

### METEOROLOGY PROJECT.1

| AFI Region   | Project Description  |       |      |
|--|--|-------|------|
| Programme  | Title of the Project   | Start | End  |
| <p><i>Aeronautical Meteorology</i></p> <p><b>(B0-AMET PFF Project Facilitators: ICAO ROs/MET, Dakar &amp; Nairobi)</b></p> | <p>Implementation of information concerning en-route weather phenomena which may affect the safety of aircraft operations (SIGMET), Quality Management System for aeronautical meteorology (QMS/MET) service, in the AFI region</p> <p><b>B0-AMET PFF-1</b> <i>Project-Team Coordinator: South Africa</i><br/> <i>12 Experts contributing to the B0-AMET PFF-1 South Africa, Niger, Nigeria, Togo, Uganda, IATA, ASECNA, Mauritania, Côte d’Ivoire, WMO, Guinea,</i></p>   | 2015  | 2018 |
| Objective  | <p>Assist States in the implementation of :</p> <ul style="list-style-type: none"> <li>a) SIGMET and standards and recommended practices of Annex 3 and Part V – MET of the AFI Air Navigation Plan (ANP), Volumes I, II, III concerning the issuance and distribution of en-route weather phenomena including volcanic ash clouds (WV), tropical cyclones (WC) and other phenomena (WS - thunderstorms, severe turbulence, icing, mountain waves, heavy sandstorms and duststorm), likely to affect the safety of aircraft operations, and the evolution of such phenomena in time and space (SIGMET WV, WC and WS);</li> <li>b) QMS/MET and certification where applicable, by developing a regional QMS/MET guide to assist States in the production of MET documentation under ISO 9001: 2008, enhancing the training of MET personnel in States that have not implemented QMS, encouraging States to institute cost recovery mechanism to support QMS maintenance in accordance with ICAO Annex 3 and Part V – MET of the AFI ANP, and conducting audit trials;</li> <li>c) An action plan to assist concerned States in their effort to remove air navigation deficiencies in the MET field listed in the APIRG report; and</li> <li>d) The transition plan from current aeronautical meteorological information to the future SWIM-enabled environment in the AFI region by encouraging AFI States to progressively develop capability of handling OPMET data in digital format (XML/GML) and to start using XML/GML codes in operational environment by 2018.</li> </ul> |       |      |
| Scope  | <ul style="list-style-type: none"> <li>a) The SIGMET part of the project will comprise all Meteorological Watch Offices (MWOs) listed in Table MET II-1 of the AFI ANP Volume II;</li> <li>b) QMS part of the project is related to all AFI aerodromes listed in the AFI ANP Table MET II-2 for the establishment and application of a duly organized quality system of MET service;</li> <li>c) The list of States having long lasting MET deficiencies, is listed in the last report of the APIRG meeting; and</li> <li>d) The Transition Plan part of the project is related to all AFI aerodromes listed in the AFI ANP Table MET II-2.</li> </ul>   |       |      |

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| Metrics    | <ul style="list-style-type: none"> <li>a) SIGMET metric: Number of MWOs listed in AFI ANP Table MET II-1, with SIGMET procedures implemented in December 2017</li> <li>b) QMS metrics: Number of MET Provider States listed in AFI ANP Table MET II-2, with QMS/MET certified or recertified in December 2018</li> <li>c) Deficiency metrics: Number of identified States in APIRG/20 report, with MET deficiencies removed in December 2018</li> <li>d) Transition Plan metrics: Number of AFI States implemented OPMET data in digital format (XML/GML) in December 2018</li> </ul>   |       |     |
| Strategy   | <p>All tasks will be carried out by MET experts nominated by AFI States participating in the project, led by the Project-Team Coordinator and under the supervision of the B0-AMET PFF Project Facilitators (ROs/MET, Dakar and Nairobi) through the “GoTo Meeting” tool. Upon completion of the tasks, the results will be sent to the B0-AMET PFF Project Facilitators as a final document for submission to, and if necessary approval by the APIRG Projects Coordination Committee (APCC). For the purpose of collaborative decision-making, meetings will be held with the areas involved.</p>   |       |     |
| Rationale  | <ul style="list-style-type: none"> <li>a) SIGMET: The lack of implementation by about 21% of AFI MWO Provider States, of information concerning en-route weather phenomena which may affect the safety of aircraft operations (SIGMET), in the region and their repercussions on the provision of air navigation services call for tools to allow the personnel involved in the different air navigation areas to receive, properly use, and disseminate quality information related to such events.</li> <li>b) QMS: More accurate and timely meteorological information will optimize flight path planning and prediction, thus improving ATM safety and efficiency; improved aerodrome reports and forecasts will optimise the use of available aerodrome capacity; and meteorological information will minimize the environmental impact of air traffic. Performance management will be an important part of meteorological information quality assurance.</li> <li>c) Deficiencies: The decrease or removal of MET deficiencies listed in the APIRG meetings, will increase air navigation safety and efficiency in the region.</li> <li>d) Digital OPMET: progressive implementation of digital OPMET (SIGMET, METAR, SPECI and TAF) in the AFI region, will enable AFI States to be prepared for digital OPMET exchange in the future SWIM environment.</li> </ul> |       |     |

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|------------------|---|-------|
| Programme        | Title of the Project  | Start |
| Related projects | All APIRG specifically projects related to: <ul style="list-style-type: none"> <li>✓ Implementation of Improved Airport Operations through Airport-CDM (B0-ACDM)</li> <li>✓ Implementation of Optimization of Approach Procedures including Vertical Guidance (B0-APTA)</li> <li>✓ Implementation of Improved Operations through Enhanced En-Route Trajectories (B0-FRTO)</li> <li>✓ Implementation of Improved Flexibility and Efficiency in Descent Profiles (CDO) (B0-CDO)</li> <li>✓ Implementation of Improved Flexibility and Efficiency in Departure Profiles —Continuous Climb Operations (CCO) (B0-CCO)</li> </ul> |       |

| Project Deliverable |   | Relationship with the performance - based regional plan (PFF) | Responsible Party  | Status of Implementation | Date of Deliver                      | Comments  |
|---------------------|---|---|--|--------------------------|--------------------------------------|---|
| SIGMET              | updated AFI regional SIGMET Guide distributed and placed on ICAO website        | <b>AFI B0-AMET PFF-1</b>                                      | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinators</li> </ul>   | New edition drafted      | Before October 2015 (after APIRG/20) | Guide updated based on the regional SIGMET Guide Template   |
|                     | Current level of implementation of SIGMET assessed through annual SIGMET trials | <b>AFI B0-AMET PFF-1</b>                                      | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> | Yearly SIGMET Tests      | December 2015                        | Results of SIGMET Tests in November 2015 will update the level of implementation under the new edition of the Guide |
|                     | An updated list of States not compliant with SIGMET format, established         | <b>AFI B0-AMET PFF-1</b>                                      | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |                          | December 2015                        |   |
|                     | Details guidance to States not issuing SIGMET, distributed                      | <b>AFI B0-AMET PFF-1</b>                                      | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |                          | December 2016                        |   |

|              |  |                          |  |  |               |  |
|--------------|--|--------------------------|--|--|---------------|--|
| QMS          | A Regional QMS/MET guide to assist States in the production of MET documentation under ISO 9001: 2008, developed, distributed and placed on ICAO website | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | June 2016     |  |
|              | An updated list of States not implementing or partially implementing QMS, established and placed on ICAO website   | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | December 2015 |  |
|              | Training of MET personnel in States that have not implemented QMS, performed, and training workshop  | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> </ul>  |  | December 2017 |  |
|              | report distributed   |                          | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul>  |  |               |  |
|              | Training on cost recovery mechanism for MET performed; training workshop report encouraging Sates to institute cost recovery mechanism, distributed.     | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | December 2015 |  |
|              | Report on QMS/MET Audit trials, distributed and placed on ICAO website   | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | December 2015 |  |
| Deficiencies | Current air navigation deficiencies in the MET field, assessed and confirmed   | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> | MET deficiencies established by APIRG/19 | December 2015 | Updated MET deficiencies to be established by APIRG/20 |
|              | An updated list of MET deficiencies for remaining AFI States not listed in APIRG/19 report, established  | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | December 2016 |  |

|               |   |                          |  |  |                             |  |
|---------------|---|--------------------------|--|--|-----------------------------|--|
|               | An updated list of deficiencies including States not compliant with SIGMET format, established  | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | December 2015               |  |
|               | List of States having develop action plans to eliminate Terminal Area Warnings deficiencies, distributed  | <b>AFI B0-AMET PFF-2</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-2 Project Team Leader</li> </ul> |  | December 2018               |  |
|               | Reports on Specific training workshops in French and English to assist States concerned to address deficiencies related to the implementation of the AMBEX scheme and for the provision of further advice and awareness, issued and distributed | <b>AFI B0-AMET PFF-2</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-2 Project Team Leader</li> </ul> |  | December 2016 and June 2018 |  |
| Deficiencies  | An action plan to assist concerned States to remove long lasting MET deficiencies, established  | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | December 2017               |  |
| Digital OPMET | Dakar and Pretoria RODBs Provider States developed capability of handling digital OPMET (SIGMET, METAR, SPECI, TAF) and provided technical assistance as required to other AFI States   | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | December 2016               | In accordance with the AFI digital OPMET transition plan |
|               | Dakar and Pretoria RODBs Provider States assisted AFI States including BCC and NOC Provider States, in developing capability of handling digital OPMET  | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | December 2017               | In accordance with the AFI digital OPMET transition plan |

|  |  |                          |  |  |               |  |
|--|--|--------------------------|--|--|---------------|--|
|  | AFI States implemented digital OPMET in BCC and NOCs in accordance with Amendment 77 to ICAO Annex 3 | <b>AFI B0-AMET PFF-1</b> | <ul style="list-style-type: none"> <li>✓ AFI B0-AMET PFF Project Coordinator</li> <li>✓ AFI B0-AMET-1 Project Team Leader</li> </ul> |  | December 2018 | In accordance with the AFI digital OPMET transition plan |
| <ul style="list-style-type: none"> <li>✓ Funds to conduct the meetings, missions and to translate reports, regional guides and manuals. Likewise, participants must be given facilities to participate in Go To Meetings.</li> <li>✓ Funds to conduct audit trials. States could cover the cost of trials by their lead auditors, since the experience obtained will contribute to improve the system. Likewise, participants must be given facilities to participate in GoTo Meetings.</li> </ul> |  |                          |  |  |               |  |