



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**TWENTY EIGHTH MEETING OF THE ASIA/PACIFIC
AIR NAVIGATION PLANNING AND IMPLEMENTATION
REGIONAL GROUP (APANPIRG/28)**
Bangkok, Thailand, 11 to 14 September 2017
Agenda Item 4: Regional Air Navigation Deficiencies
STATUS OF AIR NAVIGATION DEFICIENCIES IN THE ASIA/PAC REGION

(Presented by the Secretariat)

SUMMARY

One of the main objectives of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) is to identify and address specific deficiencies in the air navigation field. This Paper presents a list of Air Navigation Deficiencies reviewed by the 27th Meeting of APANPIRG (APANPIRG/27, September 2016) in the ATM, AOP, CNS and MET fields and updated based on information provided by States during the Sub-Group/Working Group Meetings for review and action by APANPIRG/28. The list is based on the uniform methodology for the identification, assessment and reporting of such Deficiencies as described in Part V of the *APANPIRG Procedural Handbook*.

This paper presents the List of Deficiencies.

This paper relates to – Strategic Objectives:

- A: **Safety** – *Enhance global civil aviation safety*
- B: **Air Navigation Capacity and Efficiency** — *Increase the capacity and improve the efficiency of the global aviation system*
- E: **Environmental Protection** — *minimize the adverse environment effects of civil aviation activities.*

Action by APANPIRG/28 is at Para 3.

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.

2. DISCUSSION

2.1 The lists of Deficiencies in the various air navigation fields, as developed by APANPIRG/27 and updated by the respective Sub-groups and the Secretariat, are presented in **Appendices A to D**.

2.2 Deficiencies in the ATM/AIS/SAR fields

2.2.1 The Fifth Meeting of the ATM Sub-group (ATM/SG/5, July-August 2017) reviewed and updated the List of ATM Deficiencies based on information provided by concerned States.

2.2.2 The updated List of Air Navigation Deficiencies in the ATM/AIS/SAR field is given in **Appendix A** to this paper.

2.3 Deficiencies in the AOP field

2.3.1 The First Meeting of AOP Sub-group (AOP/SG/1) of June 2017 reviewed and updated the List of AOP Deficiencies based on the information provided by the concerned States.

2.3.2 The updated List of Air Navigation Deficiencies in the AOP field is given in **Appendix B** to this paper.

2.4 Deficiencies in the CNS field

2.4.1 The Twenty First Meeting of the CNS/SG of July 2017 reviewed and updated the list of Air Navigation Deficiencies in the CNS field.

2.4.2 The updated List of Air Navigation Deficiencies in the CNS field is given in **Appendix C** to this paper.

2.5 Deficiencies in the MET fields

2.5.1 The Twenty First Meeting of MET SG of May-June 2017 reviewed and updated the list of Air Navigation Deficiencies in the MET Field.

2.5.2 The updated List of Air Navigation Deficiencies in the MET field is in **Appendix D** to this paper.

2.6 The Meeting is invited to adopt the following draft Conclusion:

Draft Conclusion APANPIRG/28/XX – Update of information in APANPIRG Air Navigation Deficiencies Reporting Form	
that, States/Administrations be urged to establish action plan with defined target dates for resolution of deficiencies, update the status on the corrective action taken and report progress in the Reporting Form of Air Navigation Deficiencies identified in ATM/SAR/AIM, AOP, CNS and MET fields as detailed in Appendices A to D of APANPIRG/28 Working Paper 11.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input type="checkbox"/> Inter -Regional <input checked="" type="checkbox"/> Ops/Technical
Why: The resolution of air navigation deficiencies in the ATM, SAR, AIM, AOP, CNS and MET fields (in the APANPIRG database) have lacked significant progress over several years, due in part to inadequate information in the Reporting Form, e.g., infrequent updates and lack of concise and concrete Corrective Action Plans with defined target dates	
When: official reports providing full details of the corrective actions taken where deficiencies have been resolved be reported to sub group in 2018.	Status: Draft to be Adopted by PIRG
Who: <input type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other	

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) note the current status of the Deficiencies in the air navigation field as presented in Appendices A to D and update them based on additional information provided at the Meeting;
- b) decide on the further action required for the elimination of the identified deficiencies; and
- c) urge States to establish action plans with defined target dates for resolution of safety related deficiencies and inform the ICAO Regional Office on action taken.

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ATM/AIM/SAR Deficiencies List (Updated 14 September 2017)

States/facilities	Deficiencies			Corrective Action		
	Description	Date first reported	Remarks	Executing body	Target date	Priority **
	WGS-84 Requirements of Paragraph 3.7.1 of Annex 15					
Afghanistan	WGS-84 - Not implemented	24/6/2014		Afghanistan	TBD	A
Bangladesh	WGS-84 - Not implemented	24/6/2014		Bangladesh	TBD	A
Bhutan	WGS-84 - Not implemented	2/7/1999	Data conversion completed, but not published	Bhutan	TBD	A
Brunei Darussalam	WGS-84 - Not implemented	24/6/2014		Brunei Darussalam	TBD	A
Cook Islands	WGS-84 - Not implemented	24/6/2014		Cook Islands	TBD	A
Kiribati	WGS-84 - Not implemented			Kiribati	TBD	A
Marshall Islands	WGS-84 - Not implemented	24/6/2014		Marshall Islands	TBD	A
Micronesia	WGS-84 - Not implemented	24/6/2014		Micronesia	TBD	A
Nauru	WGS-84 - Not implemented		Conferring with consultant	Nauru	TBD	A
Palau	WGS-84 - Not implemented	24/6/2014		Palau	TBD	A
Samoa	WGS-84 - Not implemented	24/6/2014		Samoa	TBD	A
Thailand	WGS-84 - Not implemented	24/6/2014		Thailand	TBD	A
Vanuatu	WGS-84 – Not implemented	2/7/1999	Implemented at main airports	Vanuatu	1999	A

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	AIP Format Requirements of Chapter 4 of Annex 15					
Cook Islands	AIP Format – Not implemented	7/7/99	ATM/AIS/SAR/G/16 (June 2006) updated – AIP COOK ISLANDS in new format in progress with assistance of New Zealand	Cook Islands		A
Kiribati	AIP Format - Not implemented	7/7/99	ATM/AIS/SAR/SG/18 (June 2009) was advised AIP in draft stage	Kiribati		A
Nauru	AIP Format - Not implemented	7/7/99	ATM/AIS/SAR/SG/18 (June 2008) was advised work soon to start	Nauru		A
Papua New Guinea	AIP Format – Not implemented	7/7/99		Papua New Guinea	TBA	A
	<u>AIS Quality Management System Requirements of Paragraph 3.2.1 of Annex 15 Quality Management System - Not implemented</u>					
Afghanistan	AIS Quality Management System - Not implemented	24/6/2014		Afghanistan	TBD	A
Bangladesh	AIS Quality Management System - Not implemented	24/6/2014		Bangladesh	TBD	A
Bhutan	AIS Quality Management System - Not implemented	24/6/2014		Bhutan	TBD	A
Brunei Darussalam	AIS Quality Management System - Not implemented	24/6/2014		Brunei Darussalam	TBD	A
Cambodia	AIS Quality Management System - Not implemented	24/6/2014		Cambodia	TBD	A
Cook Islands	AIS Quality Management System - Not implemented	24/6/2014		Cook Islands	TBD	A
Indonesia	AIS Quality Management System - Not	24/6/2014		Indonesia	TBD	A

	implemented					
Kiribati	AIS Quality Management System - Not implemented	24/6/2014		Kiribati	TBD	A
Lao PDR	AIS Quality Management System - Not implemented	24/6/2014		Lao PDR	TBD	A
Maldives	AIS Quality Management System - Not implemented	24/6/2014		Maldives	TBD	A
Marshall Islands	AIS Quality Management System - Not implemented	24/6/2014		Marshall Islands	TBD	A
Micronesia	AIS Quality Management System - Not implemented	24/6/2014		Micronesia	TBD	A
Myanmar	AIS Quality Management System - Not implemented	9/6/2016		Myanmar	TBD	A
Nauru	AIS Quality Management System - Not implemented	24/6/2014		Nauru	TBD	A
Nepal	AIS Quality Management System - Not implemented	24/6/2014		Nepal	TBD	A
Palau	AIS Quality Management System - Not implemented	24/6/2014		Palau	TBD	A
Papua New Guinea	AIS Quality Management System - Not implemented	24/6/2014		Papua New Guinea	TBD	A
Philippines	AIS Quality Management System - Not implemented	24/6/2014		Philippines	TBD	A
Samoa	AIS Quality Management System - Not implemented	24/6/2014		Samoa	TBD	A

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Solomon Islands	AIS Quality Management System - Not implemented	24/6/2014		Solomon Islands	TBD	A
Sri Lanka	AIS Quality Management System - Not implemented	9/6/2016		Sri Lanka	TBD	A
Thailand	AIS Quality Management System - Not implemented	24/6/2014		Thailand	TBD	A
Timor Leste	AIS Quality Management System - Not implemented	24/6/2014		Timor Leste	TBD	A
Vanuatu	AIS Quality Management System - Not implemented	24/6/2014		Vanuatu	TBD	A
	<u>Airspace Classification Requirements of Paragraph 2.6 of Annex 11</u>					
China	Airspace Classification - Not implemented	7/7/99	Difference to Annex 11 is published in AIP, China.	China	APANPIRG/19 updated, implementation planned by end 2010.	A
Kiribati	Airspace Classification - Not implemented	7/7/99	-	Kiribati	TBD	A
Nauru	Airspace Classification - Not implemented	7/7/99		Nauru	TBD	A
Papua New Guinea	Airspace Classification - Not implemented	7/7/99	-	Papua New Guinea	Project in place	A
Solomon Islands	Airspace Classification - Not implemented	7/7/99		Solomon Islands	TBD	A
	<u>SAR capability: Requirements of Annex 12</u>					
Afghanistan	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Afghanistan	2016	U

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Bhutan	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Bhutan	2016	U
Cambodia	SAR Capability Matrix	6/07/2015	SAR Capability (14 of 20)	Cambodia	2016	U
Cook Islands	SAR Capability Matrix	6/07/2015	SAR Capability (19 of 20)	Cook Islands	2016	U
Cook Islands	Annex 12 requirements not implemented. No agreements with adjacent States.	31/1/95	Cook Islands - implement Annex 12 requirements and co-ordinate LOA with adjacent States ICAO - assist to develop SAR capability and to co-ordinate with adjacent States	Cook Islands	2009. SAR agreement with New Zealand completed 2007.	U
DPR Korea	SAR Capability Matrix	6/07/2015	SAR Capability (15 of 20 elements non- compliant)	DPR Korea	2016	U
Fiji	SAR Capability Matrix	6/07/2015	SAR Capability (13 of 20 elements non- compliant)	Fiji	2016	U
Kiribati	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Kiribati	2016	U
Lao PDR	SAR Capability Matrix	6/07/2015	SAR Capability (10 of 20 elements non- compliant)	Lao PDR	2016	U
Macau, China	SAR Capability Matrix	6/07/2015	SAR Capability (10 of 20 elements non- compliant)	Macau, China	2016	U
Maldives	SAR Capability Matrix	6/07/2015	SAR Capability (9 of 20 elements non- compliant)	Maldives	2016	U
Maldives	Annex 12 requirements not implemented. No agreements with adjacent States.	24/4/97	Maldives – implement Annex 12 requirements and co-ordinate LOA with adjacent States ICAO – assist to develop SAR capability and to co-ordinate with adjacent States. SAR services and facilities provided (details to be confirmed). SAR agreements with neighbouring States under development	Maldives	2009	U
Marshall Islands	SAR Capability Matrix	6/07/2015	SAR Capability (no data elements)	Marshall	2016	U

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			non- compliant)	Islands		
Micronesia	SAR Capability Matrix	6/07/2015	SAR Capability (20 of 20 elements non- compliant)	Micronesia	2016	U
Myanmar	SAR Capability Matrix	6/07/2015	SAR Capability (17 of 20 elements non- compliant)	Myanmar	2016	U
Nauru	SAR Capability Matrix	6/07/2015	SAR Capability (no data elements non- compliant)	Nauru	2016	U
Nepal	SAR Capability Matrix	6/07/2015	SAR Capability (12 of 20 elements non- compliant)	Nepal	2016	U
New Caledonia	SAR Capability Matrix	6/07/2015	SAR Capability (8 of 20 elements non- compliant)	New Caledonia	2016	U
Palau	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Palau	2016	U
Papua New Guinea	SAR Capability Matrix	6/07/2015	SAR Capability (11 of 20 elements non- compliant)	Papua New Guinea	2016	U
Philippines	SAR Capability Matrix	6/07/2015	SAR Capability (12 of 20 elements non- compliant)	Philippines	2016	U
Samoa	SAR Capability Matrix	6/07/2015	SAR Capability (no data elements non- compliant)	Samoa	2016	U
Solomon Islands	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Solomon Islands	2016	U
Timor Leste	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Timor Leste	2016	U
Tonga	SAR Capability Matrix	6/07/2015	SAR Capability (18 of 20 elements non- compliant)	Tonga	2016	U
Vanuatu	SAR Capability Matrix	6/07/2015	SAR Capability (no data)	Vanuatu	2016	U
	<u>Non Provision of Safety-related Data Requirement of Paragraph 3.3.5.1 of Annex 11 (provision of data for monitoring the height-keeping</u>					

	performance of aircraft)					
Bangladesh	Annex 11 requirement not implemented	13/07/2017	Conclusion 16/6 – Non Provision of safety related data by States, established by RASMAG/22 - Failure to submit 2016 TSD - Failure to provide sufficient feedback regarding RVSM approval data	Bangladesh	RASMAG23	A
India	Annex 11 requirement not implemented.	13/07/2017	Established by RASMAG/20 – failure to provide RVSM approvals summary data Conclusion 16/6 – Non Provision of safety related data by States, established by RASMAG/22 - Failure to provide sufficient feedback regarding RVSM approval data	India	RASMAG23	U
Lao PDR	Annex 11 requirement not implemented	13/07/2017	Conclusion 16/6 – Non Provision of safety related data by States, established by RASMAG/22 - Failure to submit 2016 TSD - Failure to provide RVSM approvals update and RVSM annual snapshot	Lao PDR	RASMAG23	A
Maldives	Annex 11 requirement not implemented	13/07/2017	Conclusion 16/6 – Non Provision of safety related data by States, established by RASMAG/22 - Failure to submit LHD reports and 2016 TSD	Maldives	RASMAG23	A
	Failure to provide RVSM Approval Data to the RMA State Responsibility to comply with the Annex 6 Height-Keeping Monitoring Requirement Annex 6 Part I Section 7.2.7 and Part					

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	II Section 2.5.2.7					
India	Annex 6 paragraph 7.2.6	RASMAG/20 and 21 and 22	Established by RASMAG/21 – Relevant APANPIRG Conclusions: 19/15 (Enhanced communications between States and RVSM RMs); 23/15 (Long Term Non-RVSM Approved Aircraft); and 23/16 (Safety Monitoring Data Provision).	India		U
Bangladesh	Requirements of Annex 6 paragraph 7.2.7 regarding the monitoring burden of more than 50% airframes to be monitored	RASMAG/22	Bangladesh was also identified for a deficiency at RASMAG/20	Bangladesh	RASMAG23	A
Indonesia	Requirements of Annex 6 paragraph 7.2.7 regarding the monitoring burden of more than 50% airframes to be monitored	RASMAG/22		Indonesia	RASMAG23	A
Pakistan	Requirements of Annex 6 paragraph 7.2.7 regarding the monitoring burden of more than 50% airframes to be monitored	RASMAG/22		Pakistan	RASMAG23	A
	Data Link Performance Monitoring and Analysis Requirements of Paragraph 2.27.5 of Annex 11 not met.					
China	Post implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA	China	TBD	A
India	Post-implementation monitoring not implemented	13/07/2017	Performance monitoring and analysis was reported for the Chennai FIR, but was not reported for the Kolkata and Mumbai FIRs.	India	TBD	A
Indonesia	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT. Performance monitoring and analysis was conducted, but problem reports were not provided to the CRA.	Indonesia	TBD	A
Malaysia	Post-implementation monitoring not	29/5/2015	Problem Reports not provided to	Malaysia	TBD	A

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	implemented		CRA. Performance monitoring and analysis not reported to FIT.			
Myanmar	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT.	Myanmar	TBD	A
Maldives	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT.	Maldives	TBD	A
Sri Lanka	Post-implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT. Problem reports were not provided to CRA, performance monitoring and analysis was not reported to FIT, but Sri Lanka was now registered with a competent CRA. Agreed by FIT-Asia/5-6, endorsed by RASMAG/24 22	Sri Lanka	TBD Post Implementation Monitoring partially implemented. Data Link Reporting based on the SITA AIRCOM ATS-622 Traffic & Performance Report will be submitted on monthly basis from Sept 2017 onward. Data Link Performance Reports will be submitted to FIT with effect from Feb 2018. (Target date) (APANPIRG/28)	A

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Viet Nam	Post implementation monitoring not implemented	29/5/2015	Problem Reports not provided to CRA. Performance monitoring and analysis not reported to FIT. Performance monitoring and analysis was not reported to FIT, but Viet Nam provided post-implementation monitoring report to ICAO APAC Office after the conclusion of FIT-Asia/6. Problem reports had been submitted to CRA.	Viet Nam	TBD	A
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AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 31 May 2017

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14, Volume I	Nepal Kathmandu International Airport	Runway/ taxiways	ICAO Mission of February 2008	Provision of RESA in accordance with section 3.5 of ICAO Annex 14, Volume I.	RESA will be provided	Tribhuvan International airport/ CAAN	Estimated Implementation Date (Start of work): 06/08/2017 dated of completion 31/01/2019	U
				Insufficient runway strip, refer recommendations given in section 3.4 of Annex 14, Volume I.	Provide runway strip as per ICAO recommendations		Master Plan Review of TIA is in process from Intl. Consulting firm.	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 30 August 2017

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14, Volume I	Maldives	Runway/ Taxiways	AGA Mission Report April 2008	Insufficient runway strip.	Runway strip available	Maldives Airports Company Pvt Ltd	Runway strip of 150m for both sides is available Apron is still within the runway strip. New master plan work is in progress, new runway construction on-going, estimated date of completion: December 2018. Exemption granted by the State to Aerodrome Operator till December 2018.	U
				Provision of RESA in accordance with section 3.5 of ICAO Annex 14, Volume I.	RESA will be provided	Maldives Airports Company Pvt Ltd	RESA available for RWY36 end- 240m RESA available for RWY18 end- 55m These figures have been published in the AIP Exemption granted by the State to Aerodrome Operator till December 2018.	U
	Gan International airport	Runway	AGA Mission Report	Provision of RESA in accordance with section 3.5 of ICAO Annex 14, Volume I.	RESA will be provided	Addu International airport Pvt. Ltd.	RESA (90 m * 240 m) for both ends runway 28/10 provided. CLOSED	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	India Chennai International Airport	Runway	AGA mission January 2009	RESA not provided in accordance with Para 3.5 of Annex 14, Volume I requirements;	RESA will be provided	AAI	December 2012 RESA provided, however desired strength is yet to be provided.	U
				Runway strip is insufficient-300m strip width is not available for the full length of runway 07/25 in accordance with 3.4.3 of Annex 14, Volume I.	300m strip width for full length of runway 07/25 will be made available.	AAI	December 2013 Action initiated	A
Annex 14, Volume I	Mumbai International Airport	Runway	AGA mission January 2009	RESA not provided for R/W 09 and R/W 14 in accordance with Para 3.5 of ICAO Annex 14, Volume I;	RESA will be provided	MIAL	R/w-09 RESA provided R/w-14- June 2013	U
				Runway strip is insufficient-300m strip width is not available for the full length of runway 09/27 in accordance with 3.4.3 of Annex 14, Volume I	300m strip width for full length of runway 09/27 will be made available	MIAL	R/w 09/27- August 2013 R/w 14/32- June 2013	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Cambodia Siem Reap International Airport	Runway	AGA mission of March 2009	RESA not provided as per Para 3.5 of Annex 14, Volume I. ;	RESA will be provided		RESA provided. RESA improvement plan under consideration to satisfy Para's 3.587 to 3.5.10 of Annex 14.	U

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Bangladesh Hazrat Shahjalal International Airport, Dhaka	Runway/ Taxiway	ICAO mission April 2009	Runway strip width insufficient(300m strip not available for the full length of runway);	runway strip in accordance with Annex 14, volume I will be provided	CAABD	Runway strip width 300m available for the full length of runway (mitigation measures for storm water drain on the western side strip under process. No obstructions on graded area)	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14, Volume I	Thailand	Runway	AGA mission of July 2009	RESA to satisfy Section 3.5 of Annex 14, Volume I requirements;	RESA will be provided		Risk assessment study in process [DCA letter dated 9 April 2014)	U
				Runway strip width insufficient (300m runway strip for precision approach runways in accordance with Para 3.4.5 of Annex 14, Volume I;	300m runway strip width for full length of runway will be made available		Risk assessment study in process [DCA letter dated 9 April 2014)	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Myanmar Yangon International Airport	Runway/ Taxiway	ICAO mission April 2010	Runway shoulder higher than adjacent strip	Flush strip with adjacent runway shoulder	Department of Civil Aviation	October 2011	A
				Provision of enhanced taxiway centre line marking in accordance with standard in Para 5.2.8.11 of Annex 14, Volume I.	enhanced taxiway markings will be provided		DCA has planned to implement SMGCS. The system will start in 2012	A
				Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements;	RESA will be provided		March 2011	A
				Provisions of shoulders for taxiways	taxiway shoulders will be provided		Beginning of 2012	B
				Provision of road holding position signs at entrances to active runways	road holding position signs will be provided		October 2011	A
		Bird Hazard		Establishment of a national bird committee in accordance with APANPIRG Conclusion 18/1.	Establish National Bird Committee		DCA will establish National Bird committee.	B
Annex 14, Volume I	Mandalay Airport	Runway/ Taxiway	April 2010	Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements;	RESA will be provided	Department of Civil Aviation	Oct 2011	A
				Provision of enhanced taxiway centre line marking in accordance with standard in Para 5.2.8.11 of Annex 14, Volume I.	enhanced taxiway markings will be provided		DCA is reviewing the requirement for taxiway enhanced centerline marking	A
				Provision of road holding position signs at entrances to active runways.	road holding position signs will be provided.		Oct 2011	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Vol. I Amendment 6 § 10.1 § 10.2				A maintenance programme should be established to maintain facilities in a condition which does not impair safety of air navigation.	DCA establishes and implements producers to aerodrome operators meet national requirements for maintenance programme.		End of 2011	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 12 July 2017

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Fiji Islands Nadi International Airport	Runway/ Taxiway	ICAO mission June 2010	Flush the strip with the adjacent runway shoulder	Flushed strip with adjacent runway shoulder	Civil Aviation Authority of Fiji	4th Quarter 2013 ACTION COMPLETED Runway shoulders have been flushed with the adjacent runway strip area. CLOSED	A
				Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements;	RESA will be provided		3rd quarter 2012 ACTION TAKEN (PARTIALLY COMPLETED):- RESA provided for the runway ends:- RWY 09 – 90mx90m (compliant) RWY 20 - 90mx90m (compliant) RWY 02 – 30m x 90m (limited due to the Localizer aerial) RWY 27 – nil (limited due to sea located at the end of the strip area) Information published in the State AIP For the non-compliant RWY 02 and RWY 27, a Safety Case is being developed by the Aerodrome Operator requesting issuance of an Exemption until RESA is able to be provided. Target date 4th Quarter 2025	A
				Provision of Airfield signage in accordance with ICAO Annex 14, volume I, section 5.4	signage as per ICAO standards will be provided		4th Quarter 2013 ACTION COMPLETED All airfield signage is in accordance with ICAO Annex 14 requirements. CLOSED	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
				Establishment of a national bird committee in accordance with APANPIRG Conclusion 18/1.	Established National Bird Committee		<p>May 2012</p> <p>ACTION TAKEN (PARTIALLY COMPLETED):- Wildlife Committees (membership includes Aerodrome Operators, CAA, Airline representatives and other industry stakeholders) have been established for each the two International Airports and meet on a monthly basis.</p> <p>A National Wildlife Committee which will bring together both committees will be established before the end of 2017.</p> <p>Target date 4th Quarter 2017</p>	B
				Provision of 300m strip width for the full length of precision approach CAT I runway in accordance with the standard 3.4.3, Annex 14, Volume I; remove obstacles from runway strip; flush the strip with the adjacent runway shoulder	runway strip will be provided and strip flushed with adjacent runway shoulder		<p>4th Quarter 2013</p> <p>ACTION COMPLETED A 300m strip is provided for the full length of precision approach CAT I RWY02 in accordance with Annex 14 Volume 1 section 3.4.3.</p> <p>(CLOSED)</p>	A
Annex 14 Volume I	Nausori International Airport	Runway/ Taxiway	June 2010	Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements.	RESA will be provided		<p>4th Quarter 2013</p> <p>ACTION TAKEN (PARTIALLY COMPLETED):- RESA provided for runway ends:- RWY 10 – 30mx30m (limited due to airport boundary)</p>	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
							<p>RWY 28 - nil (limited due to public road)</p> <p>Information published in the State AIP</p> <p>A Safety Case is being developed by the Aerodrome Operator requesting issuance of an Exemption until RESA is able to be provided. Land has been acquired and work is due to commence 4th quarter 2017.</p> <p>Target date 4th Quarter 2018</p>	

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 12 July 2017

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Sri Lanka Bandaranaike International Airport	Runway/ Taxiway	ICAO mission April 2010	Provision of 300m strip width for the full length of precision approach CAT I runway in accordance with the standard 3.4.3, Annex 14, Volume I; remove obstacles from runway strip; flush the strip with the adjacent runway shoulder	runway strip in accordance with Annex 14, volume I will be provided, obstacles from strip will be removed and and flush strip with adjacent runway shoulder	CAASL	AASL has been granted a period of 12 years to cover the drains. Exemption for the period granted has been published in the AIP. Safety study for the deficiency will be completed and submitted by August 2017.	A
				Provision of runway hold position lights in accordance with Para 5.3.19 of ICAO Annex 14, Volume I	runway hold position lights will be provided		Airside safety committee has been formed to study all runway markings, signs and lighting to determine the adequacy of the system in order to prevent runway incursion. The stop bars will be provided in association with SMGCS at all A,B,C,D & E TWYs. The location will be 120m from RWY centre line for TWY A & E whereas 90m for TWY B,C & D. The target date of operation is JULY 2017.	A
				Provision of enhanced taxiway centre line marking in accordance with standard in Para 5.2.8.11 of Annex 14, Volume I.	Enhanced taxiway markings will be provided		February 2011 Enhanced taxiway centerline markings provided in conjunction with the runway overlay project.	A
				Establishment of a national bird committee in accordance with APANPIRG Conclusion 18/1.	National Bird Committee will be established		July 2010 TOR for National Bird committee is being drafted. The committee will be convened by August 2017	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Updated 1 September 2017

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Viet Nam Noi Bai International Airport, Hanoi	Runway/ Taxiway	ICAO mission March 2010	Runway shoulder higher than adjacent strip and obstacles on strip	Flush strip with adjacent runway shoulder and remove obstacles	Civil Aviation Administration of Vietnam	Implemented in December 2014: Noi Bai Intl airport carried out flushing strip with adjacent runway shoulder and remove obstacles. At present, the surface of the runway strip is not higher than the runway shoulder. [CLOSED]	A
				Provision of enhanced taxiway centre line marking in accordance with standard in Para 5.2.8.11 of Annex 14, Volume I.	Provide enhanced taxiway markings		Implemented in December 2014: Noi Bai Intl airport enhanced taxiway markings with two black stripes along the centerline and provides this enhance annually (in accordance with the Circular 34/2014/TT-BGTVT dated 11/8/2014 of Ministry of Transportation of Viet Nam). [CLOSED]	A
				Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements.	Provide RESA		Presently, Noi Bai Intl airport has developed RESA for runway ends as follows: - RWY 11L : 240x120 m - RWY29R :	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
							300x120 m - RWY11R : 220x120 m - RWY29L : 240x120 m (CLOSED)	
		Bird Hazard		Wildlife strike report submission to ICAO for inclusion in IBIS.	Submission of wildlife strike reports to ICAO for inclusion in IBIS.		Quarter I, 2018 Airport Corporation of Viet Nam (ACV) annually reports to CAAV about wildlife strike, bird information as well as measures to control incidents from birds according to Regulation 399/CHK issued by CAAV about safety report. CAAV is developing data base and is preparing report submission to ICAO for inclusion in IBIS.	B
Annex 14, Volume I	Tan Son Nhat International Airport, Ho Chi Minh City	Runway/ Taxiway	March 2010	Runway shoulder higher than adjacent strip and obstacles on strip.	Flush strip with adjacent runway shoulder and remove obstacles		Implemented in July 2015: Tan Son Nhat Intl airport carried out flushing strip with adjacent runway shoulder and remove obstacles. At present, the surface of the runway strip is not higher than the runway shoulder (CLOSED)	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
				Provision of enhanced taxiway centre line marking in accordance with standard in Para 5.2.8.11 of Annex 14, Volume I.	Provide enhanced taxiway markings		Implemented in October 2015: Tan Son Nhat Intl airport enhanced taxiway markings with two black stripes along the centerline and provides this enhance annually (in accordance with the Circular 34/2014/TT-BGTVT dated 11/8/2014 of Ministry of Transportation of Viet Nam).	A
				Provision of RESA in accordance with Section 3.5 of Annex 14, Volume I requirements;	Provide RESA		CLOSED December 2018 At present, Tan Son Nhat Intl airport is re-designed for upgrading the runways and setting up the RESA.	A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
				Wildlife strike report submission to ICAO for inclusion in IBIS.	Submission of wildlife strike reports to ICAO for inclusion in IBIS.		Quarter I, 2018 Airport Corporation of Viet Nam (ACV) annually reports to CAAV about wildlife strike, bird information as well as measures to control incidents from birds according to Regulation 399/CHK issued by CAAV about safety report. CAAV is developing data base and is preparing report submission to ICAO for inclusion in IBIS.	B

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Brunei Darussalam Brunei International Airport	Runway	ICAO Mission of April 2011	vegetation along pavement edges and strip higher than the adjacent runway pavement; uneven earth mounds on strip				A
				faded centre line and other markings;				A
		Taxiway		non provision of enhanced taxiway centre line marking in accordance with Para 5.2.8 of Annex 14, Volume I				A
				Objects on taxiway strips; vegetation on pavement joints and maintenance of joints				A
		Apron		non provision of ICAO compliant signage in accordance with section 5.4 Annex 14, Volume I				A
		Rescue and Fire Fighting (RFF):		non provision of direct access for the rescue and fire fighting vehicles from the fire station into the runway;				A
				non provision of road holding position sign at all road entrances to a runway; and				A
		Wildlife Hazards:		Establishing a national bird control committee in accordance with APANPIRG Conclusion 18/1;				B

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Lao PDR	Runway	ICAO Mission of March 2011	Non provision of RESA in accordance with section 3.5 of Annex 14, Volume I rubber deposits and faded centre line markings.				U A
		Taxiway		Provision of runway hold position lights in accordance with Para 5.3.19 of ICAO Annex 14, Volume I Provision of enhanced taxiway centre line marking in accordance with Para 5.2.8 of Annex 14, Volume I				A
		Rescue and Fire Fighting (RFF):		Provision of road holding position sign at all road entrances to a runway;				A
		Wildlife Hazards:		Establishing a national bird control committee in accordance with APANPIRG conclusion 18/1.				B
	Luang Prabang International Airport	Runway		Provision of enhanced taxiway centre line marking in accordance with standard in Para 5.2.8.11 of Annex 14, Volume I				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
		Taxiway		Provision of runway hold position lights in accordance with Para 5.3.19 of ICAO Annex 14, Volume I on new taxiways	.			A
		Rescue and Fire Fighting (RFF)		Provision of road holding position sign at all road entrances to a runway				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Mongolia	Runway	ICAO Mission of July 2011	rubber deposits and faded centre line and other faded markings;				A
	Ulaan Baatar International Airport	Taxiway		Resealing cracks on pavement surface with sealants to prevent ingress of water and broken edges which could cause FOD issues.				A
				Provision of enhanced taxiway centre line marking in accordance with Para 5.2.8 of Annex 14, Volume I.				A
				faded taxiway markings				A
				Maintenance of pavement cracks				A
				provision of runway hold position lights in accordance with Para 5.3.19 of ICAO Annex 14, Volume I .				A
				provision of taxiway hold position signs on all hangar taxiways at entrances to the active taxiways/runway.				A

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
		Apron		sealing the cracks on the apron surface				A
		Airfield signage		Provision of ICAO compliant signage in accordance with section 5.4 Annex 14, Volume I and to cut the vegetation in front of the signs.				A
		Wildlife Hazards		establishing a national bird control committee in accordance with APANPIRG conclusion 18/1; collect wildlife reports and forward to ICAO for inclusion in the ICAO IBIS;				B B

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirements	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date of completion	Priority for action**
Annex 14 Volume I	Tonga Fua'amotu International Airport	Runway Strip	ICAO Mission of Sept. 2015	Insufficient Runway Strip				A
Annex 14 Volume I	Solomon Islands Honiara International Airport/Henders on Field	Runway Strip	ICAO Mission of Oct. 2015	Insufficient Runway Strip				A
		RESA		RESA at both ends of runway not provided				U
		Aerodrome Pavements		Lack of maintenance of aerodrome pavements in accordance with Annex 14, 10.2				U
Annex 14 Volume I	Samoa Faleolo International Airport	Runway Strip	ICAO Mission of Oct. 2015	Insufficient Runway Strip				A
		Aerodrome Pavements		Lack of maintenance of aerodrome pavements in accordance with Annex 14, 10.2				U

AIR NAVIGATION DEFICIENCIES IN AOP FIELD IN THE ASIA/PACIFIC REGION

* Priority for action to remedy the shortcoming is based on the following safety assessments:

“U” priority = Urgent requirements having a direct impact on safety and requiring immediate corrective actions. Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

“A” priority = Top priority requirements necessary for air navigation safety. Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

“B” priority = Intermediate requirements necessary for air navigation regularity and efficiency. Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

APANPIRG/27
(updated July 2017)

CNS SG/21
Appendix J to the Report

REPORTING FORM ON AIR NAVIGATION DEFICIENCIES IN THE CNS FIELDS IN THE ASIA/PACIFIC REGION

Identification		Deficiencies			Corrective Action			
Requirement	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action
Adequate and reliable VHF COM	Myanmar	Quality and reliability of RCAG VHF inadequate and unavailability of required coverage.	1998	Improvements in the quality of link to RCAG stations and power supply system at some remote stations are required.	An action plan was developed to upgrade equipment at RCAG stations, replace VSAT stations at 5 VSAT location for the relay link to RCAG sites, to improve power supply system. Additional VSAT-RCAG station was installed at Coco Island in 2017.	DCA Myanmar	December 2017	A
		Improvements had been observed with occasional communication problems reported.	June 2011		From 26 May 16, DCA Myanmar started using 4 VHF channel for 4 ACC sectors covering Yangon FIR.			
		From 2 to 13 April 2012, a survey was conducted by IATA. 50 reported no communication had been established.	April 2012		Further improvements at Sittwe and Pathin will be made by the DCA in August 2017.			
		Survey on 8 July 2016 indicated that ooverall 94% (514 flights) of aircraft successfully established communications of one form or another with Yangon ATC. Of the 548 responses, 6% (34 flights) could not establish communications with ATC at the FIR boundaries.	July 2016		DCA was requested to keep ICAO APAC Office informed for coordination with IATA for the next survey.			
		In Flight Broadcast Procedure (IFBP) currently still in place						

Identification		Deficiencies			Corrective Action			
Requirement	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action
Reliable ground to ground communication as specified in the regional air navigation plan (Doc.9673)	Afghanistan and Pakistan	Unreliability of AFS communication between Afghanistan and Pakistan was brought to the notice of APANPIRG/21. Lack of reliability in the AFS including data communication between Kabul and Karachi and ATS voice communication between Lahore and Kabul was identified.	September 2010	A COM coordination meeting – Afghanistan and Pakistan was held in June 2012 in Karachi, Pakistan. Further follow-up was made in end of 2014 and early 2015. A Remedial action plan was updated. New proposal for using landline has also proposed to be established between two States.	In March 2012, initial discussion on improvement of AFS communication was held at a special ATS coordination meeting. The COM coordination meeting in June 2012 developed a remedial action plan which was further updated in February 2015. 1. Near-term by end of September 2012, fully utilize the VPN circuit operational since January 2012 for exchange of AFTN traffic, organize users' training if required; (status quo) 2. Mid-term, harmonize VSAT terminal equipment and select common network service provider to recover the VSAT Links; Afghanistan has successfully changed the service provider in February 2015. Site visits in Pakistan by expert from the VSAT service provider were made in February and March 2016. Remedial recommendations were provided to CAA. Pakistan. 3. Long-term: establish a dedicated landline connection with multiplexers between Afghanistan and Pakistan to support both data and voice communication between COM centres and ACCs	Ministry of Transport and Civil Aviation Afghanistan and CAA. Pakistan	December 2017	A

Identification		Deficiencies			Corrective Action			
Requirement	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Target date for completion	Priority for action
Regional air navigation plan – FASID Table CNS 1D	Pakistan & China	Improvement of ATS Direct Speech circuit performance and A/G communication and surveillance coverage between China and Pakistan	May 2014 RASMAG/19	<p>The ATS direct speech circuit via IDD between Urumqi and Lahore was observed not stable. Issues reported were in 2013.</p> <p>In early 2017, a hotline connection changing to a new service provider at Pakistan side has been established. Some improvement has been achieved.</p> <p>Further efforts are required based on RASMAG report.</p>	<p>Remedial action plan was developed in May 2015 by both States through a COM coordination meeting.</p> <p>A VSAT is planned to be installed at Lahore for connection with Urumqi ACC and additional VHF station is required to be installed to cover the VHF gap at PURPA crossing point.</p> <p>Technical survey for VSAT site in Lahore was done in January 2016. Agreement for installation and operation being discussed by two States.</p> <p>MoU for equipment transfer and installation was discussed.</p> <p>Both States were urged to expedite implementation through actions in follow up agreement at COM coordination meeting.</p>	China ATMB and CAA. Pakistan	December 2017	A

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. Cambodia and ICAO should work together to develop and properly record the remaining steps of the CAP to resolve the deficiency)	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. Cambodia and ICAO should work together to develop and properly record the remaining steps of the CAP to resolve the deficiency)	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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	GACA, Democratic Peoples' Republic of Korea	TBC	A

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 *
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) Removed from the open list in accordance with APANPIRG/28 CONCLUSION 28/XX	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 has been updated by Indonesia – see Note 2 and 3, below. The deficiency may be removed from the open list subject to the concurrence of the States concerned, noting that MET SG/21 concluded corrective action taken by Indonesia to rectify AP-MET-03 and AP-MET-06 has been validated)	BMKG, DGCA and CVGHM, Indonesia	TBC	A
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 Removed from the open list in accordance with APANPIRG/28 CONCLUSION 28/XX	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 has been updated by Indonesia – see Note 2 and 3, below. The deficiency may be removed from the open list subject to the concurrence of the States concerned, noting that MET SG/21 concluded corrective action taken by Indonesia to rectify AP-MET-03 and AP-MET-06 has been validated)	BMKG, Indonesia	TBC	U

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 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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	State designated MET authority	TBC	U

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 *
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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	State designated MET authority	TBC	U

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 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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	State designated MET authority	TBC	U
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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	State designated MET authority	TBC	U

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 *
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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	Rabaul Volcano Observatory, NWS and ASL of Papua New Guinea	TBC	A

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 *
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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	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 has been updated by Philippines – see Notes 4 and 5, below. The deficiency may be removed from the open list subject to the concurrence of the airlines and VAACs)	PAGASA	TBC	U

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 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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	Solomon Is. MET Service	TBC	A
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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	State designated MET authority	TBC	U

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 *
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, which, with assistance from ICAO, should develop and properly record the remaining steps of the CAP to resolve the deficiency)	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 has been updated by Tonga – see Notes 6 and 7, below – and Executing body – see next column. The deficiency may be removed from the open list subject to the concurrence of the ATS units, MWOs and VAACs concerned)	MOI and MEIDECC	TBC	U

Notes:

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

State Secretariat of Civil Aviation of Cambodia informed that:

- A. **Re: AP-MET-09.** 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. **Re: AP-MET-11.** 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. **Re: AP-MET-03.** 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. **Re: AP-MET-06.** 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 **Indonesia** (May 2017)

Re: AP-MET-03 and AP-MET-06, MET SG/21, WP/10; Indonesia advised that it has:

- A. Established regulatory requirements for volcanic ash information (and SIGMET provision) in the Civil Aviation Safety Regulation (CASR 174), most recently updated in 2015;
- B. Regularly participated in the annual SIGMET tests conducted in the ICAO Asia/Pacific Region;
- C. Participated in a SIGMET coordination project to harmonize SIGMET information across neighbouring international FIR boundaries;
- D. Participated in ICAO volcanic ash exercises to demonstrate appropriate responses to volcanic ash information by relevant agencies; and
- E. Ensured that volcano observatory notice for aviation (VONA) information is regularly published by CVGHM.

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

PAGASA/CAAP informed that:

- A. **Re: AP-MET-07.** 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.

5. Updates on CAP implementation provided by **Philippines** (30 June 2016)

CAAP informed that:

- A. **Re: AP-MET-07.** In addition to the information provided above, and in view of the adherence to national procedures, regulations and other documents supporting the implementation of ICAO Annex 3 SARPs, CAAP requests ICAO to remove the deficiency from the open list.

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

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

- A. **Re: AP-MET-17.** 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.

7. Updates on CAP implementation provided by **Tonga** (29 May 2017)

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

- A. **Re: AP-MET-17.** Relevant operating procedures have been implemented in the units concerned and case studies of real volcanic events were presented as evidence of the State volcano observatory's issuance of the required volcano observation information.

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
MEIDECC	— Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication
MET	— Meteorological
METAR	— Aerodrome routine meteorological report (<i>in meteorological code</i>)
MOI	— Ministry of Infrastructure (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 (<i>in meteorological code</i>)
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