



*International Civil Aviation Organization*

**THE TENTH MEETING OF ASIA/PACIFIC OPMET MANAGEMENT  
TASK FORCE (OPMET/M TF/10)**

Bangkok, Thailand, 17 – 19 April 2012

**Agenda Item 2: a) Review Current status of OPMET exchange in the Region**

**MET DEFICIENCIES UPDATE**

(Presented by the Secretariat)

**SUMMARY**

This paper provides the meeting with updates to MET deficiencies listed in the APANPIRG list of deficiencies.

This paper relates to:

**Strategic Objectives:**

A. Safety

**Global Plan Initiatives:**

GPI-18 Aeronautical information

GPI-19 Meteorological Systems

**1. INTRODUCTION**

1.1 Under the Terms of Reference, the APANPIRG has been regularly reviewing the status of implementation of the Asia Pacific Air Navigation Plan through its subgroups to identify and address the air navigation deficiencies according to the uniform methodology approved by the ICAO Council. In meeting this objective, APANPIRG facilitates the development and implementation of action plans by States to resolve identified deficiencies, where necessary. There are currently 17 MET deficiencies listed in the APANPIRG air navigation deficiencies data base, which may be accessed by following the link at the web address: <http://www.bangkok.icao.int/>.

**2. DISCUSSION**

2.1 The MET deficiencies listed in the APANPIRG air navigation deficiencies data base were last updated as a result of APANPIRG Conclusion 22/51 to add the SIGMET deficiency for lack of SIGMET in the equatorial region. A detailed summary of the MET deficiencies reviewed by APANPIRG/22, including the reporting form on air navigation deficiencies in the MET field in the Asia/Pac Region, is provided in the **Attachment**.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to note the information in this paper and provide any updates relevant to APANPIRG deficiencies in the MET field.

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**ATTACHMENT**  
(extract from APANPIRG/22 – Final Report)

**4.6 Deficiencies in the MET field**

4.6.1 The meeting noted the progress made to overcome some of the deficiencies based on report of implementation by States and Regional OPMET Data Bank (RODB) monitoring.

4.6.2 The meeting noted with appreciation that Lao PDR had established a Meteorological Watch Office (MWO) on 1 April 2010 and began issuing SIGMET in March 2011. RODB Bangkok monitored SIGMET issued by Lao PDR for the period from 1 March 2011 to 27 April 2011. Lao PDR was advised of the formatting problems identified during the monitoring and was requested to correct such problems. The meeting considered that this deficiency should be removed provided that: 1) format errors have been addressed; 2) SIGMET is issued routinely when warranted, and 3) the airlines are satisfied with the results. It was recognized that further progress was warranted before removing this deficiency from the list.

4.6.3 The Regional Office received notification from DPR Korea on 30 March 2009 of the establishment of a MWO. It was evident that DPR Korea was producing SIGMET on a regular basis and was providing routing SIGMET to RODB Tokyo. The meeting commended the progress associated with the Sunan MWO. It was agreed that if DPR Korea continued issuance of SIGMET in accordance to Annex 3 occurred for another six months and if DPR Korea participated in the APAC SIGMET tests in November 2011, the deficiency would be considered for removal from the list.

4.6.4 SIGMET is currently issued for the Phnom Penh FIR by the Chengdu MWO of China based on the letter of agreement between Cambodia and China. The MWO in Cambodia may be implemented by the end of 2011 and subsequently this deficiency would be considered for removal from the list.

4.6.5 Deficiencies related to volcanic ash SIGMET needs to be corrected by Indonesia, Philippines and Papua New Guinea.

4.6.6 A focus on the lack of SIGMET issued for the Port Moresby, Honiara, and Nauru FIRs raised serious concerns since this sub regional area is prone to tropical cyclones, CB and at times volcanic ash. IATA emphasized the importance of having hazards reported in this large sub-regional area that straddled the equator and deemed this situation unsafe and unacceptable to airline operations. It was suggested that State in a position to do so should be urged to provide this service until such time the respective States can provide SIGMET; as a result, the meeting adopted the following Conclusion.

**Conclusion 22/51** – Addition of the APANPIRG Air Navigation Deficiency for lack of SIGMET in equatorial region

That,

- a) the lack of SIGMET for Port Moresby, Honiara, and Nauru FIRs be included in the list of air navigation deficiency; and
- b) States concerned be urged to take urgent action to seek assistance from State in a position to do so to provide the service until such time the States concerned can provide their own SIGMET.

4.6.7 WAFS forecasts for flight briefings

4.6.7.1 Myanmar had provided the Regional Office with letters from Thai Airways and Silk Air stating that they are receiving WAFS forecasts in flight briefings issued by Myanmar. This has happened as a result of implementation of SADIS FTP. It was therefore agreed to remove this deficiency from the list.

4.6.7.2 WAFS forecasts for flight briefings can be obtained by the WAFS Internet File Server (WIFS), which would be less expensive than the hardware associated with satellite retrieval. The South Pacific Islands States (all but two – Samoa and Solomon Islands) have registered for WIFS. It was noted that activation and utilization of WIFS will assist in removing the related deficiencies for Nauru, Kiribati and Solomon Islands

4.6.8 Volcanic ash observations and dissemination

4.6.8.1 Lack of volcano monitoring for the Kingdom of Tonga (AP-MET-17) was identified by the ICAO Technical Co-operation Project Cooperative Agreement for Enhancement of the Meteorological Service for Aviation in the South Pacific (CAEMSA-SP). A letter of agreement is being considered for the observation and dissemination of volcanic ash information between the Ministry of Lands, Survey, and Natural Resources and the Ministry of Transport. A recent account of volcanic ash observed by aircraft, but not reported by MLSNRMT of Tonga to VAAC Wellington, indicated the need for further action.

4.6.8.2 The updated List of Air Navigation Deficiencies in the MET field is given in Attachment D to this paper.

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**Attachment D to Report on Agenda Item 4**

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION								
Identification		Deficiencies			Corrective action			
Requirements	States/ facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action *
Meteorological observations and reports. (Annex 3, Chapter 4)	Solomon I.	Weather information is inadequate and not provided on a regular basis	1996 Confirmed 2006 SOA	Reported by airlines operating to Solomon I.	Equipment to be upgraded and arrangements to be made for regular observations  TC expert recommendation to replace and/or calibrate MET obs. equipment AGGH – 2008  State made aware of MET Services gaps identified by ICAO TC Project, CAEMSA-SP, in late 2008  <b>CAEMSA-SP Phase II plan for Donors and associated remedies</b>  <b>Activation of WIFS will assist in overcoming deficiency</b>	Ministry of Transport, Works and Aviation, Solomon I.  <i>Note: OPMET/M TF to carry out survey</i>	2011	A
Meteorological observations and reports. (Annex 3, Chapter 4)	Kiribati	METAR from Kiribati not available on regular basis.	1998 Confirmed 2005 SIP	Reported by airlines	State's MET authority to consider urgent action to be taken for providing regular observations and reports  TC expert recommendation to purchase/install AWOS – 2008  ICAO SIP conducted in 2005  State made aware of MET Services gaps identified by ICAO TC Project CAEMSA-SP, in late 2008  <b>CAEMSA-SP Phase II plan for Donors and associated remedies. Activation of WIFS will assist in overcoming deficiency</b>	Directorate of Civil Aviation, Kiribati.  <i>Note: OPMET/M TF to carry out survey</i>	2011	A

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Reporting of information on volcanic eruptions to civil aviation units. (Annex 3 p. 4.14 (recom.))	Indonesia	Information on volcanic activity not provided regularly to ATS units and MWOs.	1995  Confirmed by ICAO SIP mission Dec 2003	Observed by States concerned.  Reported at the WMO/ICAO Workshop on Volcanic Ash Hazards (Darwin, 1995)	Three-party LOA to be signed between the MGA, DGCA and DVGHM  Information exchange between CVGHM & ABA in draft form.  VSAT comms installed to improve the monitoring in E Nusa Tenggara – provides direct transfer of data to CVGHM HQ full time. (AusAID-funded project)  Bilingual reporting form based on VONA to improve comm. to VAAC in Sulawesi	DGCA, MGA Indonesia	TBD  (no action plan submitted to RO)	A
Reporting of information on volcanic eruptions to civil aviation units. (Annex 3 p. 4.14 (recom.))	Papua New Guinea	Information on volcanic activity not provided regularly to ATS units and MWOs.	1995  Confirmed by ICAO SIP mission Dec 2003	Observed by States concerned.  Reported at the WMO/ICAO Workshop on Volcanic Ash Hazards (Darwin, 1995)	Procedures to be set up for exchange of data between NWS, ATS and Rabaul Volcano Observatory (RVO) and a LOA to be signed  Discussion of an agreement between RVO & PNG CAA to provide volcanic information to aviation through cost recovery is underway.	NWS, ATS Papua New Guinea  <i>Note: ICAO Regional Office to monitor</i>	TBD  (no action plan submitted to RO)	A
Provision of SIGMET for volcanic ash (Annex 3, Chapter 7; ASIA/PAC FASID Table MET 1B)	Indonesia  Philippines  Papua New Guinea	Requirements for issuance and proper dissemination of SIGMET, including SIGMET for volcanic ash, have not been fully	ICAO SIP mission Dec 2003	a) Reported by airlines  b) Noted by Volcanic Ash Advisory Centres	a) ICAO to carry out a Special Implementation Project (SIP) with the primary objective to improve implementation of SIGMET procedures, especially for VA.  b) State to take urgent actions to implement the SIGMET procedures.  Note. ICAO SIP carried out in 2003, progress in issuance of SIGMET for VA is noted; the outstanding problems to be resolved within 1-year	a) State's Met authorities  b) ICAO to implement the SIP.  c) ICAO Regional Office to	To be advised	U

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		implemented			(progress reported by VAAC Darwin) LOA between ATO, PHIVOCS & PAGASA signed in 2004 to make reporting part of information dissemination practice. LOA is undergoing periodic review (ref. letter of PAGASA dated March 12, 2008) VAAC Darwin trained forecasters in PNG and Philippines to prepare VA SIGMET <b>Participated in VA SIGMET test 17 Nov 2009</b>	co-ordinate and monitor.		
a) Service for operators and flight crew members. (Annex 3, Chapter 9).  b) WAFS products for flight documentation. (ASIA/PAC FASID Table MET 1A).	Cambodia  <i>(AP-MET-09)</i>	Briefing and flight documentation not provided as required.  WAFS products not available	1999	Airlines do not receive the required flight documentation including WAFS forecasts.	States to consider urgent action for installation of SADIS VSAT for receiving WAFS products and OPMET information.  Action plan proposed by ICAO MET mission 2003  A TC project proposal submitted to SSCA, Cambodia  <b>Cambodia expects to have SADIS FTP operational in 2011 and may require training from a nearby State</b>	State's MET authorities	End 2011	A
MWO for Phnom Penh FIR and SIGMET  (Annex 3, Chapter 3 & 7; ASIA/PAC FASID Table MET 1B)	<i>Cambodia</i> <i>(AP-MET-11)</i>	Requirements for meteorological watch office (MWO) to be established at Phnom-Penh international airport have not		MWO not established due to lack of trained personnel and technical facilities. No SIGMET service for	Establishment of MWO currently not feasible. SIGMET service is provided under bilateral agreement with China to meet requirements.  A TC project proposal submitted to SSCA, Cambodia  <b>Cambodia is in process of establishing its own MWO with target date end of 2011</b>	SSCA, Cambodia	TBD  End 2011	A

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		been met.		Phnom Penh FIR				
Provision of SIGMET information (Annex 3, Chapter 7; ASIA/PAC FASID Table MET 1B)	<i>Lao PDR</i> <i>(AP-MET-12)</i>	Requirements for issuance and dissemination of SIGMET have not been fully implemented.	2000	SIGMET frequently not available  Reported by airlines	State's MET authority to take urgent actions to implement the SIGMET procedures.  Lao PDR has established MWO in 2010 and started issuing SIGMET since March 2011. As a result of monitoring by RODB Bangkok LAO PDR was advised to correct noted formatting problem and to issue SIGMET on a regular basis to meet requirements.  Lao PDR is expected to issue SIGMET regularly by the end of 2011. This deficiency can be considered for removal after correcting the above problems.	State's MET authorities	End 2011	A
Provision of SIGMET information for Kathmandu FIR. (Annex 3, Chapter 7; ASIA/PAC FASID Table MET 1B)	<i>Nepal</i> <i>(AP-MET-14)</i>	Requirements for issuance and dissemination of SIGMET have not been met.	2000	Not established due to lack of technical facilities. No SIGMET service for Kathmandu FIR.	Issuance of SIGMET currently not feasible.  Action being taken to have SIGMET service provided under bilateral agreement with a neighboring country to meet immediate requirement.  Nepal is also planning to issue its own SIGMET	MET Authority Nepal	End 2011  TBD	A
MWO for Pyongyang FIR and SIGMET (Annex 3, Chapter 3 & 7; ASIA/PAC	<i>DPR Korea</i> <i>(AP-MET-16)</i>	Requirements for meteorological watch office (MWO) to be established at	2008	MWO not established due to lack of trained personnel and	MWO established in February 2009 as reported by State .  DPR. Korea is subsequently producing SIGMET on a regular basis and is routing SIGMET to	General Administration of Civil Aviation (GACA) DPR.	Jan 2012	A



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FASID Table MET 1B)		Pyongyang international airport have not been met.		lack of resources. No SIGMET service for Pyongyang FIR. Reported by RO mission	RODB Tokyo. It is required for Suman MWO to participate the APAC SIGMET test in November 2011. This deficiency can be removed if SIGMET is continued to be issued regularly for another six months.	Korea		
Volcanic activity information to be provided to ATS units, MWOs, and VAAC (Annex 3, 3.6 and 4.8)	Tonga (AP-MET-17)	Information on volcanic activity not provided regularly to ATS units, MWOs, and VAAC	2008	Reported by TCB CAEMSA-SP technical expert	Agreement drafted for the dissemination of volcanic ash information from MLSNRKT to MTKT for distribution to ACCs, MWOs and VAACs (under consideration)	Ministry of Transport of the Kingdom of Tonga (MTKT) Ministry of Lands, Survey and Natural Resources of the Kingdom of Tonga (MLSNRKT)	2011	U
Briefing and flight documentation (Annex 3, Chapter 9, Appendix 2 & 8)	Kiribati (AP-MET-18) Nauru (AP-MET-19) Solomon Islands (AP-MET-20)	WAFS products not accessed and therefore not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	WAFS Internet File Service (WIFS) allows for the retrieval of WAFS forecasts for flight briefings and documentation (versus more expensive satellite dish) – available for operations since May 2010 Will seek donor ship for installation and training on WIFS as part of CAEMSA-SP Phase II	MET Services, TCB, Donor, ISCS Provider State	2012	U

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Provision of meteorological observations  (Annex 3, 4.3.1, 4.5, 4.6)	Nauru  (AP-MET-21)	No METAR/SPECI observing programme in place  (no calibrated and maintained equipment available)	2008	Reported by TCB CAEMSA-SP Technical Expert	Automatic observing station needed as well as maintenance programme  Will seek donor for observing system and maintenance contract and/or training as part of CAEMSA-SP Phase II	MET Service, TCB, Donor	2012	U

Narratives on specific deficiencies are provided:

**AP-MET-10:** The CNS/MET SG/ 15 meeting also noted that Myanmar notified the Regional Office (February 2010) of an action plan on obtaining SADIS FTP in 2010 that would provide the required WAFS information in flight briefings. Confirmation of WAFS information is received from users therefore this deficiency is removed from the list.

**AP-MET-17:** Included in the list of deficiencies with adoption of APANPIRG/20 Conclusion 20/75. Specifically, lack of volcano monitoring for the Kingdom of Tonga was identified. An agreement between the Ministry of Transport of the Kingdom of Tonga (MTKT) and the Ministry of Lands, Survey and Natural Resources of the Kingdom of Tonga (MLSNRKT) on the dissemination of volcanic ash information from MLSNRKT to MTKT for distribution to ACCs, MWOs and VAACs is under consideration.

**AP-MET-18, 19, 20:** Kiribati, Nauru and Solomon Islands were encouraged to obtain WAFS forecasts via WIFS, which would mitigate this deficiency. The cost of acquiring WIFS will be provided by the WAFS Washington Provider State and added in the proposal to obtain a sponsor to assist States in acquiring WAFS products.

**AP-MET-21:** Included in list of deficiencies with adoption of APANPIRG/20 Conclusion 20/75. Lack of meteorological observing station for Nauru was identified. Assistance is likely needed from a Donor to provide the necessary equipment and possible training for maintenance or a maintenance contract, which is expected to be discussed at the ICAO TCB CAEMSA-SP Phase II Donor Workshop in Vanuatu.