
Sacramento/Executive, Ca.	KSAC	SAC	N	Y	Y	N	Y
Saginaw/Tri City Intl,Mi.	KMBS	MBS	N	Y	Y	N	Y
Salina/Muni,Ks.	KSLN	SLN	N	Y	Y	N	Y
Salinas/Muni,Ca.	KSNS	SNS	N	Y	Y	N	Y
Salisbury/Wicomico County Regional,Md.	KSBY	SBY	N	Y	Y	N	Y
Salt Lake City International, Ut.	KSLC	SLC	N	Y	Y	N	Y
San Angelo/Mathis Field,Tx.	KSJT	SJT	N	Y	Y	N	Y
San Antonio International, Tx.	KSAT	SAT	Y	Y	Y	N	Y
San Bernardino/Norton Afb, Ca.	KSBD	SBD	N	Y	Y	N	Y
San Diego International, Ca.	KSAN	SAN	Y	Y	Y	N	Y
San Diego/Brown Fld Muni,Ca.	KSDM	SDM	N	Y	Y	N	Y
San Francisco/Intl,Ca.	KSFO	SFO	Y	Y	Y	N	Y
San Jose Norman Y. Mineta International, Ca.	KSJC	SJC	Y	Y	Y	N	Y
San Lui Obispo/County Mc Chesney Field,Ca.	KSBP	SBP	N	Y	Y	N	Y
Santa Ana/John Wayne Arpt Orange County,Ca	KSNA	SNA	N	Y	Y	N	Y
Santa Barbara/Muni,Ca.	KSBA	SBA	N	Y	Y	N	Y
Santa Maria/Publiv,Ca.	KSMX	SMX	N	Y	Y	N	Y
Saranac Lake/Adirondack,Ny.	KSLK	SLK	N	Y	Y	N	Y
Sarasota/Bradenton,Fl.	KSRQ	SRQ	N	Y	Y	N	Y
Sault Ste Marie/Chippewa County Intl,Mi.	KCIU	CIU	N	Y	Y	N	Y
Savannah/Intl, Ga.	KSAV	SAV	N	Y	Y	N	Y
Schenectady,Ny.	KSCH	SCH	N	Y	Y	N	Y
Scottsbluff/William B.Heilig Field,Ne.	KBFF	BFF	N	Y	Y	N	Y
Scranton/Wilkes-Barre Intl, Pa.	KAVP	AVP	N	Y	Y	N	Y
Seattle Boeing Field/King Country Intl, Wa.	KBFI	BFI	N	Y	Y	N	Y
Seattle/Seattle-Tacoma International, Wa.	KSEA	SEA	Y	Y	Y	N	Y
Sheridan/County,Wy	KSHR	SHR	N	Y	Y	N	Y
Shreveport/Regional,La.	KSHV	SHV	N	Y	Y	N	Y
Sioux City/Gateway,Ia.	KSUX	SUX	N	Y	Y	N	Y
Sioux Falls/Joe Foss Field, Sd.	KFSD	FSD	N	Y	Y	N	Y
South Bend/Michiana Rgnal, In.	KSBN	SBN	N	Y	Y	N	Y
South Lake Tahoe/Lake Tahoe, Ca.	KTVL	TVL	N	Y	Y	N	Y
Southwest Georgia Regional, Albany,Ga.	KABY	ABY	N	Y	Y	N	Y
Spokane International, Wa.	KGEG	GEG	Y	Y	Y	N	Y
Spokane/Felts Field,Wa.	KSFF	SFF	N	Y	Y	N	Y

NAM - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Springfield/Capital,Il.	KSPI	SPI	N	Y	Y	N	Y
Springfield/Regional,Mo.	KSGF	SGF	N	Y	Y	N	Y
Springfield-Chicope/Westover Afb Metropolit	KCEF	CEF	N	Y	Y	N	Y
St Cloud/Muni,Mn.	KSTC	STC	N	Y	Y	N	Y
St Joseph/Rosecrans Memorial Mo.	KSTJ	STJ	N	Y	Y	N	Y
St Paul/Downtown Holman Fld, Mn.	KSTP	STP	N	Y	Y	N	Y
St. Louis, Mo.Spirit Of St Louis	KSUS	SUS	N	Y	Y	N	Y
St. Louis/Lambert-St. Louis International, Mo.	KSTL	STL	Y	Y	Y	N	Y
St. Petersburg/Clearwater Intl, Fl.	KPIE	PIE	N	Y	Y	N	Y
Stockton Metropolitan, Ca.	KSCK	SCK	Y	Y	Y	N	Y
Syracuse Hancock International, Ny.	KSYR	SYR	Y	Y	Y	N	Y
Tacoma/Tacoma Narrows,Wa.	KTIW	TIW	N	Y	Y	N	Y
Tallahassee/Regional,Fl.	KTLH	TLH	N	Y	Y	N	Y
Tampa International, Fl.	KTPA	TPA	Y	Y	Y	N	Y
Terre Haute/Hulman Regional, In.	KHUF	HUF	N	Y	Y	N	Y
Teterboro, Nj.	KTEB	TEB	N	Y	Y	N	Y
Texarkana/Regional-Webb Fld Tx.	KTXK	TXK	N	Y	Y	N	Y
Toledo/Express,Oh.	KTOL	TOL	N	Y	Y	N	Y
Trenton/Mercer County,Nj.	KTTN	TTN	N	Y	Y	N	Y
Treverse City/Cherry Capital Mi.	KTVC	TVC	N	Y	Y	N	Y
Truth Or Consequences/ Municipal, Nm.	KTCS	TCS	N	Y	Y	N	Y
Tucson International, Az.	KTUS	TUS	Y	Y	Y	N	Y
Tucumcari/Muni, Nm.	KTCC	TCC	N	Y	Y	N	Y
Tulsa/Intl, Ok.	KTUL	TUL	N	Y	Y	N	Y
Tupelo/Muni-C D Lemons,Ms.	KTUP	TUP	N	Y	Y	N	Y
Tuscaloosa/Muni,Al.	KTCL	TCL	N	Y	Y	N	Y
Twin Falls/Sun Valley Regnl Joslin Fld,Id.	KTWF	TWF	N	Y	Y	N	Y
Tyler/Pounds Field,Tx.	KTYR	TYR	N	Y	Y	N	Y
Ukiah/Muni,Ca	KUKI	UKI	N	Y	Y	N	Y
Utica/Oneida County,Ny.	KUCA	UCA	N	Y	Y	N	Y
Valdosta/Regional,Ga.	KVLD	VLD	N	Y	Y	N	Y
Vero Beach/Vero Beach Muni, Fl.	KVRB	VRB	N	Y	Y	N	Y
Victoria/Regional,Tx.	KVCT	VCT	N	Y	Y	N	Y
Waco Regional, Tx.	KACT	ACT	N	Y	Y	N	Y
Walla Walla Regional,Wa.	KALW	ALW	N	Y	Y	N	Y
Washington Dulles International, Dc.	KIAD	IAD	Y	Y	Y	N	Y
Washington/National, Dc.	KDCA	DCA	N	Y	Y	N	Y
Waterloo Muni,Ia.	KALO	ALO	N	Y	Y	N	Y
Watertown Muni,Sd.	KATY	ATY	N	Y	Y	N	Y
Watertown/Intl,Ny.	KART	ART	N	Y	Y	N	Y
Westfield/Barnes Muni,Ma.	KBAF	BAF	N	Y	Y	N	Y
White Plains/Westchester County Ny.	KHPN	HPN	N	Y	Y	N	Y
Wichita Mid-Continent, Ks.	KICT	ICT	Y	Y	Y	N	Y
Williamsport/Lycoming County Pa.	KIPT	IPT	N	Y	Y	N	Y
Wilmington/New Castle,De.	KILG	ILG	N	Y	Y	N	Y
Wilmington/New Hannover Intl, Nc.	KILM	ILM	N	Y	Y	N	Y
Wink/Winkler County, Tx.	KINK	INK	N	Y	Y	N	Y
Winston Salem/Smith Reynolds, Nc.	KINT	INT	N	Y	Y	N	Y
Worcester/Muni,Ma.	KORH	ORH	N	Y	Y	N	Y

NAM - UNITED STATES							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
Worland/Muni,Wy.	KWRL	WRL	N	Y	Y	N	Y
Wrightstown/Mcguire Afb,Nj.	KWRI	WRI	N	Y	Y	N	Y
Yakima/Air Terminal,Wa.	KYKM	YKM	N	Y	Y	N	Y
Youngstown/Muni, Oh.	KYNG	YNG	N	Y	Y	N	Y
Yuma/Yuma Mcas.Yuma Intl,Az.	KYUM	YUM	N	Y	Y	N	Y
Zanesville,Oh.	KZZV	ZZV	N	Y	Y	N	Y

ANNEX 1 – NAT

NAT - BERMUDA (UNITED KINGDOM)							
Name of Aerodrome	CCCC	IATA	AOP	SA	SP	FC	FT
L.F. Wade International Airport	TXKF	BDA	Y	Y	Y	N	Y
NAT - DENMARK							
Vagar Y	EKVG		N	Y	Y	Y	N
NAT - GREENLAND (DENMARK)							
Ilulissat Y	BGJN		N	Y	Y	Y	N
Kangerlussuaq	BGSF	SFJ	N	Y	Y	N	Y
Kulusuk	BGKK		N	Y	Y	Y	N
Narsarsuaq	BGBW		N	Y	Y	Y	N
Nuuk	BGGH		N	Y	Y	Y	N
Thule Air Base (Mil)	BGTL	THU	N	Y	Y	N	Y
NAT - ICELAND							
Akureyri	BIAR	AEY	Y	Y	Y	N	Y
Egilsstadir	BIEG	EGS	Y	Y	Y	N	Y
Hofn/Hornafjordur	BIHN	HFN	N	Y	Y	Y	N
Isafjordur	BIIS	IFJ	N	Y	Y	Y	N
Keflavik Airport,App/Twr,Ops,Met	BIKF	KEF	Y	Y	Y	N	Y
Reykjavik Airport,Nof,Met	BIRK	REK	Y	Y	Y	N	Y
Saudarkrokur	BIKR	SAK	N	Y	Y	Y	N
Vestmannaeyjar	BIVM	VEY	N	Y	Y	Y	N
NAT - PORTUGAL (MADEIRA AND AZORES) (PORTUGAL)							
Ponta Delgada	LPPD	PDL	Y	Y	Y	N	Y
Santa Maria	LPAZ	SMG	Y	Y	Y	N	Y

AFI OPMET DB Catalogue Section 2 :

SIGMET

Structure of the tables :

- State
- FIR name
- CCCC ICAO location indicator of the FIR/UIR

The tables are sorted by ICAO regions:

- AFI
- ASIA/PAC
- CAR/SAM
- EUR
- MID
- NAM
- NAT

ANNEX 2 – AFI

State	FIR Name	CCCC
Algeria	Alger FIR/SRR	DAAA
ANGOLA	Luanda FIR/SRR	FNAN
BOTSWANA	Gaborone FIR/SRR	FBGR
BURUNDI	Bujumbura FIR	HBBA
CANARY ISLANDS (Spain)	Canarias FIR and Grando RSS	GCCC
CAPE VERDE	Sal Oceanic FIR/SRR	GVSC
CHAD	N'Djamena FIR/SRR	FTTT
CONGO	Brazzaville FIR/SRR	FCCC
DEMOCRATIC REP. OF THE CONGO	Zaire FIR, Kinshasa SRR	FZAA
EGYPT	Cairo FIR/SRR	HECC
ETHIOPIA	Addis Ababa FIR/SRR	HAAA
ERITREA	Asmara FIR	HHAA
GHANA	Accra FIR/SRR	DGAC
KENYA	Nairobi FIR/SRR	HKNA
LIBERIA	Roberts FIR/SRR	GLRB
LIBYAN ARAB JAMAHIRIYA	Tripoli FIR/SRR	HLLL
MADAGASCAR	Antananarivo FIR/SRR	FMMM
MALAWI	Lilongwe FIR/SRR	FWLL
MAURITIUS	Mauritius FIR/SRR	FIMM
MOROCCO	Casablanca FIR/SRR	GMMM
MOZAMBIQUE	Beira FIR/SRR	FQBE
NAMIBIA	Windhoek FIR/SRR	FYWH
NIGER	Niamey FIR/SRR	DRRR
NIGERIA	Kano FIR/SRR	DNKK
RWANDA	Kigali FIR/SRR	HRYR
SENEGAL	Dakar FIR/SRR	GOOO
	Dakar oceanic FIR	
SEYCHELLES	Seychelles FIR/SRR	FSSS
SOMALIA	Mogadishu FIR/SRR	HCSM
SOUTH AFRICA	Johannesburg FIR/ARCC	FAJS
SUDAN	Khartoum FIR/SRR	HSSS
TUNISIA	Tunis FIR/UIR	DTTC
UGANDA	Entebbe FIR	HUEC
UNITED REPUBLIC OF TANZANIA	Dar-es-Salaam FIR	HTDC
ZAMBIA	Lusaka FIR/SRR	FLFI
ZIMBABWE	Harare FIR/SRR	FVHA

ANNEX 2 – ASIA/PAC

State	FIR Name	CCCC
AUSTRALIA	Melbourne FIR 1)	YMMM
	Brisbane FIR 2)	YBBB
BANGLADESH	Dhaka FIR and SRR	VGFR
CAMBODIA	Phnom-Penh FIR and SRR	VDPP
CHINA	Beijing FIR and SRR	ZBPE
	Guangzhou FIR and SRR	ZGZU
	Kunming FIR and SRR	ZPKM
	Lanzhou FIR and SRR	ZLHW
	Sanya FIR and SRR	ZJSA
	Shanghai FIR and SRR	ZSHA
	Shenyang FIR and SRR	ZYSH
	Taibei FIR and SRR	RCAA
	Urumqi FIR and SRR	ZWUQ
	Wuhan FIR and SRR	ZHWH
	Hong Kong FIR and SRR	VHHK
DEMOCRATIC PEOPLE’S REPUBLIC OF KOREA	Pyongyang FIR and SRR	ZKKK
FIJI	Nadi FIR and SRR	NFFF
FRENCH POLYNESIA	Tahiti FIR and SRR	NTTT
INDIA	Chennai FIR and SRR	VOMF
	Delhi FIR and SRR	VIDF
	Kolkata FIR and SRR	VECF
	Mumbai FIR and SRR	VABF
INDONESIA	Jakarta FIR/UIR and SRR	WIIF
	Ujung Pandang FIR/UIR and SRR	WAAF
JAPAN	Fukuoka FIR and Tokyo SRR	RJJJ
LAO PEOPLE’S DEMOCRATIC REPUBLIC	Vientiane FIR and SRR	VLVT
MALAYSIA	Kota Kinabalu FIR and SRR	WBFC
	Kuala Lumpur FIR and SRR	WMFC
MALDIVES	Male FIR and SRR	VRMM
MONGOLIA	Ulan Bator FIR and SRR	ZMUB
MYANMAR	Yangon FIR and SRR	VYYY
NAURU	Nauru FIR and SRR	ANAU
NEPAL	Kathmandu FIR and SRR	VNSM
NEW ZEALAND	Auckland Oceanic FIR and SRR	NZZO
	New Zealand FIR AND SRR	NZZC
PAKISTAN	Karachi FIR and SRR	OPKR
	Lahore FIR and SRR	OPLR
PAPUA NEW GUINEA	Port Moresby FIR and SRR	AYPY
PHILIPPINES	Manila FIR and SRR	RPHI
REPUBLIC OF KOREA	Incheon FIR and SRR	RKRR
SINGAPORE	Singapore FIR and SRR	WSJC
SOLOMON ISLANDS	Honiara FIR and SRR	AGGG
SRI LANKA	Colombo FIR and SRR	VCBI
THAILAND	Bangkok FIR and SRR	VTBB
UNITED STATES	Anchorage FIR	PAZA
	Oakland Oceanic and Honolulu SRR.	KZOA
	Oakland Oceanic FIR	KZOA
VIET NAM	Hanoi FIR and SRR	VVNB
	Ho-Chi-Minh FIR and SRR	VVTS

ANNEX 2 – EUR

State	FIR Name	CCCC
ALBANIA	Tirana FIR/RCC	LAAA
ARMENIA	Yerevan FIR/Armenia SRR	UDYZ
AUSTRIA	Wien FIR/RCC	LOVV
AZERBAIJAN	Baku FIR	UBBB
BELARUS	Minsk FIR/Belarus SRR	UMMV
BELGIUM	Brussels FIR/SRR	EBBU
BOSNIA AND HERZEGOVINA	Sarajevo FIR/UIR/SSR	LYBA
	Sarajevo FIR/UIR/SSR	LDZB
BULGARIA	Sofia FIR/ SRR	LBSR
	Varna FIR/SRR	LBWR
CROATIA	Zagreb FIR/UIR/SRR	LDZO
CYPRUS	Nicosia FIR	LCCC
	Episkop SRR	LCRO
CZECH REPUBLIC	Praha FIR/SRR	LKAA
DENMARK	København FIR	EKDK
	Karup SRR	EKMC
ESTONIA	Tallinn FIR/UIR	EETT
FINLAND	Tampere FIR/UIR/SRR	EFES
	Rovaniemi FIR/UIR/SRR	EFPS
FRANCE	Marseille FIR/SRR	LFMM
	Bordeaux FIR/SRR	LFBB
	Brest FIR/SRR	LFRR
	Reims FIR/SRR	LFEE
	Paris FIR/SRR	LFFF
GEORGIA	Tbilisi FIR/Georgia SRR	UGGZ
GERMANY	Berlin FIR/ Berlin UIR	EDBB
	Düsseldorf FIR	EDLL
	Frankfurt FIR	EDFF
	Bremen FIR	EDWW
	München FIR	EDM
GREECE	Athinai FIR/UIR/SRR	LGGG
HUNGARY	Budapest FIR/UIR/SRR	LHCC
IRELAND	Shannon FIR/SRR	EISL
	Shannon UIR	EISU
ITALY	Brindisi FIR	LIBB
	Milano FIR	LIMM
	Roma FIR	LIRR
KAZAKHSTAN	Aktyubinsk FIR	UATT
	Almaty FIR	UAAA
	Zhezkazgan FIR	UAKD
	Atyrau FIR	UATG
	Kostanay FIR	UAUU
	Kyzylorda FIR	UAAO
	Semipalatinsk FIR	UASS
	Aktau FIR	UATE
	Astana FIR	UACC
	Shymkent FIR	UAIH
	Uralsk FIR	UARR

AFI OPMET MTF/3 – Appendix G

State	FIR Name	CCCC
KYRGYZSTAN	Bishkek FIR	UA FM
LATVIA	Riga FIR/UIR	EVRR
LITHUANIA	Vilnius FIR/UIR	EYVL
MALTA	Malta FIR/SRR	LMMM
NETHERLANDS	Amsterdam FIR	EHAA
NORWAY	Norway FIR/UIR	ENOR
	Bodø Oceanic FIR	ENOB
POLAND	Warszawa FIR/SRR	EPWW
PORTUGAL	Lisboa FIR/UIR/SRR	LP PC
REPUBLIC OF MOLDOVA	Chisinau FIR/Moldova SRR	LUKK
ROMANIA	Bucuresti FIR/SRR	LRBB
RUSSIAN FEDERATION	Amderma FIR	ULDD
	Anadyr FIR	UHMA
	Arkhangelsk FIR	ULAA
	Astrakhan FIR	URWA
	Batagay FIR/North-East	UEBB
	Beryozovo FIR/North	USHB
	Blagoveshchensk FIR/Far East SRR	UHBB
	Bratsk FIR/East Siberia SRR	UIBB
	Chaybukha FIR	UHMG
	Chersky FIR/North-East Siberia SRR	UESS
	Chita FIR/East Siberia SRR	UIAA
	Chokurdakh FIR/North-	UESO
	Chulman FIR	UELL
	Dickson FIR	UODD
	Irkutsk FIR/East Siberia SRR	UIII
	Kaliningrad FIR	UMKK
	Kazan FIR/Tatarstan SRR	UWKD
	Khabarovsk FIR/Far East SRR	UH HH
	Pevek FIR	UHMP
	Rostov FIR/North Caucasus SRR	URRV
	Salekhard FIR/North	USDD
	Samara FIR/Privolzhsky SRR	UWWW
	Seymchan FIR	UHMS
	Omolon FIR	UHMN
	Surgut FIR/North Siberia SRR	USRR
	Syktyvkar FIR/Komi SRR	UUYY
	Tarko-Sale FIR	USD
	Tiksi FIR/North-East	UEST
	Tyumen FIR/North	USTT
	Turukhansk FIR	UOTT
	Ufa FIR	UWUU
	Velikie Luki FIR	ULOL
	Vladivostok FIR/	UHWW
	Volgograd FI	URWW
	Vologda FIR	ULWW
	Vorkuta FIR	UUYY
	Yakutsk FIR/North-East	UEEE
	Yekaterinburg FIR/Urals SRR	USSS
	Yeniseysk FIR	UNII
	Yuzhno-Sakhalinsk FIR	UHSS
	Zhigansk FIR	UEVV
	Zyryanka FIR/North-	UESU

State	FIR Name	CCCC
SERBIA & MONTENEGRO	Beograd FIR/UIR/SRR	LYBA
SLOVAKIA	Bratislava FIR/UIR	LZBB
SLOVENIA	Ljubljana FIR/UIR	LJLA
SPAIN	Barcelona FIR/UIR	LECB
	Canarias FIR/UIR/SRR	GCCC
	Madrid FIR/UIR	LECM
	Baleares SRR	LECP
SWEDEN	Sweden FIR/UIR/SRR	ESAA
SWITZERLAND	Genève FIR/UIR	LSAW
THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA	Ohrid FIR	LWOH
	Skopje FIR/UIR/SRR	LWSS
TAJIKISTAN	Dushanbe FIR/SRR	UTDD
TURKEY	Ankara FIR/SRR	LTAA
	Istanbul FIR	LTBB
TURKMENISTAN	Askhabad FIR	UTAA
UKRAINE	Kyiv FIR/SRR	UKBV
	Kharkiv FIR/SRR	UKHV
	L'viv FIR/SSR	ULLV
	Odesa FIR/SRR	UKOV
	Simferopol' FIR/SRR	UKFV
UNITED KINGDOM	London FIR/UIR	EGTT
	Shanwick Oceanic Control Area/FIR	EGGX
	Scottish FIR/UIR	EGPX
	UK Mission Control Centre SRR	EGQP
UZBEKISTAN	Nukus FIR	UTNN
	Samarkand FIR	UTSS
	Tashkent FIR	UTTT

ANNEX 2 – MID

State	FIR Name	CCCC
AFGHANISTAN	KABUL FIR and SRR	OAKX
BAHRAIN	BAHRAIN FIR and SRR	OBBS
EGYPT	CAIRO FIR and SRR	HECC
IRAN (ISLAMIC REPUBLIC OF)	TEHRAN FIR and SRR	OIIX
IRAQ	BAGHDAD FIR and SRR	ORBS
ISRAEL	TEL AVIV FIR and SRR	LLAD
JORDAN	AMMAN FIR and SRR	OJAC
KUWAIT	KUWAIT FIR and SRR	OKAC
LEBANON	BEIRUT FIR and SRR	OLBA
OMAN	MUSCAT FIR and SRR	OOMM
SAUDI ARABIA	JEDDAH FIR and SRR	OEJD
SYRIAN ARAB REPUBLIC	DAMASCUS FIR and SRR	OSDI
UNITED ARAB EMIRATES	EMIRATES FIR and SRR	OMAE
YEMEN	SANAA FIR and SRR	OYSN

ANNEX 2 – CAR/SAM

[illegible]

AFI OPMET MTF/3 – Appendix G

[illegible]

ANNEX 2 – NAM

[illegible]

ANNEXE 3

AFI OPMET DB Catalogue Section 3 :

Database Bulletins

At this moment, the common database catalogue contains only a limited list of the AFI database bulletins. For the complete lists of available bulletins of the individual database agents, please refer to the national AFI OPMET DB catalogues (for URLs : see section 5 of this document).

Structure of the tables :

- Bulletin type (FC, FT or SA)
- “AAii” bulletin identifier
- CCCC ICAO location indicators.

ANNEXE 3 : AFI Bulletin Catalogue

TT	AAii	CCCC of Aerodromes
AFI - Addis Ababa		
SA	EA31	HAAB HAAY HADR HDAM
FT	EA31	HAAB HAAY HADR HDAM
AFI - Alger		
SA	AF31	DAAE DAUB DAAJ DAUO DAOV DAAP DATG DAAV DAUU DAOB DAUT DAUK
		DAAG DABB DABC DAOO DAON DAAT DTTA HLLT HLLB
FC	AF31	DAAE DAUB DAAJ DAUO DAOV DAAP DATG DAAV DAUU DAOB DAUT DAUK
FT	AF31	DAAG DABB DABC DAOO DAON DAAT DTTA HLLT HLLB
AFI - Antananarivo		
SA	IO31	FMMI FIMP FMEE FMNM FMCH FMMT
FT	IO31	FMMI FIMP FMEE FMNM FMCH FMMT
AFI - Brazzaville		
SA	AM31	FCBB FEFF FKKD FZAA FOOL FPST FCPP FKYS FOOG FGSL FNLU
FT	AM31	FCBB FEFF FKKD FZAA FOOL FPST FCPP FKYS FOOG FGSL FNLU
AFI - Caire		
SA	AF31	HECA HEAX HELX HSSS
FT	AF31	HECA HEAX HELX HSSS
AFI - Casablanca		
SA	MC31	GMMC GMAA GMMX GMME GMTT GCLP GCTS
FT	MC31	GMMC GMAA GMMX GMME GMTT GCLP GCTS
AFI - Dakar		
SA	AO32	GOOY GBYD GABS GFLG GLRB GQNN DIAP GUCY QOPP GVAC GGOV
FT	AO32	GOOY GBYD GABS GFLG GLRB GQNN DIAP GUCY QOPP GVAC GGOV
AFI - Pretoria (Johannesburg)		
SA	AP32	FAPR FACT FADN FBSK FVHA FWLI FLLS FQMA FQBR FABL FDMS FXMM FYWH
FT	AP32	FAPR FACT FADN FBSK FVHA FWLI FLLS FQMA FQBR FABL FDMS FXMM FYWH
AFI - Nairobi		
SA	AE32	HKJK HTDA HUEN HKMO HTKJ HBBA HRYR FSIA HCMM
FT	AE32	HKJK HTDA HUEN HKMO HTKJ HBBA HRYR FSIA HCMM
AFI - Niamey		
SA	AO33	DRNN DGAA DBBB DNKN DNMM DXXX FTTJ DFFDY
FT	AO33	DRNN DGAA DBBB DNKN DNMM DXXX FTTJ DFFDY

Appendix H - PROPOSED AMENDMENTS TO OPMET INFORMATION
FROM NON-AOP AERODROMES

	ICAO Location Indicator	SA	SP	FC	FT	SUG	Name	State	Region
1	DAAD	Yn		Yn		Yn	BOU-SAADA	Algeria	AFI
2	DAAS	Yn		Yn		Yn	SETIF	Algeria	AFI
3	DAAY	Yn		Yn		Yn	MECHERIA_AIRFROCE_BASE	Algeria	AFI
4	DABT	Yn		Yn		Yn	BATNA/MOSTEPHA_BEN_BOULAID	Algeria	AFI
5	DAFH	Yn		Yn		Yn	HASSI_RMEL	Algeria	AFI
6	DAOF	Yn		Yn		Yn	TINDOUF	Algeria	AFI
7	DAOI	Yn				Yn	ECH_CHELIFF	Algeria	AFI
8	DAOL	Yn	Yn			Yn	ORAN/TAFARAOUI	Algeria	AFI
9	DAOR	Yc	Yc	Yn		Yc	BECHAR	Algeria	AFI
10	DAOY			Yn		Yn	EL_BAYADH	Algeria	AFI
11	DATM	Yn		Yn		Yn	BORDJ_MOKHTAR	Algeria	AFI
12	DAUE	Yn		Yn		Yn	EL_GOLEA	Algeria	AFI
13	DAUL	Yn		Yn		Yn	LAGHOUT_AFB	Algeria	AFI
14	DGTK	Yn			Yn	Yn	TAKORADI	Ghana	AFI
15	DNGO	Yn			Yn	Yn	GOMBE	Nigeria	AFI
16	DNZA	Yn				Yn	ZARIA	Nigeria	AFI
17	DTNZ	Yn			Yn	Yn	ENFIDHA_/ZINE_EL_ABIDINE_BEN	Tunisia	AFI
18	DTTL	Yn				Yn	KILIBIA	Tunisia	AFI
19	DTTR	Yn		Yn		Yn	EL_BORMA	Tunisia	AFI
20	FAEL			Yn		Yn	EAST_LONDON	South_Africa	AFI
21	FAGG	Yn		Yn		Yn	GEORGE/P.O.BOTHA	South_Africa	AFI
22	FAHS			Yn		Yn	HOEDSPRUIT_AFB	South_Africa	AFI
23	FAKM			Yn		Yn	KIMBERLEY_(KIMBERLEY_AIRPORT)	South_Africa	AFI
24	FAKN	Yn		Yn		Yn	KRUGER_MPUMALANGA_INT	South_Africa	AFI
25	FALM	Yn		Yn		Yn	MAKHADO	South_Africa	AFI
26	FAPN			Yn		Yn	PILANESBERG	South_Africa	AFI
27	FAPP			Yn		Yn	POLOKWANE_INTERNATIONAL	South_Africa	AFI
28	FAUT			Yn		Yn	UMTATA	South_Africa	AFI
29	FAWB			Yn		Yn	PRETORIA/WONDERBOOM	South_Africa	AFI
30	FAWK			Yn		Yn	WATERKLOOF	South_Africa	AFI
31	FBFT	Yn		Yn		Yn	FRANCISTOWN	Botswana	AFI
32	FBKE	Yn		Yn		Yn	KASANE	Botswana	AFI
33	FBMN	Yn		Yn		Yn	MAUN	Botswana	AFI
34	FBSP	Yn		Yn		Yn	SELEBEI-PHIKWE	Botswana	AFI
35	FIMR	Yn			Yn	Yn	RODRIGUES/PALINE_CORAIL	Mauritius	AFI
36	FMCZ	Yn		Yn		Yn	DZAOUDZI	Comoros	AFI
37	FMEP	Yn		Yn		Yn	SAINT_PIERRE/PIERREFONDS	Reunion_(France)	AFI
38	FMMS	Yn				Yn	SIANT_MARIE	Madagascar	AFI
39	FMNA	Yn			Yn	Yn	ANTSIRANANA	Madagascar	AFI
40	FMST				Yn	Yn	TOLIARA	Madagascar	AFI
41	FQCH				Yn	Yn	CHIMOI	Mozambique	AFI

	ICAO Location Indicator	SA	SP	FC	FT	SUG	Name	State	Region
42	FQIN				Yn	Yn	INHAMBANE	Mozambique	AFI
43	FQLC				Yn	Yn	LICHINGA	Mozambique	AFI
44	FQPB				Yn	Yn	PEMBA	Mozambique	AFI
45	FQVL					Yn	VILANKULO	Mozambique	AFI
46	FVCZ			Yn		Yn	CHIREDDI/BUFFALO_RANGE	Zimbabwe	AFI
47	FVKB			Yn		Yn	KARIBA	Zimbabwe	AFI
48	FVMV			Yn		Yn	MASVINGO	Zimbabwe	AFI
49	FVWN			Yn		Yn	HWANGE_NATIONAL_PARK	Zimbabwe	AFI
50	FYGF			Yn		Yn	GROORFONTEIN	Namibia	AFI
51	FYOA			Yn		Yn	ONDANGWA	Namibia	AFI
52	FYWE			Yn		Yn	WINDHOEK/EROS	Namibia	AFI
53	GCGM	Yn				Yn	LA_GOMERA	Canary_Islands	AFI
54	GMMC	Yn				Yn	CASAMBLANCA/ANFA	Moroco	AFI
55	GMMH	Yn				Yn	DAKHILA	Moroco	AFI
56	GMMML	Yc	Yc	Yn	Yc	Yc	LAAYOUNE/HASSAN_1ER	Moroco	AFI
57	GMTA	Yn				Yn	AL_HOCEIMA	Moroco	AFI
58	GOOK	Yn				Yn	KAOLACK	Senegal	AFI
59	GOTK	Yn				Yn	KEDOUGOU	Senegal	AFI
60	GVBA	Yn			Yn	Yn	RABIL/BOA_VISTA8ISLAND	Cape_Verde	AFI
61	HEAR				Yn	Yn	EL_ARISH	Egypt	AFI
62	HEBA				Yn	Yn	ALEXANDRIA/BORG_EL_ARAB	Egypt	AFI
63	HEPS	Yn			Yn	Yn	PORT_SAID	Egypt	AFI
64	HLGD				Yn	Yn	GARDABYA	Libyan_Arab_Ja	AFI
65	HLKF				Yn	Yn	KUFRA	Libyan_Arab_Ja	AFI
66	HLLM	Yn			Yn	Yn	TRIPOLI/MITIGA	Libyan_Arab_Ja	AFI
67	HRZA	Yn			Yn	Yn	KAMEMBE	Rwanda	AFI

SA: METAR required

SP: SPECI required

FC: Short TAF required

FT: Long TAF required

SUG: SADIS User Guide

Yn: Yes - new requirements

Yc: Yes - current requirements

Appendix H - PROPOSED AMENDMENTS TO OPMET INFORMATION
FROM NON-AOP AERODROMES

	ICAO Location Indicator	SA	SP	FC	FT	SUG	Name	State	Region
1	DAAD	Yn		Yn		Yn	BOU-SAADA	Algeria	AFI
2	DAAS	Yn		Yn		Yn	SETIF	Algeria	AFI
3	DAAY	Yn		Yn		Yn	MECHERIA_AIRFROCE_BASE	Algeria	AFI
4	DABT	Yn		Yn		Yn	BATNA/MOSTEPHA_BEN_BOULAID	Algeria	AFI
5	DAFH	Yn		Yn		Yn	HASSI_RMEL	Algeria	AFI
6	DAOF	Yn		Yn		Yn	TINDOUF	Algeria	AFI
7	DAOI	Yn				Yn	ECH_CHELIFF	Algeria	AFI
8	DAOL	Yn	Yn			Yn	ORAN/TAFARAOUI	Algeria	AFI
9	DAOR	Yc	Yc	Yn		Yc	BECHAR	Algeria	AFI
10	DAOY			Yn		Yn	EL_BAYADH	Algeria	AFI
11	DATM	Yn		Yn		Yn	BORDJ_MOKHTAR	Algeria	AFI
12	DAUE	Yn		Yn		Yn	EL_GOLEA	Algeria	AFI
13	DAUL	Yn		Yn		Yn	LAGHOUT_AFB	Algeria	AFI
14	DGTK	Yn			Yn	Yn	TAKORADI	Ghana	AFI
15	DNGO	Yn			Yn	Yn	GOMBE	Nigeria	AFI
16	DNZA	Yn				Yn	ZARIA	Nigeria	AFI
17	DTNZ	Yn			Yn	Yn	ENFIDHA_/ZINE_EL_ABIDINE_BEN	Tunisia	AFI
18	DTTL	Yn				Yn	KILIBIA	Tunisia	AFI
19	DTTR	Yn		Yn		Yn	EL_BORMA	Tunisia	AFI
20	FAEL			Yn		Yn	EAST_LONDON	South_Africa	AFI
21	FAGG	Yn		Yn		Yn	GEORGE/P.O.BOTHA	South_Africa	AFI
22	FAHS			Yn		Yn	HOEDSPRUIT_AFB	South_Africa	AFI
23	FAKM			Yn		Yn	KIMBERLEY_(KIMBERLEY_AIRPORT)	South_Africa	AFI
24	FAKN	Yn		Yn		Yn	KRUGER_MPUMALANGA_INT	South_Africa	AFI
25	FALM	Yn		Yn		Yn	MAKHADO	South_Africa	AFI
26	FAPN			Yn		Yn	PILANESBERG	South_Africa	AFI
27	FAPP			Yn		Yn	POLOKWANE_INTERNATIONAL	South_Africa	AFI
28	FAUT			Yn		Yn	UMTATA	South_Africa	AFI
29	FAWB			Yn		Yn	PRETORIA/WONDERBOOM	South_Africa	AFI
30	FAWK			Yn		Yn	WATERKLOOF	South_Africa	AFI
31	FBFT	Yn		Yn		Yn	FRANCISTOWN	Botswana	AFI
32	FBKE	Yn		Yn		Yn	KASANE	Botswana	AFI
33	FBMN	Yn		Yn		Yn	MAUN	Botswana	AFI
34	FBSP	Yn		Yn		Yn	SELEBEI-PHIKWE	Botswana	AFI
35	FIMR	Yn			Yn	Yn	RODRIGUES/PALINE_CORAIL	Mauritius	AFI
36	FMCZ	Yn		Yn		Yn	DZAOUDZI	Comoros	AFI
37	FMEP	Yn		Yn		Yn	SAINT_PIERRE/PIERREFONDS	Reunion_(France)	AFI
38	FMMS	Yn				Yn	SIANT_MARIE	Madagascar	AFI
39	FMNA	Yn			Yn	Yn	ANTSIRANANA	Madagascar	AFI
40	FMST				Yn	Yn	TOLIARA	Madagascar	AFI
41	FQCH				Yn	Yn	CHIMOI	Mozambique	AFI

	ICAO Location Indicator	SA	SP	FC	FT	SUG	Name	State	Region
42	FQIN				Yn	Yn	INHAMBANE	Mozambique	AFI
43	FQLC				Yn	Yn	LICHINGA	Mozambique	AFI
44	FQPB				Yn	Yn	PEMBA	Mozambique	AFI
45	FQVL					Yn	VILANKULO	Mozambique	AFI
46	FVCZ			Yn		Yn	CHIREDDI/BUFFALO_RANGE	Zimbabwe	AFI
47	FVKB			Yn		Yn	KARIBA	Zimbabwe	AFI
48	FVMV			Yn		Yn	MASVINGO	Zimbabwe	AFI
49	FVWN			Yn		Yn	HWANGE_NATIONAL_PARK	Zimbabwe	AFI
50	FYGF			Yn		Yn	GROORFONTEIN	Namibia	AFI
51	FYOA			Yn		Yn	ONDANGWA	Namibia	AFI
52	FYWE			Yn		Yn	WINDHOEK/EROS	Namibia	AFI
53	GCGM	Yn				Yn	LA_GOMERA	Canary_Islands	AFI
54	GMMC	Yn				Yn	CASAMBLANCA/ANFA	Moroco	AFI
55	GMMH	Yn				Yn	DAKHILA	Moroco	AFI
56	GMMML	Yc	Yc	Yn	Yc	Yc	LAAYOUNE/HASSAN_1ER	Moroco	AFI
57	GMTA	Yn				Yn	AL_HOCEIMA	Moroco	AFI
58	GOOK	Yn				Yn	KAOLACK	Senegal	AFI
59	GOTK	Yn				Yn	KEDOUGOU	Senegal	AFI
60	GVBA	Yn			Yn	Yn	RABIL/BOA_VISTA8ISLAND	Cape_Verde	AFI
61	HEAR				Yn	Yn	EL_ARISH	Egypt	AFI
62	HEBA				Yn	Yn	ALEXANDRIA/BORG_EL_ARAB	Egypt	AFI
63	HEPS	Yn			Yn	Yn	PORT_SAID	Egypt	AFI
64	HLGD				Yn	Yn	GARDABYA	Libyan_Arab_Ja	AFI
65	HLKF				Yn	Yn	KUFRA	Libyan_Arab_Ja	AFI
66	HLLM	Yn			Yn	Yn	TRIPOLI/MITIGA	Libyan_Arab_Ja	AFI
67	HRZA	Yn			Yn	Yn	KAMEMBE	Rwanda	AFI

SA: METAR required

SP: SPECI required

FC: Short TAF required

FT: Long TAF required

SUG: SADIS User Guide

Yn: Yes - new requirements

Yc: Yes - current requirements

Appendix I - AMENDEMENT TO OPMET INFORMATION FROM NON-AOP AERODROMES

Note. - the nomenclature is based on the one provided by IATA; it does not reflect the official ICAO position in the regard

ICAO Location Indicator	SA	SP	FC	FT	FX	SUG	Name	State	Region
DATG	✖	✖	✖			✖	IN_GUEZZAM	Algeria	AFI
DIKO	✖	✖				✖	KORHOGO	Cote d'Ivoire	AFI
DIMN	✖	✖				✖	MAN	Cote d'Ivoire	AFI
DISP	✖	✖				✖	SAN_PEDRO	Cote d'Ivoire	AFI
FAAB	✖	✖				✖	ALEXANDER_BAY	South-Africa	AFI
FEFG	✖	✖				✖	BANGASSOU	Central-African- Republic	AFI
FOOD	✖	✖				✖	MOANDA	Gabon	AFI
FZAB	✖	✖		✖		✖	KINSHASHA/N'DOLO	Democratique _Republique of the Congo	AFI
FZBN	✖	✖		✖		✖	MALEBO	Democratique _Republique of the Congo	AFI
FZEA	✖	✖		✖		✖	MBANDAKA	Democratique _Republique of the Congo	AFI
FZOA	✖	✖		✖		✖	KINDU	Democratique _Republique of the Congo	AFI
FZOS	✖	✖		✖		✖	KASESE	Democratique _Republique of the Congo	AFI
FZRF	✖	✖		✖		✖	KALEMIE	Democratique _Republique of the Congo	AFI
FZSA	✖	✖		✖		✖	KAMINA	Democratique _Republique of the Congo	AFI
GLMR	✖	✖		✖		✖	MONROVIA/SPRIGGS_PAYNE	Liberia	AFI
GQNK	✖	✖		✖		✖	KAEDI	Mauritania	AFI
GUFH	✖	✖		✖		✖	FARANAH	Guinea	AFI
GUOK	✖	✖		✖		✖	BOKE/BARALANDE	Guinea	AFI
HKML	✖	✖		✖		✖	MALINDI	Kenya	AFI
HKNW	✖	✖		✖		✖	NAIROBI/WILSON	Kenya	AFI
HSDN	✖	✖		✖		✖	DONGOLA	Sudan	AFI
HTMW	✖	✖		✖		✖	MWANZA	United _Republique _of Tanzania	AFI
HTTG	✖	✖		✖		✖	TANGA	United _Republique _of Tanzania	AFI

SA: METAR required

SP: SPECI required

FC: Short TAF required

FT: Long TAF required

SUG: Listed in the SADIS User Guide

✖: Information no more required by IATA

Appendix J

Terms of Reference, Work programme and composition of the AFI OPMET Management Task Force (MTF)

1. Terms of Reference

- Review the OPMET exchange scheme in the AFI Region and develop proposals for their optimization taking into account the requirements by the aviation users and the current trends for global OPMET exchange;
- Develop monitoring and management procedures related to AMBEX exchange and other exchange of OPMET information;
- Regularly update the regional guidance material related to OPMET exchange;
- Liaise with other groups dealing with communication and/or management aspects of the OPMET exchange in AFI and other ICAO Regions (ASIA/PAC OPMET/M TF, BMG EUR Region, CNS/MET SG MID Region, etc.).

2. Composition

The Task Force is composed of experts from:

- a) Algeria, Cameroon, Congo, Gambia, Kenya, France, Madagascar, Morocco, Niger, Nigeria, Senegal (Rapporteur), South Africa and ASECNA.
- b) Representatives of IATA and WMO are invited to participate in the work of the Task Force.

Appendix K

MTF Future Work Programme for 2012 – 2016 (5 years: Current and next triennium)

	Task	Source	Recent Progress Next milestone and its deadline	Status of Implementation	Final Result (completion)
1	Examine the existing and any new requirements for OPMET exchange in AFI and adjacent regions and assess the feasibility of satisfying these requirements, taking into account the availability of the data;	APIRG/16 Décision. 16/54	a) Specific amendments of the AMBEX Handbook undertaken by APIRG/17 b) Develop back up procedures for the AFI RODBs (2012)	a) Implementation by States underway b) Still under development by the RODBs (expected completion by 2013)	OPMET exchange in AFI and adjacent regions, improved
2	Keep under review the AMBEX scheme and other OPMET exchange schemes and prepare proposal for updating the optimizing of the schemes;	APIRG/16 Décision. 16/54	c) the AMBEX scheme reviewed by MTF/3 (June 2011) d) Continuous review of the AMBEX scheme	c) Reviewed and submitted to MET/SG/10 (June 2011) d) Continuous basis	Exchange of OPMET information through AMBEX, improved
3	Review and update the procedures for interregional OPMET exchange and ensure the availability of the required AFI OPMET data for the AFS satellite broadcast (SADIS);	APIRG/16 Décision. 16/54	e) The related Chapter of the AMBEX Handbook reviewed (Sept 2010) f) SADISOPSG/16 Concl. Reviewed (June 2011) g) Continuous review of the procedures h) SADISOPSG/17 Concl. Review (2012): yearly	e) Implemented by MTF/3 f) Implemented by MTF/3 g) Continuous basis h) Yearly basis	Efficient inter-regional OPMET exchanges and availability of AFI OPMET on SADIS, improved
4	Keep under review and provide timely amendments of the regional guidance materials on the OPMET exchange; to ensure that guidance material covers procedures for the exchange of all required OPMET data types: SA, SP, FT, WS, WC, WV, FK, FV, UA;	APIRG/16 Décision. 16/54	i) The related Chapter of the AMBEX Handbook reviewed (Sept. 2010) j) Continuous review	i) Implemented by MTF/2 j) Continuous basis	Regional guidance material for the issuance of OPMET established and improved
5	Conduct trials and develop procedures for monitoring and management of the OPMET exchange; to foster implementation of quality management of OPMET data by the AMBEX centres and the RODBs; and	APIRG/16 Décision. 16/54	k) procedures for monitoring and management of the OPMET exchange reviewed (Sept 2010) l) SIGMET Tests conducted yearly (since Nov./2008 to Nov. 2010) m) Three SIGMET Tests planned for October 2011 n) A joined OPMET monitoring by the RODBs every three months: end of March, June, September and October o) Assessment of the RODBs during yearly meeting	k) Implemented by MTF/2 l) Implemented in 2008/2010 m) To be implemented in November 2011 n) Not implemented yet, procedures for implementation under approval by MET/SG/10 o) Implemented by MTF/3 in 2011, yearly basis	SIGMET exchange and management of other OPMET, enhanced

	Task	Source	Recent Progress Next milestone and its deadline	Status of Implementation	Final Result (completion)
6	Prepare regional plan for the transition to XML coded OPMET information in coordination with the relevant APRIG contributing bodies.	APIRG/16 Decision. 16/54	p) Final decision on future OPMET XML coded format awaited from MET Div (2014) q) AFI Regional Plan to be prepared after the adoption by the MET Div Meeting)	p) Decision awaited q) Plan to be prepared by MTF in 2015	A regional OPMET format transition plan established