

(Adapted from ICAO APANPIRG/27 – WP/11, Appendix D)

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE MET FIELD IN THE ASIA/PAC REGION								
Identification		Deficiencies			Corrective action			
Requirements	States/ Facilities (Index No.)	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action *
Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	Cambodia (AP-MET-09)	Briefing and flight documentation not provided as required; WAFC forecasts not available	1999	Airlines do not receive the required flight documentation, including WAFC forecasts	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. (Status of implementation of CAP to be verified by Cambodia – see Note 1, below)	SSCA, Cambodia	TBC	A
MWO and SIGMET service (Annex 3: Chapter 3, 3.4 and Chapter 7)	Cambodia (AP-MET-11)	Requirements for MWO and SIGMET service not established for Phnom Penh FIR	1992	MWO not established due to lack of trained personnel and technical facilities	Establish MWO to provide required service, including SIGMET information for Phnom Penh FIR. (Status of implementation of CAP to be verified by Cambodia – see Note 1, below)	SSCA, Cambodia	TBC	A
MWO and SIGMET service (Annex 3: Chapter 3, 3.4 and Chapter 7)	Democratic Peoples' Republic of Korea (AP-MET-16)	Requirements for MWO and SIGMET service not established for Pyongyang FIR	2008	Reported by RO mission	Establish MWO to provide required service, including SIGMET information for Phnom Penh FIR. (Details and status of implementation of CAP to be verified by Democratic Peoples' Republic of Korea)	GACA, Democratic Peoples' Republic of Korea	TBC	A
Reporting of information on volcanic eruptions to civil aviation units. (Annex 3: 3.6, 4.8)	Indonesia (AP-MET-03)	Information on volcanic activity not provided regularly to ATS units, MWOs and VAACs.	1995	Observed by States concerned. Reported at the WMO/ICAO Workshop on Volcanic Ash Hazards (Darwin, 1995)	Establish arrangements for State volcano observatories to send the required volcano observation information as quickly as practicable to the associated ACC/FIC, MWO and VAAC. (Status of implementation of CAP to be verified by Indonesia – see Note 2, below)	BMKG, DGCA and CVGHM, Indonesia	TBC	A

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Provision of SIGMET for volcanic ash (Annex 3: Chapter 7)	Indonesia (AP-MET-06)	Requirements for issuance and proper dissemination of SIGMET for volcanic ash have not been fully implemented	Dec 2003	Reported by airlines, noted by Volcanic Ash Advisory Centres and confirmed by ICAO mission	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of volcanic ash. (Status of implementation of CAP to be verified by Indonesia – see Note 2, below)	BMKG, Indonesia	TBC	U
Meteorological observations and reports. (Annex 3: Chapter 4)	Kiribati (AP-MET-02)	METAR from Kiribati not available on regular basis.	1998	Reported by airlines	Equipment to be installed and arrangements to be made for regular observations and reports, including: training of personnel; maintenance of equipment; calibration and verification of meteorological observations; and proper/secure transmission of data. (Status of implementation of CAP to be updated by Kiribati)	State designated MET authority	TBC	A
Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	Kiribati (AP-MET-18)	WAFC forecasts not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. (Details and status of implementation of CAP to be verified by Kiribati)	State designated MET authority	TBC	U

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Provision of SIGMET information (Annex 3: Chapter 7)	Lao People's Democratic Republic (AP-MET-12)	Requirements for issuance and dissemination of SIGMET information for Vientiane FIR have not been fully implemented	2000	SIGMET frequently not available; as reported by airlines	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. (Details and status of implementation of CAP to be verified by Lao People's Democratic Republic)	State designated MET authority	TBC	A
Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	Nauru (AP-MET-19)	WAFC forecasts not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. (Details and status of implementation of CAP to be verified by Nauru)	State designated MET authority	TBC	U
Meteorological observations and reports. (Annex 3: Chapter 4)	Nauru (AP-MET-21)	METAR/SPECI service not provided	2008	Reported by TCB CAEMSA-SP Technical Expert	Equipment to be installed and arrangements to be made for regular observations and reports, including: training of personnel; maintenance of equipment; calibration and verification of meteorological observations; and proper/secure transmission of data. (Details and status of implementation of CAP to be updated by Nauru)	State designated MET authority	TBC	U

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Provision of SIGMET information (Annex 3, Chapter 7)	Nauru (AP-MET-24)	Lack of SIGMET issued for the Nauru FIR.	Sep 2011	IATA deemed this situation unsafe and unacceptable to airline operations.	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. (Details and status of implementation of CAP to be verified by Nauru)	State designated MET authority	TBC	U
Provision of SIGMET information (Annex 3: Chapter 7)	Nepal (AP-MET-14)	Requirements for issuance and dissemination of SIGMET information for Kathmandu FIR have not been fully implemented	2000		Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. (Details and status of implementation of CAP to be verified by Nepal)	State designated MET authority	TBC	A
Reporting of information on volcanic eruptions to civil aviation units. (Annex 3, 3.6, 4.8)	Papua New Guinea (AP-MET-04)	Information on volcanic activity not provided regularly to ATS units, MWOs and VAACs.	1995	Observed by States concerned. Reported at the WMO/ICAO Workshop on Volcanic Ash Hazards (Darwin, 1995)	Establish arrangements for State volcano observatories to send the required volcano observation information as quickly as practicable to the associated ACC/FIC, MWO and VAAC. (Details and status of implementation of CAP to be verified by Papua New Guinea)	Rabaul Volcano Observatory, NWS and ASL of Papua New Guinea	TBC	A

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Provision of SIGMET for volcanic ash (Annex 3: Chapter 7)	Papua New Guinea (AP-MET-08)	Requirements for issuance and proper dissemination of SIGMET for volcanic ash have not been fully implemented	Dec 2003	Reported by airlines, noted by Volcanic Ash Advisory Centres and confirmed by ICAO mission	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of volcanic ash. (Details and status of implementation of CAP to be verified by Papua New Guinea)	NWS of Papua New Guinea	TBC	U
Provision of SIGMET information (Annex 3, Chapter 7)	Papua New Guinea (AP-MET-22)	Lack of SIGMET issued for the Port Moresby FIR.	Sep 2011	IATA deemed this situation unsafe and unacceptable to airline operations.	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. (Details and status of implementation of CAP to be verified by Papua New Guinea)	State designated MET authority	TBC	U
Provision of SIGMET for volcanic ash (Annex 3: Chapter 7)	Philippines (AP-MET-07)	Requirements for issuance and proper dissemination of SIGMET for volcanic ash have not been fully implemented	Dec 2003	Reported by airlines, noted by Volcanic Ash Advisory Centres and confirmed by ICAO mission	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of volcanic ash. (Status of implementation of CAP to be verified by Philippines – see Note 3, below)	PAGASA	TBC	U
Meteorological observations and reports. (Annex 3: Chapter 4)	Solomon Islands (AP-MET-01)	Weather information is inadequate and not provided on a regular basis	1996	Reported by airlines operating to Solomon Islands	Equipment to be upgraded and arrangements to be made for regular observations and reports, including: training of personnel; maintenance of equipment; calibration and verification of meteorological observations; and proper/secure transmission of data. (Status of implementation of CAP to be updated by Solomon Islands)	Solomon Is. MET Service	TBC	A

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Meteorological information for operators and flight crew members, including forecasts provided by the WAFCs (Annex 3: Chapter 9)	Solomon Islands (AP-MET-20)	WAFC forecasts not available for inclusion in flight briefings and documentation	2008	Reported by TCB CAEMSA-SP Technical Expert	Implement procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFCs. (Details and status of implementation of CAP to be verified by Solomon Islands)	State designated MET authority	TBC	U
Provision of SIGMET information (Annex 3, Chapter 7)	Solomon Islands (AP-MET-23)	Lack of SIGMET issued for the Honiara FIRs.	Sep 2011	IATA deemed this situation unsafe and unacceptable to airline operations.	Implement procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations. (Details and status of implementation of CAP to be verified by Solomon Islands)	State designated MET authority	TBC	U
Reporting of information on volcanic eruptions to civil aviation units. (Annex 3: 3.6, 4.8)	Tonga (AP-MET-17)	Information on volcanic activity not provided regularly to ATS units, MWOs and VAACs	2008	Reported by TCB CAEMSA-SP technical expert	Establish arrangements for State volcano observatories to send the required volcano observation information as quickly as practicable to the associated ACC/FIC, MWO and VAAC. (Status of implementation of CAP to be verified by Tonga – see Note 4, below)	MTKT and MLSNRKT	TBC	U

Acronyms/Abbreviations/Definitions

- ACC — Area control centre
- ASL — Air Services Ltd.
- ATS — Air traffic services
- BMKG — Badan Meteorologi, Klimatologi, Dan Geofisika (Indonesian Agency for Meteorological, Climatological and Geophysics)
- CAEMSA-SP — Cooperative Agreement for the Enhancement of Meteorological Services to Aviation - South Pacific
- CAAP — Civil Aviation Authority Philippines
- CAP — Corrective action plan
- CVGHM — Centre of Volcanology and Geological Hazard Mitigation
- DGCA — Directorate General of Civil Aviation
- FIC — Flight information centre
- FIR — Flight information region
- GACA — General Administration of Civil Aviation
- IATA — International Air Transport Association
- MET — Meteorological
- METAR — Aerodrome routine meteorological report (*in meteorological code*)
- MLSNRKT — Ministry of Lands, Survey and Natural Resources of the Kingdom of Tonga
- MTKT — Ministry of Transport of the Kingdom of Tonga
- MWO — Meteorological watch office
- NWS — National Weather Service
- PAGASA — Philippine Atmospheric, Geophysical and Astronomical Services Administration
- PHIVOLCS — Philippine Institute of Volcanology and Seismology
- RO — Regional Office (ICAO)
- SIGMET — Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations
- SPECI — Aerodrome special meteorological report (*in meteorological code*)
- SSCA — State Secretariat of Civil Aviation
- TBC — To be confirmed
- TCB — Technical Cooperation Bureau (of ICAO)
- VAAC — Volcanic ash advisory centre
- VOLCEX/SG — Volcanic ash exercises steering group

WAFc — World area forecast centre
WMO — World Meteorological Organization

Notes:

1. Updates on CAP implementation provided by **Cambodia (18 August 2016)**

State Secretariat of Civil Aviation of Cambodia informed that:

- A. With respect to the necessary implementation of procedures and systems for the required meteorological information to be supplied to operators and flight crew members, including forecasts generated from the digital forecasts provided by the WAFcS, the following has been completed:
 - i. Installation of equipment at the following aerodromes: Phnom Penh (VDPP), Siem Reap (VDSR) and Sihanouk (VDSV), to obtain the digital forecasts provided by the WAFcS, via the Secure Aviation Data Information Service (SADIS), with full operational status at the end of 2013; and
 - ii. Training of personnel to use the above system to generate the required forecasts for operators and flight crew members.
- B. With respect to the necessary establishment of the MWO to provide required service, including SIGMET information for Phnom Penh FIR, the following has been completed:
 - i. Arrangements for another Contracting State (China) to provide SIGMET service on behalf of Cambodia for the Phnom Penh FIR.

2. Updates on CAP implementation provided by **Indonesia (August 2014)**

BMKG informed that:

- A. With respect to the necessary establishment of arrangements for State volcano observatories to send the required volcano observation information as quickly as practicable to the associated ACC/FIC, MWO and VAAC, the following has been completed:
 - i. Arrangements for the dissemination of volcano observation information established in a memorandum of understanding (MOU) between the meteorological authority, State volcano observatory and the civil aviation authority;

- ii. Implementation of a volcanic activity report dissemination system (1 May 2012); and
 - iii. Coordination meeting between the meteorological authority, State volcano observatory, civil aviation authority and the VAAC Darwin (June 2014).
- B. With respect to the necessary implementation of procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of volcanic ash, the following has been completed:
- i. Coordination meeting between the meteorological authority, State volcano observatory, civil aviation authority and the VAAC Darwin (June 2014); and
 - ii. Procedures for the issuance of SIGMET information for the Jakarta and Ujung Pandang FIRs implemented at the designated MWOs (April 2013) and successful participation in ICAO Regional SIGMET tests.

3. Updates on CAP implementation provided by **Philippines** (6 June 2016)

PAGASA/CAAP informed that:

- A. With respect to the necessary implementation of procedures for SIGMET information to be issued by the designated meteorological watch office/s concerning the occurrence or expected occurrence of volcanic ash, the following has been completed:
- i. Implementation of procedures (Ref: PM-WD-AMSS-05-05) for the issuance of SIGMET information (for volcanic ash) for Manila FIR by the designated MWO in accordance with the ICAO SARPs;
 - ii. Conducted ICAO volcanic ash exercises and participated in the ICAO APAC VOLCEX/SG;
 - iii. Participated in the ICAO Regional SIGMET tests (without errors in SIGMET test messages sent by Philippines);
 - iv. Implementation of procedures set forth in the Philippine Regulation (CAR-ANS Part 3 – Aeronautical Meteorological Service) including other related national documents; and
 - v. Establishment of a tripartite agreement between CAAP, PAGASA and PHIVOLCS stipulating the flow of volcanic ash information between the stakeholder agencies.

4. Updates on CAP implementation provided by **Tonga** (10 May 2013)

Ministry of Infrastructure (MOI), Civil Aviation Division informed that:

- A. With respect to the necessary establishment of arrangements for State volcano observatories to send the required volcano observation information as quickly as practicable to the associated ACC/FIC, MWO and VAAC, the following has been completed:
 - i. Establishment of a memorandum of understanding (MOU) between the national authority providing volcano monitoring (Ministry of Lands, Environment, Climate Change and Natural Resources –MLECCNR) and the national authority providing meteorological service for international air navigation (MOI) for the reporting of volcanic activity to the associated ACCs, MWOs and VAACs in accordance with the relevant ICAO SARPs.