COMMUNICATION NAVIGATION AND SURVEILLANCE (CNS) Status **ICAO Reference** Description **Date first** Remarks/ Impact of **Action by States** Action taken/planned by **Identified State (including Document** reported non-implementation implementation timelines/target dates) impediment and action thereon COMMUNICATION Improvement of [AFI/7, Rec. 5/24] Unreliable communication 1. communications systems Annex 10 Vol.2 &3 [LIM AFI, Rec. Implementation of Unavailable ground /ground 2. ATS direct speech voice communication 10/361 circuits Annex 10 Vol 2 Chap.4 Para4.2 Implementation of Unavailable ground /ground 3. [APIRG VoIP voice communication Conc. 19/25] switching system **Implementation of** 4. [APIRG Unavailable automated data AIDC ground/ground coordination Conc. 21/26] communication between **ATSUs** Aeronautical fixed 5. [AFI/7, Rec. 9/7] Unavailable alphanumeric telecommunication ground/ground messages network (AFTN) Annex 10 Vol 2 communication between ATSUs **AFTN COM centre** 6. [AFI/7, Rec. 9/5] Potential loss of alphanumeric messages management Annex 10 Vol 2 communication

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7.	[AFI/7, Rec. 9/4] Annex 10 Vol 2	AFTN circuits/performance		Potential loss of performance of alphanumeric messages communication						
8.	[AFI/7, Rec. 9/3] Annex 10 Vol 2	AFTN efficiency		Potential loss of efficiency of alphanumeric messages communication						
9.	[APIRG Conc. 20/22]	AMHS circuits/performance		Potential loss of performance of digital messages communication						
10.	[AFI/6, Rec. 12/26]	AFS personnel training		Lack of technical & operational personnel capacity to handle technical task related to a proper operation of AFS circuits						
11.	[LIM AFI, Rec. 7/13]	Liaison visits by communication centre personnel		Lack of assistance and guidance to technical personnel in the conduct of proper functioning and operation of AFS circuits						
12.	[AFI/7, Rec. 9/10]	Satellite broadcast		Unavailability of regional wide area satellite broadcasted communication						

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13.	[AFI/7, Rec. 5/12] Annex 10 Vol 2	Implementation of VHF radio coverage		Poor reliable duplex Air/ground voice communication							
14.	[AFI/6, Rec. 13/4]	Provision of SELCAL		Poor reliable duplex Air/ground voice communication							
15.	[Annex 11, Chapter 6]	Lack of essential communication facilities to support the provisions of ATS (internal and external)		Unavailable ground /ground voice communication							
16.	[AFI/6, Rec. 13/3]	Improved use of the aeronautical mobile service (HF)		Poor reliable duplex Air/ground voice communication							
17.	[AFI/7, Rec. 5/14]	HF and VHF VOLMET broadcasts		Poor reliable duplex Air/ground voice communication							
18.	[APIRG Conc.17/25]	Implementation of controller-pilot data link communications (CPDLC)		Poor reliable duplex Air/ground datalink communication							
19.	[APIRG Conc.17/26]	Implementation of Required Performance Communication (RCP)		Inefficient duplex air/ground datalink communication							

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20.	[AFI/6, Rec. 13/12, FASID Table ATS 2]	HF VOLMET broadcasts		Unavailability of MET information broadcast system							
	NAVIGATION (FASID Table CNS 3)										
21.	[Doc. 9718 Vol II]	Planning principles for radio navigation aids		Potential lack of ARNS							
22.	[AFI/6, Rec. 14/1]	Testing of radio navigation aids		Potential inaccurate signal radiated by radio navigation aids							
23.	[AFI/6, Rec. 14/3]	Reliability of operation of radio navigation aids		Potential unreliable signal radiated by radio navigation aids							
			,	SURVEILLANCE (FASID T	Tables CNS 4A and 4B)			•			
24.	[AFI/7, Conc. 11/2]	Application of procedures for 24-bit aircraft address assignment		Potential risks of dysfunction of SSR Mode S service due to non- harmonized procedures for 24-bit aircraft address assignment							

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25.	[PANS-ATM Chapter 8]	Lack of essential surveillance facilities to support the provisions of ATS		Lack of surveillance service provision to support ATS delivery							
26.	[APIRG Conc.17/31]	Implementation of automatic dependent surveillance (ADS-C)		Lack of surveillance service provision to support ATS delivery in the oceanic and continental remote airspace							
27.	[APIRG Conc. 20/09 APIRG Conc.21/09]	Implementation Required Surveillance Performance RSP		Inefficient duplex air/ground datalink surveillance service							
28.	[APIRG Conc. 21/33 APIRG Conc. 22/40]	Implementation of automatic dependent surveillance (ADS-B)		Lack of surveillance service provision to support ATS delivery							
				SPECTR	UM	•					
29.	[LIM AFI, Rec. 9/3]	Frequency utilization lists LF/MF, 108 MHz to 117.975 MHz and 960 MHz to 1 215 MHz bands		Potential risks of harmful interferences							
30.	[Doc 9718]	Geographical separation criteria for VHF air-ground communications		Potential risks of harmful interferences							

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31.	[APIRG Conc. 13/18]	Frequency stability and effective adjacent channel rejection characteristic in the VHF mobile		Potential risks of harmful interferences						
32.	[LIM AFI, Rec. 8/5]	Elimination of interference on AMS frequencies		Lack or poor quality of air/ground duplex communication						
33.	[LIM AFI, Rec. 8/6]	Measures to reduce harmful interference from carrier systems		Lack or poor quality of air/ground duplex communication						
34.	[Doc 9718 Vol 2]	VHF frequency utilization list		Lack or poor quality of air/ground duplex communication						
35.	[AFI/6, Rec. 13/13]	Notification of frequency assignments		Non updated regional and global COM Lists						
36.	[AFI/6, Rec. 13/14]	VHF channels for aerodrome and approach control		Risk of VHF channels congestion in the aerodrome						
37.	[AFI/6, Rec. 14/4]	Notification of frequency assignments to radio navigation aids		Non updated regional and global COM Lists						

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38.	[AFI/7, Rec. 10/2]	Geographical separation criteria for VOR and/or VOR/DME installations in the AFI region		Risks of harmful interferences amongst VHF/UHF Nav'Aids							
39.	[AFI/7, Rec. 10/3]	Geographical separation criteria for ILS installations in the AFI region		Risks of harmful interferences amongst VHF/UHF landing systems							
40.	[APIRG Conc. 20/30]	VSAT station frequency not registered in the ITU Master International Frequency Register (IMIFR)		Lack of protection and risk of harmful interferences							

				AERONAUTICAL INFOR	MATION MANAGEMENT (A)	IM)			
	ICAO Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Action by States	Action taken/planned by State (including timelines/target dates)	Identified implementation impediment and action thereon	Status	
	INTERNATIONAL NOTAM OFFICE								
41.	Annex 15: chapter 6 PANS-AIM: chapter 6, appendices 3,4,5,7	NOTAM service		In order to meet the operational needs of the users, it is essential to provide information that is timely and fit for purpose. Lack of timely issuance of relevant NOTAM about status and condition of air navigation services infrastructure can affect the safely and efficient conduct flight operations.					
				CARTOG	RAPHY OFFICE				
42.	Annex 15: chapter 5 Annex 4: all chapters PANS-AIM: chapter 5, appendix 2 PANS-OPS: part I, chapter 9 and all "promulgation" chapters	Cartography service		Annex 4 requires each Contracting State to ensure the availability of the required charts either by producing the charts itself, or by arranging for production by another Contracting State or by an agency. Non-provision of up to date aeronautical charts that fit operational need can impact on safety of air navigation					

				AERONAUTICAL INFOR	MATION MANAGEMENT (A	AIM)				
	ICAO Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Action by States	Action taken/planned by State (including timelines/target dates)	Identified implementation impediment and action thereon	Status		
	PUBLICATION OFFICE									
43.	Annex 15: chapter 5 PANS-AIM: chapter 5, appendix 2 PANS-OPS: part III, section 5	Aeronautical Information Publication service		The AIP constitutes the basic source for aeronautical information of permanent and long duration nature. Non-provision of an AIP that is standard formatted, of quality-assured and regularly updated can jeopardize the safety of air navigation.						
				AERODROME/	HELIPORT AIS UNITS					
44.	Annex 15: chapter 5 PANS-AIM: chapter 5	Pre-flight briefing service		For any aerodrome used for international air operations, aeronautical information of operational significance relative to the route stages originating at the aerodrome shall be provided to flight operations personnel. Lack of pre-flight information can affect flight planning and safety of air navigation.						

	AERONAUTICAL INFORMATION MANAGEMENT (AIM)										
	ICAO Reference Document	Description	Date first reported	Remarks/ Impact of non- implementation	Action by States	Action taken/planned by State (including timelines/target dates)	Identified implementation impediment and action thereon	Status			
45.	Annex 15: chapter 5	Post-flight information service		Information concerning the state and operation of air navigation facilities or services, or information relative to the presence of wildlife hazards reported by flight crews is essential for the safety of other flights. Non-implementation of an effective post-flight information service will fail to update AIS with operational significant information noted by flight crews.							

				AERONAUTICAL METEO	ROLOGY (MET)		
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46.	Annex 3, Chap. 2, §2.1.x	Meteorological Authority		The State that has not designated the meteorological authority to provide or arrange for the provision of meteorological service for international air navigation on its behalf will fail to contribute as required towards the safety, regularity, and efficiency of international air navigation.				
47.	Annex 3, Chap. 3, §3.3 eANP, Vol II, Table MET II-2,	Aerodrome Meteorological Office		The State that has not established one or more aerodrome and/or other meteorological offices to adequately provide meteorological observations and forecasts to AOP aerodromes as required by the provisions of Afi eANP, Vol II, Table MET II-2, which may affect the safety of flight operations				

	AERONAUTICAL METEOROLOGY (MET)									
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48.	Annex 3, Chap. 3, §3.4 AFI eANP Vol II, Table MET II-1	Meteorological Watch Office		The State that has not designated a Meteorological Watch Office/s (MWO) as indicated in AFI eANP Vol II, Table MET II-1 will fail to maintain continuous watch on hazardous MET conditions which may affect the safety of flight operations within the Flight Information Region (FIR) of their area of responsibility						
49.	Annex 3, Chap.4, §4.2	Agreement between ATS and MET services providers (AMO/MWO)		The lack of agreement between meteorological authorities and air traffic services authorities may lead to inconsistencies in the provision of aeronautical meteorological services to users.						

	AERONAUTICAL METEOROLOGY (MET)										
	ICAO Reference Document	Description	Date first reported	Remarks Impact of non-implementation	Action by States	Action taken/planned by State (including timelines/target dates)	Identified implementation impediment and action thereon	Status			
50.	Annex 3, Chapter 9, App. 8	Fight briefing services		Deficiencies in providing Aeronautical users with the latest available information on existing and/or expected meteorological conditions along the route to be flown at the aerodrome of intended landing, alternate aerodromes and other aerodromes as relevant, may lead to safety issues for aircrafts							

				AERONAUTICAL METEO	ROLOGY (MET)		
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51.	Annex 3, Chapter 3, 4; App. 2,3 AFI eANP Volume II Part V, Table II-2, 3; §2.2, §2.3, §2.8, §2.11, §2.12	Met. observations and report services		Lack of local routine and local special reports (disseminated at the aerodrome of origin) may deprive aircrafts arriving /departing of information on hazardous weather conditions at the airport, which constitutes a safety risk. Lack of routine and special reports (disseminated beyond the aerodrome of origin in appropriate format) may affect the effectiveness of the flight planning. It may also affect efficiency and safety of aircrafts in-flight in case of failure of VOLMET broadcast and D-VOLMET services.				

	AERONAUTICAL METEOROLOGY (MET)									
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52.	Annex 3, Chapter 3, 6; App. 2,5 AFI eANP Volume II Part V Table II-2, §2.4 - §2.8, §3.5, §3.6	Aeronautical meteorological forecast		The failure of provision of aeronautical meteorological forecasts, or the provision of aeronautical meteorological forecasts not complying with ICAO related SARPs may affect flights operations including descent phase, landing and take-off.						

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	ICAO Reference Document	Description	Date first reported	Remarks Impact of non-implementation	Action by States	Action taken/planned by State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
53.	Annex 3, Chapter 7; App. 6 AFI eANP Part V Table II-1, Tableau II-2	Aeronautical meteorological warnings services		The lack of provision information on hazardous weather phenomena at the aerodrome in the form of aeronautical meteorological warnings (AD WRNG, WS WRNG and Alerts) may lead to safety issues for aircrafts for: • Aircrafts on the ground, parked aircraft, and the aerodrome facilities and services • Aircrafts on the approach path or take-off path or during circling approach: my experience WS in the approach/take-off paths.				

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54.	Annex 3, Chapter 8; App. 7	Aeronautical climatological information services		The lack of climatological information may cause some issues for flight planning specially when real time information is missing. the absence of climatological information may represent concerns for aeronautical users including AGA, etc.				
55.	Annex 3, Chapter 3,7; App.6 AFI eANP Volume II Part V Table II-1; §2.8, §2.9, §3.5	SIGMET services		The lack of provision of SIGMET information in accordance with ICAO MET related SARPs will keep inflight aircrafts out of information on en-route hazardous weather phenomena which may adversely affect the safety of high levels flights.				

				AERONAUTICAL METEO	ROLOGY (MET))		
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56.	Annex 3; Chapter 3,7; App.6	AIRMET services (where applicable)		The failure in providing airspace users operating in the low layers with the information on en-route hazardous phenomena (including the development of those phenomena in time and space), may cause safety issues to low-level flights.				
57.	Annex 3; Chapter 6, App. 5	GAMET services		The lack of area forecasts covering the layer between the ground and flight level 100 (or up to flight level 150 in mountainous areas, or higher, where necessary) may adversely cause safety issues to aircrafts operating at the low levels.				

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	ICAO Reference Document	Description	Date first reported	Remarks Impact of non-implementation	Action by States	Action taken/planned by State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
58.	Annex 3; Chapter 5; App. 4,6	AIREP		The lack of the air-report /special air-report may deprive aircrafts of relevant information on weather phenomena (Icing, TURB, WS, Volcanic eruption, Volcanic ash), which may adversely affect the safety of other aircrafts in the areas affected.				
59.	Annex 3, Chapter 3; App.2 AFI eANP Volume I Part V §2.1, §2.1	WAFS services		In the Africa-Indian Ocean Region, WAFS products in digital form should be disseminated to AFI States by WAFC London using the Secure SADIS FTP service and/or WIFS. The lack of the development of capacities by the State to receive and disseminate WAFS services in accordance with the related ICAO SARPs will mainly cause safety issues for en-route aircrafts operating at the high levels				

				AERONAUTICAL METEO	ROLOGY (MET)		
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60.	Annex 3, Chapter 3; App.2 AFI eANP Volume I Part V §2.3, §2.4; Table AFI Met I-1 AFI eANP Volume II Part V Table FAI MET II-1	IAVW services		The failure of providing as required by ICAO SARPs and Air Navigation Plan, relevant information on volcanic ash in case of volcanic eruption, will cause serious safety issues for aircrafts operating in the affected areas.				
61.	Annex 3, Chapter 3; App.2 AFI eANP Volume I Part V §2.5 AFI eANP Volume II Part V Table FAI MET II-1	TCAC services		Failure by the AFI MWOs to develop capabilities to receive and deal with TC advisories issued by TCAC La reunion in accordance with ICAO related SARPs will cause safety issues to airspace users operating in the affected areas.				

				AERONAUTICAL METEO	ROLOGY (MET	<u> </u>		
	ICAO Reference Document	Description	Date first reported	Remarks Impact of non-implementation	Action by States	Action taken/planned by State (including timelines/target dates)	Identified implementation impediment and action thereon	Status
62.	Annex 3 Chapter 3 §3.8; App. 2	Space weather advisory centres services		Failure to provide airspace users with relevant information on space weather in conformity with ICAO SARPs, may result in safety risks that can affect airborne HF communications systems, Communications via satellite (propagation, absorption), GNSS-based navigation and surveillance (degradation) GNSS.				
63.	Annex 3, Chapter 3 §3.1, §3.2, §3.5, §3.8; App.2 AFI eANP Volume I Part V §2	RMM services		In AFI Region, SADIS Services Provider State remotely provides agreed Aeronautical Meteorological Offices States with SADIS products, technical and administrative messages. States that fails to receive these products and technical/administrative information may experience some difficulties to adequately to respond to the airspace users' needs in terms of regular and reliable weather information.				

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64.	Annex 3, Chap. 2, §2.2	Quality Management System for Aeronautical Meteorological Services		Non-implementation of a quality management system for aeronautical meteorological services may lead to the failure to provide aeronautical meteorological information of required quality.				
65.	Annex 3, Chap. 2, §2.1.5	Aeronautical meteorological personnel qualifications and, competencies requirements		Failure to comply with the requirements of the World Meteorological Organization (WMO) in respect of qualifications, competencies, education and training of aeronautical meteorological personnel could lead the failure to efficiently contribute as required towards the safety, regularity and efficiency of international air navigation.				

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66.	Annex 3, Chap. 4, §4.1	Aeronautical meteorological stations inspections services		Failure to periodically conduct the inspections of aeronautical meteorological stations as required could lead to the failure to ensure that a high standard of observation is maintained, that instruments and all their indicators are functioning correctly, and that the exposure of the instruments has not changed significantly						

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67.	Annex 3 related requirement s APIRG/25 Conclusion 25/10 AFI eANP, Vol III	AMET B0 applicable elements • AMET-B0/1 Meteorological observations products • AMET-B0/2 Meteorological forecast and warning products • AMET-B0/3 Climatological and historical meteorological products • AMET-B0/4 Dissemination of meteorological products		Non-implementation of the AMET-B0 applicable elements as required could lead to the failure to provide meteorological as required to support flexible airspace management, improved situational awareness, collaborative decision-making and dynamically optimized flight trajectory planning.				

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68.	Annex 3 related requirement s APIRG/25 Conclusion 25/10 AFI eANP, Vol III APRG/23 Conclusion 23/29	AMET B1 applicable elements • AMET-B1/1 Meteorological observations information • AMET-B1/2 Meteorological forecast and warning information • AMET-B1/3 Climatological and historical meteorological information AMET-B1/4 Dissemination of meteorological information		Non-implementation of the AMET-B1 applicable elements as required could lead to the failure to provide as required the meteorological information supporting automated decision process or aids, involving meteorological information, meteorological information translation, ATM impact conversion and ATM decision support				

Note: ICAO Council definition of a Deficiency:

'A deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation'.