



ICAO

## INTERNATIONAL CIVIL AVIATION ORGANIZATION

Meeting of the 1<sup>st</sup> APIRG Infrastructure and Information Management Sub-Group (IIM/SG)  
(Nairobi, Kenya, 27 to 30 June 2017)

## PROJECT: MET Project -1

## DOMAIN : IIM

(Infrastructure &amp; Information Management)

AFI REGION	PROJECT DESCRIPTION	REFERENCE IIM/SG/ Area of Routing # All	
Sub-domain	Title of the Project	Start	End
<i>Aeronautical Meteorology (MET)</i>  (ICAO Facilitator: WACAF/ESAF ROs/MET)	<b>SIGMET/QMS/Deficiencies/D-OPMET:</b> 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, and digital OPMET in the AFI region  <b>MET project 1- Project-Team Coordinator:</b>  <b>MET project 1 Project Team Experts (12): xxxx, xxxxx,</b>	June/ 2015	December/ 2018
<b>Objectives</b>	Assist States in the implementation of : <ol style="list-style-type: none"> <li>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>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>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>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> </ol>		
<b>Scope</b>	<ol style="list-style-type: none"> <li>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>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>The list of States having long lasting MET deficiencies, is listed in the last report of the APIRG meeting; and</li> <li>The Transition Plan part of the project is related to all AFI aerodromes listed in the AFI</li> </ol>		

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	ANP Table MET II-2.		
<b>Metrics</b>	a) SIGMET metric: Number of MWOs listed in AFI ANP Table MET II-1, with SIGMET procedures implemented by December 2017 b) QMS metrics: Number of MET Provider States listed in AFI ANP Table MET II-2, with QMS/MET certified or recertified by December 2018 c) Deficiency metrics: Number of identified States in APIRG/20 report, with MET deficiencies removed by December 2018 d) Transition Plan metrics: Number of AFI States implemented OPMET data in digital format (XML/GML) by December 2018		
<b>Goals</b>	Meteorological information supporting enhanced operational efficiency and safety		
<b>Strategy</b>	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.		
<b>Justification</b>	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. b) QMS: More accurate and timely meteorological information will contribute to 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. c) Deficiencies: The decrease or removal of MET deficiencies listed in the APIRG meetings, will increase air navigation safety and efficiency in the region. 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.		
<b>Related projects</b>	All APIRG projects specifically 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 Deliverables	Relationship with the Regional Performance-Objectives (RPOs/PFFs) and ASBU Modules	KPI	Responsible	Status of Implement	Date of Delivery	Comments
<b>SIGMET</b>						
✓ updated AFI regional SIGMET Guide distributed and placed on ICAO website	AFI B0-AMET PFF-1		✓ AFI B0-AMET PFF Project Coordinators	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 tests	AFI B0-AMET PFF-1		✓ AFI B0-AMET PFF Project Coordinator ✓ AFI B0-AMET-1 Project Team Leader	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	AFI B0-AMET PFF-1		✓ AFI B0-AMET PFF Project Coordinator ✓ AFI B0-AMET-1 Project Team Leader		December 2015	
✓ Details guidance to States not issuing SIGMET, distributed	AFI B0-AMET PFF-1		✓ AFI B0-AMET PFF Project Coordinator ✓ AFI B0-AMET-1 Project Team Leader		December 2016	
<b>QMS</b>						
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	AFI B0-AMET PFF-1		✓ AFI B0-AMET PFF Project Coordinator ✓ AFI B0-AMET-1 Project Team Leader		June 2016	
An updated list of States not implementing or partially implementing QMS, established and placed on ICAO website	AFI B0-AMET PFF-1		✓ AFI B0-AMET PFF Project Coordinator ✓ AFI B0-AMET-1 Project Team Leader		December 2015	
Training of MET personnel in States that have not implemented QMS, performed, and training workshop	AFI B0-AMET PFF-1		✓ AFI B0-AMET PFF Project Coordinator ✓ AFI B0-AMET-1 Project Team Leader		December 2017	

<sup>1</sup> *Grey* Task not started yet  
*Green* Activity being implemented as scheduled  
*Yellow* Activity started with some delay, but will be implemented on time  
*Red* Activity not implemented on time; mitigation measures are required

Project Deliverables	Relationship with the Regional Performance-Objectives (RPOs/PFFs) and ASBU Modules	KPI	Responsible	Status of Implement	Date of Delivery	Comments
Training on cost recovery mechanism for MET performed; training workshop report encouraging States 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 2018	
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	
<b>MET Deficiencies</b>						
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>		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>	<input type="checkbox"/>	<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	

Project Deliverables	Relationship with the Regional Performance-Objectives (RPOs/PFFs) and ASBU Modules	KPI	Responsible	Status of Implement	Date of Delivery	Comments
An action plan to assist concerned States to remove long lasting MET deficiencies, established	<b>AFI B0-AMET PFF-1</b>	<input type="checkbox"/>	<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	
<b>Digital OPMET</b>						
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
<b>Resources needed</b>	<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>					

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