



ICAO

International Civil Aviation Organization

The Combined Tenth Meeting of the South Asia/Indian Ocean ATM Coordination Group (SAIOACG/10) and Twenty—Seventh Meeting of the South East Asia ATS Coordination Group (SEACG/27)

Bangkok, Thailand, 30 March – 03 April 2020

Agenda Item 6: Development of State Contingency Plans

REGIONAL ATM CONTINGENCY PLANNING AND STATUS REPORTING

(Presented by the Secretariat)

SUMMARY

This paper presents information on contingency planning in the Asia/Pacific Region, as presented to and discussed by the Seventh Meeting of the Air Traffic Management Sub-Group of APANPIRG (ATM/SG/7, Bangkok, Thailand, 05 to 09 August 2019). The paper includes information on an update on the *Asia/Pacific Regional ATM Contingency Plan*.

1. INTRODUCTION

1.1 The Asia/Pacific Regional ATM Contingency Plan, developed by the Regional ATM Contingency Plan Task Force (RACP/TF), was adopted by the Twenty-Seventh Meeting of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/27) in September 2016.

1.2 The *Asia/Pacific Regional ATM Contingency Plan* is available on the ICAO Regional Office website at: <https://www.icao.int/APAC/Pages/eDocs.aspx>. The *Regional ATM Contingency Plan Monitoring and Reporting Form* is available in MS Excel format for ease of use by Asia/Pacific Administrations and the Regional Office.

1.3 The Contingency Plan is subsidiary to the *Asia/Pacific Seamless ATM Plan*, which has an associated reporting regime to track State implementation of the regional performance expectations that are included in the Seamless Plan.

1.4 The Fifth Meeting of the Air Traffic Management Sub-Group of APANPIRG (ATM/SG/5, Bangkok, Thailand, 31 July to 04 August 2017) considered several of items for inclusion or update of the Asia/Pacific Regional ATM Contingency Plan, leading to the agreement of the meeting to the following Conclusion:

Conclusion ATM/SG/5-8: Asia/Pacific Regional ATM Contingency Plan Amendment

That,

*1. the Regional ATM Contingency Plan be amended to include the information and performance objectives in **Appendix F to the Report**;*

*2. the Regional ATM Contingency Plan Monitoring and Reporting Form provided **Appendix G to the Report** be included in the Regional Framework for Collaborative ATFM as an Appendix and be made available on the ICAO Asia/Pacific website; and*

3. Asia/Pacific Administrations are urged to report their ATM Contingency Plan implementation status at least once annually, by no later than 31 May each year.

2. DISCUSSION

Regional ATM Contingency Plan Performance Expectations

2.1 The *Asia/Pacific Regional ATM Contingency Plan Version 2.0* included in its performance improvement plan the following performance expectations relating to promulgation and reporting of State contingency plans:

7.19 *National ATM Contingency Plans should be promulgated on the website of the Air Navigation Service Provider.*

7.20 *States should report the status of their contingency planning to the ICAO APAC Regional Office, as follows:*

- 1. Promulgation of the national ATM Contingency Plan, together with the hyperlink to the website location of the Plan;*
- 2. State Contingency Points-of-Contact; and*
- 3. The establishment of contingency arrangements with each neighbouring State.*

Note 1: Information of a sensitive nature such as that related to matters of national security need not be included in promulgated contingency plans.

*Note 2: the Regional List of State Contingency Points-of-Contact is provided at **Appendix H**.*

Note 3: APANPIRG Air Navigation Deficiencies may be raised against the provisions of Annex 11 paragraph 2.30 for States that do not report promulgation of their national ATS contingency plan.

2.2 The performance expectations of the Regional ATM Contingency Plan were expected to be implemented by 10 November 2016, reflecting the Annex 11 requirement for contingency plans that had been applicable since November 2003.

Regional ATM Contingency Plan Status Reporting

2.3 Regional ATM Contingency Plan Monitoring and Reporting status report forms have been received from the following 19 Asia/Pacific Administrations:

2018 - Macao China, Singapore, Sri Lanka; and

2019 – Australia, Bangladesh, Cambodia, Hong Kong China, Macao China, Indonesia, Japan, Malaysia, Maldives, Myanmar, Nepal, New Caledonia, Pakistan, Papua New Guinea Philippines, Republic of Korea, Thailand, Singapore, Viet Nam.

2020 – (as at 31 March 2020, noting the due date for reports is 31 May each year)
Hong Kong China, Indonesia, Thailand, Viet Nam.

2.4 Using standardized regional criteria first used for assessment of State implementation of the elements of the APAC Performance-Based Navigation (PBN) Implementation Plan, and now also used for other Regional ATM plans, status reports are assessed by the Regional Office on the basis of the overall implementation of applicable elements of the Regional ATM Contingency Plan:

90 – 100% = *Robust*

70 – 89% = *Marginal*

0 – 69% = *Incomplete*

2.5 **Table 1** summarizes Asia/Pacific Region Contingency Plan implementation status, as reported to the ICAO Regional Office, for 2019. The collated data provided in State reports for 2019 is provided in **Attachment A**:

Administration (Tier)	% Implementation	Implementation Status
Afghanistan	<i>no report</i>	Did Not Report
Australia	91	Robust
Bangladesh	15	Incomplete
Bhutan	<i>no report</i>	Did Not Report
Brunei Darussalam	<i>no report</i>	Did Not Report
Cambodia	12	Incomplete
China	<i>no report</i>	Did Not Report
Hong Kong, China	50	Incomplete
Macao, China	59	Incomplete
Cook Islands	<i>no report</i>	Did Not Report
Fiji	<i>no report</i>	Did Not Report
France (French Polynesia)	<i>no report</i>	Did Not Report
DPR Korea	<i>no report</i>	Did Not Report
India	<i>no report</i>	Did Not Report
Indonesia	95	Robust
Japan	60	Incomplete
Kiribati	<i>no report</i>	Did Not Report
Lao PDR	<i>no report</i>	Did Not Report
Malaysia	71	Marginal
Maldives	20	Incomplete
Marshall Islands	<i>no report</i>	Did Not Report
Micronesia	<i>no report</i>	Did Not Report
Mongolia	<i>no report</i>	Did Not Report
Myanmar	33	Incomplete
Nauru	<i>no report</i>	Did Not Report

Administration (Tier)	% Implementation	Implementation Status
Nepal	0	Incomplete
New Caledonia	41	Incomplete
New Zealand	44	Did Not Report
Pakistan	24	Incomplete
Palau	<i>no report</i>	Did Not Report
Papua New Guinea	27	Incomplete
Philippines	56	Incomplete
Republic of Korea	50	Marginal
Samoa	<i>no report</i>	Did Not Report
Singapore	92	Robust
Solomon Islands	<i>no report</i>	Did Not Report
Sri Lanka	<i>no report</i>	Did Not Report
Timor Leste	<i>no report</i>	Did Not Report
Tonga	<i>no report</i>	Did Not Report
Thailand	21	Incomplete
Tuvalu	<i>no report</i>	Did Not Report
United States	<i>no report</i>	Did Not Report
Vanuatu	<i>no report</i>	Did Not Report
Viet Nam	89	Marginal

Table 1: Reported ATM Contingency Plan Implementation Status

2.6 As advised to the ATM/SG/6 (Hong Kong China, 30 July – 03 August 2018), in 2019 the ICAO Regional Office is expected to annually report the receipt, or non-receipt, of completed Contingency Plan Monitoring and Reporting Forms, for consideration for addition to the APANPIRG ANS Deficiencies List. This is related to the standard established by Annex 11 – *Air Traffic Services* relating to ATM Contingency Planning:

2.31 Contingency Arrangements

Air traffic services authorities shall develop and promulgate contingency plans for implementation in the event of disruption, or potential disruption, of air traffic services and related supporting services in the airspace for which they are responsible for the provision of such services. Such contingency plans shall be developed with the assistance of ICAO as necessary, in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned.

Note 1.— Guidance material relating to the development, promulgation and implementation of contingency plans is contained in Attachment C.

2.7 Participants should note the request for each State present to provide a status report on its compliance with the *Regional ATM Contingency Plan* reporting elements.

Contingency Plans for Volcanic Ash Clouds

2.8 Several ATM-related ICAO Asia/Pacific regional meetings in the Asia/Pacific Region have discussed need for reporting implementation of contingency plan elements for volcanic ash cloud where there were no active volcanoes within the State's airspace. ICAO reminds the meeting that volcanic ash cloud events had in recent years severely affected such States, as the volcanic ash cloud could move over large distances before dissipating. Well-known examples include:

- The 2011 eruption of the Puyehue-Cordón Caulle (Chile) volcano, which disrupted air navigation in inter-alia the Melbourne, Brisbane, Auckland Oceanic and New Zealand FIRs;
- the 2010 eruptions of the Eyjafjallajökull volcano (Iceland) which disrupted air navigation in the airspace of many European States that do not have volcanoes within their FIRs; and
- the 1991 eruption of Mount Pinatubo (Philippines) which resulted in volcanic ash falls as far distant as Singapore.

2.9 The meeting is invited to note that contingency procedures for volcanic ash cloud may also be applied for toxic chemical cloud and radioactive cloud events.

Quick Reference Emergency Templates

2.10 The Ninth Meeting of the South Asia Indian Ocean ATM Coordination Group (SAIOACG/9, Bangkok, Thailand, 26 – 29 March 2019), was informed that it had been observed during recent Universal Safety Oversight Audit Programme (USOAP) activity to Asia/Pacific States that few Air Traffic Services (ATS) units were prepared to respond in a timely manner to emergencies and contingency events with appropriate checklists and guidance that was readily available to ATS personnel.

2.11 Moreover, at towers it was often observed that critical emergency reference material such as emergency alphanumeric grid maps ('crash maps') and the Aerodrome Emergency Plan (AEP) were not within easy access of operational positions, and in some cases ATS personnel could not locate the AEP without moving from the operational position and searching for it. Specifically, with regard to emergency grid maps, the following issues had been noted:

- maps often covered the aerodrome and its immediate environs, but did not cover the most likely area for an aircraft accident (within five nautical miles of runway thresholds and the aerodrome circuit);
- some maps divided an aerodrome up into unnecessarily small grids;
- a few maps used the letters 'I' and 'O', which should be avoided due to possible confusion with the numbers '1' and '0'.

2.12 An ATS Emergency Response Checklist Template and Tower Emergency Plan Template were provided for consideration by the ATM/SG/7 meeting. ATM/SG/7 subsequently agreed to incorporate these templates in an amendment to the Regional ATM Contingency plan, discussed in paragraphs 2.23 to 2.29.

2.13 ATM/SG/7 also agreed to the following Conclusion:

Conclusion ATM/SG/7-6: ATM Emergency and Contingency Response Planning

That, Asia/Pacific States are urged to ensure through regulatory oversight mechanisms that all operational positions at ATS units have ready access to such information, to respond to emergency and contingency situations.

Afghanistan Contingency Planning

2.14 The current Kabul FIR bypass plan agreed by the Ad Hoc Afghanistan Contingency Group (AHACG), the *Inter-Regional Afghanistan Contingency Arrangements*, is appended at **Attachment B**. Participants are requested to update details contained within the bypass plan, and in particular Contingency Coordination Team (CCT) details.

2.15 Afghanistan is also invited to update the meeting on its current State contingency plan regarding the Kabul Flight Information Region (FIR), with particular emphasis on partial degradation strategies and procedures.

East Asia and North Pacific

2.16 Participants are also requested to update details if required contained within the East Asia and North Pacific Contingency Coordination Team Points of Contact document (**Attachment C**).

Pakistan CCT

2.17 A CCT was established by the APAC Regional Office for the closure of Pakistan airspace on 27 February 2019. A series of CCT bulletins were issued to exchange information with key stakeholders. A total of 48 people were members of the Pakistan CCT, representing 19 States and three International Organizations.

2.18 The ICAO APAC Office was in regular contact with the Air Navigation Service Providers (ANSPs) from India (AAI) and Pakistan (PCAA) and the ICAO MID Office, as well as the IATA offices in Jordan (MENA) and Singapore (ASPAC). Several contingency routing schemes were developed, both north and south of Pakistan's airspace. China has responded in a most positive manner to the request for a relaxation of overflight approval requirements, and accommodated extra traffic from Europe that would otherwise have travelled via south of the Himalayas.

2.19 An important lesson learnt from the contingency operation was the need for the State or States concerned to maintain close and regular communication with the ICAO Regional Office, as the CCT was dependent on up-to-date information which States, ANSPs and airlines could use to plan their contingency actions. In this case, Pakistan was urged to provide more regular status reports and pre-NOTAM information on any planned changes, and even 'no change' reports as this information was not regularly forthcoming from the State for much of the contingency operation.

2.20 Another important lesson was the need to ensure that both civil and military authorities understood the State's international obligations to comply with the Convention on International Civil Aviation. It should be recalled that:

- a) in situations of contingency, States experiencing an issue with their airspace or ATS availability/safety were required to ensure that a contingency service is provided in accordance with the provisions of Annex 11, paragraph 2,30, or delegate its responsibility to a State that can support the continued flow of international air traffic; and

- b) any portions of an FIR that were not sovereign airspace are not subject to a State's authority (including military agencies) to 'close' this airspace.

2.21 Therefore, all States with international airspace (as described in **Figure 1**, also at <https://www.icao.int/APAC/Documents/edocs/International%20Airspace%20and%20Civil-Military%20Cooperation.pdf>) should note that their National ATM Contingency Plans should ensure that there are provisions to facilitate the continued transit of international aircraft within such airspace, and that such airspace cannot be unilaterally 'closed' or restricted.

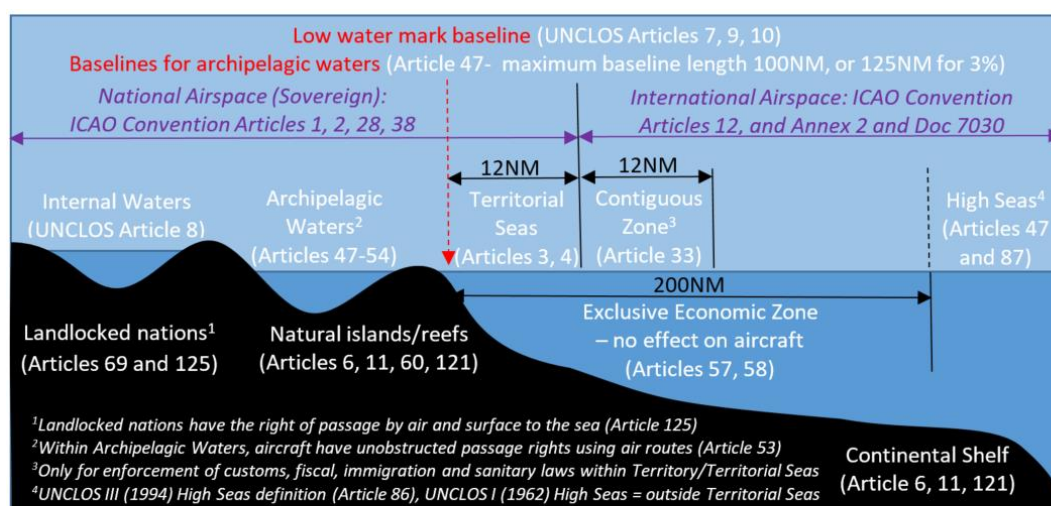


Figure 1: Maritime and Airspace Volumes as Defined by the *United Nations Convention on the Law of the Sea* (UNCLOS) and the *Convention on International Civil Aviation* ('Chicago Convention' or 'CC') (white/red = UNCLOS, purple = CC)

2.22 The meeting is also invited to note the following passage from Annex 11 Attachment C:

*6.1 Development of a sound contingency plan is dependent upon circumstances, including the availability, or not, of the airspace affected by the disruptive circumstances for use by international civil aviation operations. Sovereign airspace can be used only on the initiative of, or with the agreement or consent of, the authorities of the State concerned regarding such use. Otherwise, the contingency arrangements must involve bypassing the airspace and should be developed by adjacent States or by ICAO in cooperation with such adjacent States. **In the case of airspace over the high seas or of undetermined sovereignty, development of the contingency plan might involve, depending upon circumstances, including the degree of erosion of the alternative services offered, temporary reassignment by ICAO of the responsibility for providing air traffic services in the airspace concerned.***

Regional ATM Contingency Plan Update

2.23 As a further lesson learnt from the Pakistan contingency operation, the recovery from any contingency operation can be just as difficult as the initial situation to manage. To avoid ad hoc recovery actions that place aircraft or adjacent ATC units in an unsafe situation, it is important to consider and agree with affected units the following recovery actions:

1. establish, in coordination with the ANSPs responsible for the identified *Core Contingency FIRs* (i.e. those FIRs that have responded to the contingency situation by making changes to traffic flows, use of ATS routes, Flight Level Allocation Schemes (FLAS) and separation minima or spacing, or other procedures) an agreed

time of resumption of normal operations or *agreed resumption time* (i.e. the common time on any day when the traffic situation is most suitable for contingency recovery);

2. provide prior notification of resumption of normal operations at the agreed resumption time via NOTAMs promulgated not less than 6-12 hours (or longer agreed prior notification time, where necessary) before the resumption time, noting that aircraft operators are normally flight planning six hours or more before flight, although there is a need to take into account any long haul and ultra-long haul flights that may be already airborne).
3. specify, through coordinated contingency recovery planning and associated NOTAMS that:
 - a) the only flights that may plan via non-contingency routes are those flights that:
 - i. have Expected Off-Block Times (EOBT) after the *agreed resumption time*; or
 - ii. that will enter the first of any of the Core Contingency FIRs at or after the *agreed resumption time*;
 - b) no re-filing of FPL routes or requests for direct tracking are to be made by airborne flights within the *Core Contingency FIRs* at the time of resumption to normal operations, although ATC may tactically offer improved tracking; and
4. ensure the ATC service in each *Core Contingency FIR* is prepared for any ‘mixed mode’ (contingency route/level and non-contingency route/level) operations in the same airspace during the transition to full normal operations.

2.24 Accordingly, these considerations were included in the proposal for amendment of the Regional ATM Contingency Plan discussed in the following paragraphs.

Natural Disaster and Humanitarian Aid Relief – Promulgation of NOTAMs

2.25 In September 2019 a major destructive earthquake and tsunami event occurred in Palu, Indonesia. During the coordination of contingency responses, including humanitarian aid, it became apparent that the normal distribution of NOTAM information did not necessarily provide ready access to information that would assist in the planning and deployment of humanitarian aid.

2.26 In particular, information on the status of affected or otherwise relevant aerodromes, communications, navigation and ATS facilities may, depending on the location, not be included in the international NOTAM distribution for the FIR concerned.

2.27 The amendment to the Regional ATM Contingency Plan (**Attachment D**) included a related element.

2.28 ATM/SG/7 agreed to the following Conclusion:

Conclusion ATM/SG/7-7: Amendment to the Regional ATM Contingency Plan

That:

1. *The Proposal for Amendment at Appendix G to the Report be incorporated in the Regional ATM Contingency Plan; and*

2. States ensure their contingency plans include the new elements of the plan.

2.29 The updated Regional ATM Contingency Plan, incorporating the above amendment, is available on the ICAO Asia/Pacific Regional Office eDocuments web-page at:

<https://www.icao.int/APAC/Pages/eDocs.aspx>.

Points of Contact

2.30 The Regional Office has determined that it is more efficient to maintain a single ATM List of Contacts for all purposes – administrative, Aeronautical Information Service (AIS), contingency responses and Search and Rescue (SAR). Therefore, the ATM/SG reviewed a consolidated list for States to review and update (with specific emphasis on nominating SAR, CCT, ATC and AIM POCs), which will be presented to all ATM meetings for their consideration. The consolidated list is provided in a separate WP.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the performance expectations of the Regional ATM Contingency Plan relating to promulgation and reporting;
- b) provide *Regional ATM Contingency Plan* status reports at least once annually, noting the request for each State present at the meeting to provide a status report on its compliance with the *Regional ATM Contingency Plan* reporting elements;
- c) note the need for all Asia/Pacific Administrations to include contingency responses to volcanic ash clouds in their ATM Contingency Plans;
- d) note and the availability of Quick Reference Templates provided in the Regional ATM Contingency Plan, and the associated ***Conclusion ATM/SG/7-6: ATM Emergency and Contingency Response Planning***;
- e) (relevant States) to provide updated details for the Inter-regional Afghanistan ATM Contingency Arrangements (**Attachment B**);
- f) (relevant States) to update points of contact for the East Asia and North Pacific Contingency Coordination Team (**Attachment C**);
- g) note the lessons learnt from the Pakistan contingency response, the specific provisions applicable to contingency planning in international airspace, and the lessons learned in planning recovery from contingency situations;
- h) note the need for ready access by aircraft operators supporting humanitarian aid operations to information relating to the status of ATS and other operational aeronautical facilities and infrastructure;
- i) note the revised Regional ATM Contingency Plan, and the related ***Conclusion ATM/SG/7-7: Amendment to the Regional ATM Contingency Plan***; and
- j) discuss any other relevant matters, as appropriate.

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ATM CONTINGENCY PLAN MONITORING AND REPORTING FORM

The following indicators are based on the Performance Improvement Plan of the Asia/Pacific Regional Contingency Plan, which should be read in conjunction with this form. The information provided will be used by the relevant Regional bodies to assess individual Administration and overall regional compliance with the Contingency Plan, and may be used by Administrations to internally evaluate their implementation status.

	Australia	Bangladesh	Cambodia	Hong Kong, China	Macao, China	Indonesia	Japan	Malaysia	Maldives	Myanmar	Nepal	New Caledonia	Pakistan	Papua New Guinea	Philippines	Republic of Korea	Singapore	Thailand	Viet nam
Indicate whether your Administration has:																			
1. Established an ATM contingency Central Coordinating Committee, its terms of reference and procedures for activating the ATM Operational Contingency Group function.	1.0	0.5	0.0	0.5	1.0	1.0	0.5	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.5	0.5	1.0	0.0	1.0
2. Developed contingency plans for Category A, B and C contingency events, for all ATS units.	1.0	0.5	0.5	0.5	1.0	1.0		0.0	0.5	0.0	0.0	1.0	0.5	0.5	0.5	0.5	1.0	0.5	1.0
3. Developed human performance-based training and procedures for response to ATM contingency operations, for all ATS staff.	1.0	0.0	0.5	1.0	1.0	1.0	0.5	0.0	0.0	0.0	0.0	1.0	0.5	0.5	0.5	1.0	1.0	0.0	1.0
4. Implemented a program of regular desktop and inter-unit coordinated contingency exercises of all Level 1 contingency plans	1.0	0.0	0.5	1.0	1.0	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.0	1.0	1.0	0.5
5. Implemented process to review and analyze the outcomes of any testing, pre-activation or activation of a contingency plan, or any contingency exercise.	1.0	0.0	0.5	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0
6. Published details of ATS contingency routes and flight level allocation schemes in AIP.	1.0	0.0	0.0	0.0	1.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5
7. Made relevant sections of contingency plans available on the public internet website of the ANSP	0.0	1.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.5	1.0	0.0	0.0
8. Formalized Level 2 (inter-State) contingency arrangements for all relevant Level 1 contingency plans.	1.0	0.0	0.0	0.0	0.5	1.0	1.0	1.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	1.0
9. Harmonized, where practicable, contingency ATS routes and flight level allocation schemes with those of neighbouring States.	1.0	0.5	0.0	0.0	1.0	0.5	1.0	1.0	0.0	0.5	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	1.0
10. Ensured regulatory provisions relating to flight into airspace affected by volcanic ash are in accordance with the guidance provided in ICAO Doc 9974 - <i>Flight Safety and Volcanic Ash</i> .	1.0	0.0	0.0	0.5	0.0	1.0		1.0	0.0	0.5	0.0	0.5	0.0	0.0	1.0	0.0	1.0	0.0	1.0
11. Developed airspace and airport management policies and procedures for response to volcanic ash cloud, in accordance with the provisions of Doc 9974 and ICAO Doc 4444 - PANS-ATM 15.8.1c and Note 2.	0.5	0.0	0.0	0.5	0.0	1.0	1.0	1.0	0.0	0.5	0.0	0.5	0.0	0.0	0.5	0.0	1.0	0.0	1.0

	Australia	Bangladesh	Cambodia	Hong Kong, China	Macao, China	Indonesia	Japan	Malaysia	Maldives	Myanmar	Nepal	New Caledonia	Pakistan	Papua New Guinea	Philippines	Republic of Korea	Singapore	Thailand	Vietnam	
Indicate whether your Administration has:																				
12. Developed and maintained a list of relevant volcanoes as specified in the Smithsonian Institution <i>List of Volcanoes of the World for VAAC Use</i> , available at http://www.volcano.si.edu/projects/vaac-data/	1.0	0.0	0.0	0.5	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.5	1.0	0.0	1.0	1.0
13. Made available a series of templates for different stages of volcanic activity, to assist Meteorological Watch Office (MWO) and Aeronautical Information Service (AIS) staff in expediting the issuance of relevant MET and AIS messages.	1.0	0.0	0.0	0.5	0.0	1.0		1.0	0.0	0.5	0.0	0.0	0.0	0.5	1.0	0.5	1.0	0.0	1.0	1.0
14. Conducted, at least annually, multi-lateral volcanic ash cloud exercises.	1.0	0.0	0.0	0.5	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.5	0.5	0.0	1.0	0.0	1.0	1.0
15. Established a mechanism to provide regular and timely updates of information to all stakeholders during a volcanic eruption and/or ash cloud event.	1.0	0.0	0.0	0.5	0.0	1.0	1.0	1.0	0.0	0.5	0.0	0.0	0.0	0.5	1.0	1.0	1.0	0.0	1.0	1.0
16. Established an internal crisis management centre to support the collaborative and timely sharing of information such as volcanic eruptions that will have a significant impact on airport and/or airspace management.	1.0	0.0	0.0	0.5	1.0	1.0	0.5	1.0	0.0	1.0	0.0	1.0	0.0	0.5	0.0	1.0	1.0	0.0	1.0	1.0
17. Promulgated the national ATM contingency plan on the website of the Air Navigation Service Provider.																				
18. Reported the status of contingency planning and contingency points-of-contact to the ICAO APAC Regional Office.	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.5	0.0	1.0	0.0	1.0	1.0
	15.5	2.5	2.0	8.5	9.5	16.0	10.0	12.0	0.5	5.5	0.0	5.0	4.0	4.5	9.5	8.5	15.5	3.5	15.0	15.0
	91	15	12	50	59	95	60	71	3	33	0	30	24	27	56	50	92	21	89	

INTERNATIONAL CIVIL AVIATION ORGANIZATION



INTER-REGIONAL

AFGHANISTAN ATM CONTINGENCY ARRANGEMENTS

**Version 1.0
September 2016**

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontier or boundaries.

**INTER-REGIONAL AFGHANISTAN AIR TRAFFIC MANAGEMENT CONTINGENCY
ARRANGEMENTS**

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FOREWORD

This Document is for guidance only. Regulatory material relating to the aircraft operations is contained in relevant ICAO Annexes, PANS/ATM (Doc.4444), Regional Supplementary Procedures (Doc.7030), States AIPs and current NOTAMs, which should be read in conjunction with the material contained in this Document.

Guidelines for contingency measures for application in the event of disruptions of air traffic services and related supporting services were first approved by the Council on 27 June 1984 in response to Assembly Resolution A23-12, following a study by the Air Navigation Commission and consultation with States and international organizations concerned, as required by the Resolution. The guidelines were subsequently amended and amplified in the light of experience gained with the application of contingency measures in various parts of the world and in differing circumstances.

The purpose of the guidelines contained in this document is to assist in providing for the safe and orderly flow of international air traffic in the event of disruptions of air traffic services and related supporting services and in preserving the availability of major ATS routes within the Kabul Flight Information Region (FIR).

The main objective of the Inter-Regional Afghanistan ATM Contingency Arrangements is to provide a description of the inter-regional contingency measures in place to deal with a range of contingency situations.

This Contingency Arrangements have been developed by the Ad Hoc Afghanistan Contingency Group (AHACG) in accordance with instructions from the Secretary General of the International Civil Aviation Organization (ICAO) and the decision taken by the Asia Pacific Planning and Implementation Group (APANPIRG).

INTRODUCTION

The Air Navigation Services (ANS) within the Kabul Flight Information Region (FIR) were provided under the framework of the North Atlantic Treaty Organization (NATO) and United States. This structure was expected to end during the 3rd Quarter of 2015. It is currently unclear, if Afghanistan Civil Aviation Authority (ACAA) would be able to provide ANS with their own resources or contract a new body that would provide these ANS functions on their behalf.

The termination of provision of the affected Air Navigation Services should be announced by Notice to Airmen (NOTAM) 28 days before the end date of the cessation of services. If this airspace contract is not extended, all air traffic control services (Kabul Area Control Center comprising the low and high airspace structure, as well as Kabul Approach Control) and also de-confliction services between civil and military operation will terminate on that end date.

The effective transition from military to civilian control of the ANS within the Kabul FIR is critically important to support the major traffic flows between Europe and Asia through the Kabul FIR and the adjacent airspace. This situation has become even more critical due to a variety of airspace constraints and operation limitations/restrictions in the neighbouring FIRs.

Consequently, the High-Level Meeting on Afghanistan Airspace Contingency Planning in Hong Kong, China 28 November 2014 decided that the contingency aspects for the continued safe and efficient operation of aircraft between Europe and the Asia/Pacific Region should be urgently discussed between all stakeholders (States and International Organisations) and that an Inter-Regional Afghanistan ATM Contingency Arrangements should be urgently developed.

Afghanistan shall develop and promulgate a State Contingency Plan (according to ICAO Annex 11) for implementation in the event of disruption, or potential disruption, of air traffic services and related supporting services in the airspace for which they are responsible for the provision of such services. Such a contingency plan shall be developed with the assistance of ICAO as necessary, in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace, the airspace users concerned and the International Organizations. The contingency plan should include contingency arrangements to be implemented in the event of natural disasters, military conflicts or public health emergencies.

To this extent, the Inter-regional Afghanistan ATM Contingency Arrangements do not replace the State Contingency Plan and eventually do not relieve Afghanistan from its responsibility of developing/updating a State Contingency Plan.

The alternative routes are based mainly on the existing route network. Concerned States, in consultation with airspace users, might establish temporary routes to be able to accommodate extra traffic in a safe manner.

The ICAO Asia Pacific Regional Office will be the owner of this Document and will coordinate with ICAO HQ and Cairo and Paris Regional Offices any amendment to the Contingency Arrangements.

Each ICAO Regional Office will distribute the Contingency Arrangements to all relevant States, IATA, and other International Organizations within their regions.

This Document is available to users through the ICAO Asia/Pacific (APAC) website (<http://www.icao.int/APAC/Pages/edocs.aspx>).

In order to maintain the effectiveness of the Contingency Arrangements, Stakeholders are encouraged to provide the ICAO APAC Regional Office with their comments/suggestions and updates.

Inter-regional Afghanistan ATM Contingency Focal Points

The list of the Inter-regional Afghanistan ATM Contingency Focal Points is at **Table 1**. This list should be reviewed and updated, as appropriate.

Table 1: INTER-REGIONAL AFGHANISTAN ATM Contingency Focal Points

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Coordination Procedures

Implementation of the contingency measures

A Contingency Coordination Team (CCT) will be established from the following members:

- The focal points listed in Table 1; and
- Other States, Organizations, Agencies etc., when deemed necessary, as temporary members.

The main tasks of the CCT are as follows:

- monitor continuously information from all relevant sources;
- initiate action for the activation/deactivation of the Contingency Arrangements;
- arrange for the provision of relevant aeronautical information to the ICAO Regional Offices and Headquarters;
- liaise with international/regional organizations as appropriate;
- exchange up-to-date information with States directly concerned and States which are potential participants in contingency arrangements.

The notification/coordination process at **Table 2** should be used to facilitate the implementation of contingency arrangements.

In the event of adoption of contingency procedures States/Air Navigation Service Providers (ANSPs) will notify all affected agencies and operators appropriately.

Table 2: Notification/coordination process

Airspace Avoidance				
Airlines	Airline Actions	IATA Actions	ICAO APAC Office	States/ ANSP
Monitor global activities that have an effect on flight operations. (currently in place)	NONE	NONE	NONE	NONE
Review state activity that requires airline safety and security review (currently in place)	Notify IATA as to effected FIR' and factors under review. (security and or safety)	When more than (30%) of airlines reporting, notify ICAO APAC	Call for the Contingency Coordination Team (CCT)	NONE
Identify specific Factors and pending trigger events (currently in place)	inform IATA on review findings and possible trigger events	Inform CCT on findings and number of airlines reporting	Notify affected States/ANSP on number of airlines reviewing current activity	NONE
Event triggered: reviewing avoidance options and select avoidance scenario	Inform IATA of selected scenario and volume/initial timelines.	Inform CCT	Notify affected States/ANSP scenario and volume/timelines	Review scenario and give feedback on feasibility
48 Hours prior to activation of planned avoidance re-routes	Notify IATA	Notify CCT	Notify affected States/ANSP	Prepare NOTAMS and avoidance scenario
24 Hours prior to activation of planned avoidance re-routes	Notify IATA	Notify CCT	Notify affected States/ANSP	Publish NOTAMS

SCENARIO A

Degradation of Air Traffic Services

In case of degradation or potential disruption of ATS or related services within the Kabul FIR, the provisions of the Afghanistan State Contingency Plan apply. If these are not available the provisions as specified below might apply.

The ANSP responsible for providing ATS within Afghanistan/Kabul FIR will decide upon the level of notification necessary and take action as required to disseminate the information.

If the degradation of ANS in the Kabul FIR results in a situation whereby no ATS are provided, then the airspace classification automatically becomes by definition Class F (uncontrolled, advisory) or Class G (uncontrolled). In this case airspace users must be aware that State/military aircraft may continue their operations within the Kabul FIR.

Airspace users are responsible to make their own risk assessment to determine whether or not they would utilise the Kabul FIR.

In the event that limited or even no ATS are available within the Kabul FIR and the State Contingency Plan is not implemented, the following contingency procedures/measures, as presented by IATA, might be considered by the concerned States:

- The following ATS routes are available, at and above FL 310, bi-directional (refer **Figure 1**):
 - FIRUS – P500 – PADDY (12 NM ATS route portion delegated to Dushanbe ACC)
 - SOKAM UL333 SERKA
 - CHARN P628 ASLUM
 - RANAH L750 ROSIE
 - LEMOD N644 PAVLO
 - AMDAR M875 TAPIS L509 LAJAK

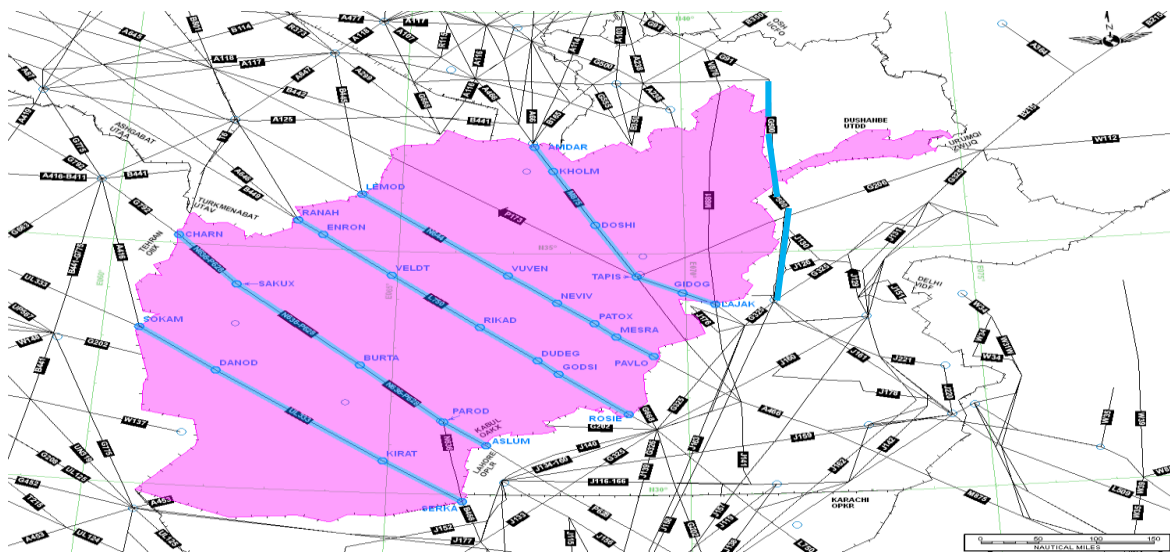


Figure 1: Kabul FIR Upper Airspace ATS Routes

- All other ATS routes will be closed
- All available tracks are laterally separated by a minimum of 50 NM to avoid altitude coordination or Flight Level Allocation requirements. Altitudes are assigned based on proper altitude for direction of flight (even Flight Levels for Westbound flights, odd Flight Levels for Eastbound flights.)
- **ATC / ATFM Coordination**
 - The ATFM function will need to inform operators and ACCs of times, route and altitudes to be met.
 - The upstream ACC adjacent to Kabul FIR will need to provide an ATC coordination estimate to the downstream (receiving) ACC to include Aircraft identification, type, Mach, origin, route, destination, estimated time at a boundary waypoint that will have been agreed, flight level. This coordination will be carried out via dedicated recorded voice line or other agreed recorded methods.
- **ATFM Procedure:**
 - BOBCAT (for westbound flights) & NMOC (for eastbound flights) provide flow metering to 15 minutes in trail per flight level per track.
 - Upstream ACCs, aircraft operators and flight crews are made aware of the Required Time of Arrival at the metering point and ensure that the times and levels are respected.
- **ATC Procedure for the ACC delivering traffic:**
 - Assigns Airspeed to aircraft based on aircraft performance as to maintain required longitudinal spacing and appropriate FL
 - Ensures that the aircraft has been cleared on the airway(s) as planned by the ATFM function
 - Ensures minimum longitudinal spacing of 15 minutes between aircraft on the same track at the same Flight Level
 - Informs the receiving ACC of inbound traffic and provides an inbound boundary waypoint estimate
 - Instructs the aircraft to contact the receiving ACC as per agreement.
- **NAV**
 - Aircraft operate along required airways using RNAV 10 or better.
- **COM**
 - The upstream ACC will instruct the aircraft to contact the receiving ACC via VHF voice radio at a point that will have been coordinated between the concerned ACCs, corresponding to the point at which the aircraft enters VHF radio coverage.
 - The aircraft will monitor 121.5 and an agreed-upon air to air frequency (123.45?).
 - The aircraft will broadcast the following message :
 - *ALL STATIONS*
 - *THIS IS [CALLSIGN] IN THE KABUL FIR*
 - *FL ...*
 - *[WESTBOUND | EASTBOUND] ON [AIRWAY]*
 - *ESTIMATING [WAYPOINT] AT [UTC TIME]*
 - *[CALLSIGN]*
 - *FL ...*

- *IN THE KABUL FIR*
- in the English language on the agreed-upon air-air VHF radio frequency at the following times:
 - 10 minutes prior to entering the Kabul FIR
 - 10 minutes prior to crossing a waypoint within the Kabul FIR
 - At not less than 20 minute intervals
 - At any other time considered necessary by the pilot
- Consideration should be given to the following:
 - Using air-ground satellite voice for supplementary or emergency air-ground communications.
 - Using CPDLC to an ATC agency that has agreed to provide a coordination service.
- **In-Flight Contingencies**
 - In case of a non-critical in-flight emergency, the aircraft would proceed as cleared until leaving the Kabul FIR.
 - In case of a critical in-flight emergency (de-pressurization, etc.), aircraft would follow ICAO emergency descent procedures and proceed at the discretion of the pilot in command.
 - In case of a medical emergency the aircraft would proceed as cleared until leaving the Kabul FIR.
 - Consideration should be given to the mandatory use of ACAS.

SCENARIO B

Delegation of Air Traffic Services

The AHACG/2 meeting had discussed the possibility of Air Navigation Services (ANS) delegation by Afghanistan to another State.

The delegation may provide full or partial Air Traffic Services (ATS) within the whole or part of the Kabul Flight Information Region (FIR). The delegation of responsibility for ANS (especially ATS) within the upper airspace of Afghanistan to neighbouring countries was presented as an alternative option to the circumnavigation of the Kabul FIR.

It was possible that, after suitable training, Afghan controllers could provide an ATS from the State providing delegated services, so that the ANS was no longer delegated. In this case, there would be a significant benefit in terms of the service being provided from a potentially more secure site than Kabul, with more than one ACC capable of providing services within the Kabul ACC for contingency.

SCENARIO C

Circumnavigation of Kabul FIR

If the degradation of ANS in the Kabul FIR results in a situation whereby no ATC services are provided, then the airspace classification automatically becomes by definition Class F (uncontrolled, advisory) or Class G (uncontrolled). In this case, with the potential presence of military aircraft operations and a potential lack of information on airspace safety/security issues, airlines may elect to avoid the Kabul FIR.

As the Tehran FIR was already at capacity at times, additional measures were needed to be available to respond to traffic that would divert south of Afghanistan on the Tehran-Karachi FIR axis, in addition to that which would divert north of the Himalayas using ATS route P500 and via China (L888, or other routes).

The current Organised Track Systems (OTS) utilised by Iran should be extended into the Karachi FIR as follows:

- a) Flight Level Allocation Scheme (FLAS) for **westbound** flight levels: FL300, FL340 and FL360;
- b) FLAS for **eastbound** flight levels: FL310, FL350 and FL370;
- c) merging procedures for traffic departing airports within the Tehran and Karachi FIRs so aircraft can join the OTS routes, preferably climbing to a level below the OTS FLAS, and then being vectored or delayed before safely merging (the sequence would need to be coordinated with the next State unless such traffic was accounted for in the traffic metering system);
- d) FLAS for **westbound** traffic crossing the Royal Road OTS of FL320 (or FL280 and below, or FL380 or above);
- e) FLAS for **eastbound** traffic crossing the Royal Road OTS of FL330 (or FL290 and below, or FL390 or above)

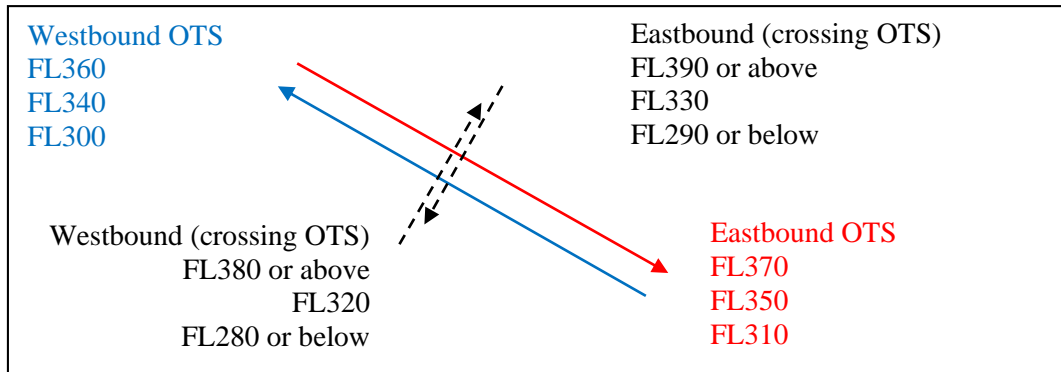


Figure 2: Royal Road OTS FLAS

The agreed OTS within the Tehran and Karachi FIR was as **Figure 3**:

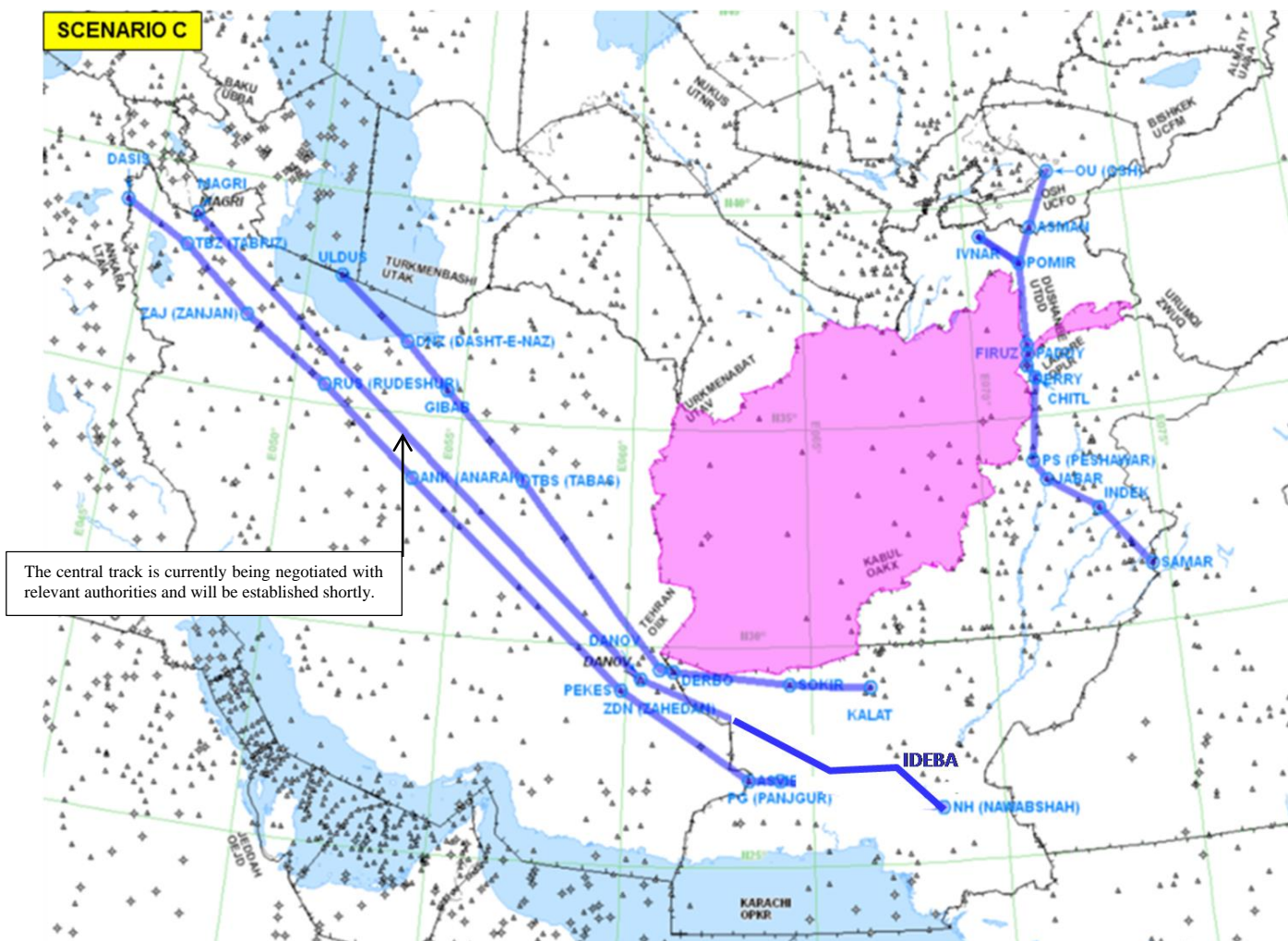


Figure 3: Circumnavigation routes including Extended Royal Road OTS

Other measures

During times of uncertainty when airspace closures/circumnavigation seem possible, aircraft operators should be prepared for a possible change in routing while en-route, familiarization of the alternative routes outlined in the contingency arrangements as well as what may be promulgated by a State via aeronautical publication.

ATC should be alert to respond to any request by aircraft and react commensurate with safety.

During the contingency operations, States concerned should take necessary measures to grant special over flight permissions to those flights avoiding the affected Airspace(s).

- END -

SAIOACG/10 and SEACG/27 – WP/23
Attachment C

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SAIOACG/10 and SEACG/27 – WP/23
Attachment C

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SAIOACG/10 and SEACG/27 – WP/23
Attachment C

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Attachment D: Amendment to the Asia/Pacific Regional ATM Contingency Plan¹

SECTION 5 – BACKGROUND INFORMATION

Insert new paragraphs:

Coordinated Recovery from ATS Contingency Operations

5.13 The recovery from any contingency operation can be just as difficult to safely manage as the initial onset of the contingency situation, particularly when involving multiple ANSPs/FIRs. To avoid ad hoc recovery actions that place aircraft and/or the service provided by adjacent ATS units in an unsafe or unmanageable situation, it is important to consider, coordinate and agree on recovery actions.

5.14 States coordinating the recovery from contingency operations should:

1. establish, in coordination with the ANSPs responsible for the identified *Core Contingency FIRs* (i.e. those FIRs that have responded to the contingency situation by making changes to traffic flows, use of ATS routes, Flight Level Allocation Schemes (FLAS) and separation minima or spacing, or other procedures) an agreed time of resumption of normal operations or *agreed resumption time* (i.e. the common time on any day when the traffic situation is most suitable for contingency recovery);
2. provide prior notification of resumption of normal operations at the agreed resumption time via NOTAMs promulgated not less than 6-12 hours (or longer agreed prior notification time, where necessary) before the resumption time, noting that aircraft operators are normally flight planning six hours or more before flight, although there is a need to take into account any long haul and ultra-long haul flights that may be already airborne).
3. specify, through coordinated contingency recovery planning and associated NOTAMS that:
 - a) the only that may plan via non-contingency routes are those flights that:
 - i. with Expected Off-Block Times (EOBT) after the *agreed resumption time*;
or
 - ii. that will enter the first of any of the *Core Contingency FIRs* at or after the agreed resumption time;
 - b) no re-filing of FPL routes or requests for direct tracking are to be made by airborne flights within the *Core Contingency FIRs* at the time of resumption to normal operations, although ATC may tactically offer improved tracking; and
4. ensure the ATC service in each *Core Contingency FIR* is prepared for any ‘mixed mode’ (contingency route/level and non-contingency route/level) operations in the same airspace during the transition to full normal operations.

¹ Approved by ATM/SG/7 – *Conclusion ATM/SG/7-7* refers.

ATS Emergency and Contingency Response Planning

5.15 An essential component of the capability of ATS units to respond to in-flight emergencies and contingency events is the provision of appropriate checklists and guidance that are readily available to ATS personnel, at their operational positions.

5.16 States should ensure through regulatory oversight mechanisms that quick-reference emergency checklists are made available at all operational ATS positions, and that they are reviewed and updated in accordance with the processes established for all operational procedure, instructions and related documents. The knowledge and use of quick-reference emergency checklists should also be included in all ATS training and performance assessment.

5.17 Quick Reference Emergency Templates are provided in **Appendices X and X.**

Re-number subsequent paragraphs.

Insert new paragraphs:

Promulgation of Information supporting Natural Disaster Humanitarian Aid Operations

5.32 Aircraft operators supporting humanitarian aid organizations responding to natural disasters and other incidents requiring their intervention require ready access to up-to-date operational information. In many cases, NOTAMs referring to ATS units, aerodromes, communications and navigations facilities and infrastructure may be domestically distributed only.

5.33 There is also a need to ensure that contact details for the ATS unit or organization providing the AOCG function (paragraph 5.10 iv) are provided to enable ready access to information necessary to plan humanitarian aid operations.

5.34 States should ensure that NOTAM relating to the contingency situation are temporarily included in the international NOTAM distribution for the FIR/s concerned. NOTAM providing contact details for the ATS unit or other organization providing the AOCG function should also be promulgated,

Re-number subsequent paragraphs.

.....