สำนักงานการบินพลเรือนแห่งประเทศไทย
The Civil Aviation Authority of Thailand

ATM CONTINGENCY PLAN FOR FLIGHTS TRANSITING THE BANGKOK FIR

Issue 02

Revision 01

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SIGNATORY

AUTHORITY	SIGNATURE AND NAME	DATE
Director General the Civil Aviation Authority of Thailand (DGCA)	 (MR. SUTTIPONG KONGPOOL)	30/JUN/2023

FOREWORD

This Contingency Plan forms part of the overall national contingency planning for Thailand, in accordance with the provisions of Annex 11 to the Convention on Civil Aviation, ICAO Doc 9426 ATS Planning Manual, Doc 9673 Asia and Pacific Regions Air Navigation Plan, and the Asia/ Pacific Region ATM Contingency Plan. The Plan, and any activation of the Plan, is authorized by Director General of The Civil Aviation Authority of Thailand (DGCA).

The Plan provides for the safe continuation of international air traffic through the Bangkok FIR during periods when air traffic service (ATS) may be disrupted or unavailable, or when airspace may be affected by volcanic ash cloud, radioactive cloud, severe weather events or military activities.

The Plan has been developed in close cooperation and collaboration with airspace users, military authorities and civil aviation authorities responsible for adjacent FIRs.

The Plan will be activated by NOTAM as far in advance as is practicable. In the event that such prior notification is impracticable the Plan will be activated by the designated authority using the most expeditious alternative means of communication available.

The Plan serves as the formal agreement between the States listed in paragraph 2.1 when authorized by their signatory or the Plan is supported by Letters of Agreement (LOAs) between Thailand and adjacent States.

The Letter of Agreement (LOAs) between Thailand and adjacent States are included;

1. Cambodia
2. Lao PDR
3. Malaysia
4. Myanmar

Any proposed amendments to this plan shall be forwarded to:

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The Civil Aviation Civil Aviation Authority of Thailand
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Table of Contents

ATM CONTINGENCY PLAN
FOR FLIGHTS TRANSITING THE BANGKOK FIR

1. OBJECTIVE

1.1. The ATM Contingency Plan for Flights Transiting the Bangkok FIR details arrangements to ensure a continued safety of air navigation in the event of partial or total disruption of air traffic services within Bangkok FIR in accordance with ICAO Annex 11 — Air Traffic Services and including any the pre-activation or activation of a Level 1 contingency plan would impact upon ATS within the area of responsibility of a neighboring State but not limited to natural disasters and public health emergencies. The Contingency Plan provides the ATS procedures and contingency route structure using published ATS routes, where practicable, that will allow airspace user to transit the Bangkok FIR during periods of limited or no ATS.

1.2. This Contingency Plan does not address arrangements for aircraft arriving at and departing from the Bangkok FIR, nor for domestic flight operations within the territory of The Kingdom of Thailand.

2. STATES AND FIRS AFFECTED

2.1 In the event that the Director General of The Civil Aviation Authority of Thailand (DGCA) activates this Contingency Plan, the civil aviation authorities of the adjacent FIRs will be notified in accordance with the Letter of Agreement (LOA) established with the States concerned. Adjacent States, FIRs and ACCs directly affected by this Contingency Plan are as follows:

a) Cambodia
Phnom Penh FIR (ACC)

b) Lao PDR
Vientiane FIR (ACC)

c) Malaysia
Kuala Lumpur FIR (ACC)

d) Myanmar
Yangon FIR (ACC)

2.2 The contact details of the civil aviation authorities and organizations concerned are contained in Appendix 1. These details should be regularly reviewed, and relevant updates provided to the DGCA as soon as practicable.

3. MANAGEMENT OF THE CONTINGENCY PLAN

3.1 The contingency measures set out in this plan are applicable when unexpected disruptions resulting from - inter alia - natural disaster, public health emergencies, and other circumstances render the provision of ATS and related support services in the Bangkok FIR impaired or completely unavailable.

3. 2 The following arrangements have been put in place to ensure that the management of the Contingency Plan provides for international flights to proceed in a safe and orderly fashion through the upper airspace of the Bangkok FIR.

Central Coordinating Committee

3. 3 The Central Coordinating Committee (CCC) shall oversee the conduct of the Contingency Plan and in the event that the ATS services provided by Bangkok ACC is disrupted for an extended period, make arrangement for and facilitate the temporary provision of ATS services by adjacent ACCs as well as the restoration of ATS services. The Terms of Reference for the CCC will be determined by the DGCA and is provided in Appendix 2.

3.4 The CCC includes the following representations:

1) Director General of the Civil Aviation Authority of Thailand
2) Representative of the Thai Meteorological Department
3) Representative of Bangkok Rescue Coordination Centre (RCC)
4) Representative from Royal Thai Air Force
5) Representative from Royal Thai Navy
6) Representative from Department of Airports (DOA)
7) Representative from Aeronautical Radio of Thailand (AEROTHAI)
8) Representative from Airports of Thailand Public Company Limited (AOT)
9) Representative from Bangkok Airways Public Company Limited (Airport Operator)
10) Representatives from the airlines committee
11) Representatives from the Thai Pilots Association
12) Other participants as required

3.5 The CCC functions include:

1) Developing and maintaining up-to-date ATM Contingency Plan.

2) Determining when the ATM Contingency Plan should be pre-activated and activated in response to contingency situation as well as terminated the ATM Contingency plan for resuming to normal operation.

3) Supervising the ATM Operational Contingency Group (AOCG) and supporting their operations under the contingency arrangements.

3.6 The Terms of Reference for the CCC and the contact details of its members are provided in Appendix 2.

3.7 Under the circumstances described and when deemed necessary by the DGCA, or Under the circumstances described in its Terms of Reference and when deemed necessary,

the DGCA shall convene the Central Coordinating Committee, by the most expeditious means appropriate for the situation, e.g. by telephone or web-based conference. The convention shall be called as soon as practicable in advance of, or after the commencement of, a contingency event causing disruption to the ATS services in the Bangkok FIR.

ATM Operational Contingency Group

3.8 The ATM Operational Contingency Group (AOCG) will be convened by the CCC with the primary responsibility to oversee the day-to-day operations under the contingency arrangements, and coordinate operational ATS activities, 24 hours a day, throughout the contingency period. The Terms of Reference for the AOCG, as determined by the CCC, is contained in Appendix 3. The AOCG will include any necessary specialist input from the following disciplines:

1) Air Traffic Services (ATS)

2) Aeronautical Meteorology (MET)

3) Aeronautical Information Services (AIS)

4) Communication, Navigation and Surveillance service provider (CNS)

5) Air Traffic Flow Management (ATFM)

6) Airspace Management (ASM)

7) Contingency Coordination Team (CCT)

8) Representatives from the Civil Aviation Authority of Thailand

9) Other participants as required

3.9 The AOCG functions include:

i) Reviewing and proposing any update of the contingency situation to CCC as required;

ii) Keeping up to date at all times of with the contingency situation;

iii) Organizing contingency support teams in each of the specialized areas;

iv) Keeping in contact with and updating the ICAO Asia/Pacific Regional Office, the IATA Regional Office and other airspace users;

v) Exchanging the up-to-date information with the adjacent ATS authorities concerned to coordinate contingency activities;

vi) Notifying the designated organizations in Thailand of the contingency situation sufficiently in advance and/or as soon as possible thereafter;

vii) Taking the necessary action to issue NOTAMs as soon as practicable based on the templates provided in Appendix 4 according to this Plan or as otherwise determined by the contingency situation, preferably 48 hours in advance of the contingency event on the condition that it is foreseeable.

viii) Maintaining an activity log using the form in Appendix 5.

ix) Conducting plan testing and reviewing of the Plan in accordance with the requirement stipulated in the Plan.

x) Ensuring that the testing and reviewing plans are up-to-date and providing necessary actions to support the revision of the Plan.

Contingency Coordination Team

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

- The focal points listed in ICAO Data
- Other States, Organizations, Agencies etc., when deemed necessary, as temporary members.

3.11 The main tasks of the CCT are as follows:

a) monitor continuously information from all relevant sources;

b) initiate action for the activation/deactivation of the Contingency Arrangements;

c) arrange for the provision of relevant aeronautical information to the ICAO Regional Offices and Headquarters;

d) liaise with international/regional organizations as appropriate;

e) exchange up-to-date information with States directly concerned and States which are potential participants in contingency arrangements.

The notification/ coordination process at Table 1 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

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 effected 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 effected 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 effected states/ANSP	Prepare NOTAMS and avoidance scenario
24 Hours prior to activation of planned avoidance re-routes	Notify IATA	Notify CCT	Notify effected states/ANSP	Publish NOTAMs

Table 1: Notification/coordination process

Plan Testing and Review

3.12 To ensure that the ATM Contingency Plan is regularly and comprehensively tested and reviewed, AOCG shall arrange the appropriate testing and reviewing such a plan.

3.13 ATC simulation testing/desktop exercises of the Plan shall occur at least once per year, and whenever required by the DGCA (desktop exercises where necessary including telephone or web-based conference facilities)

3.14 A preliminary post-activation review (PAR) report shall be completed within 30 working days following completion of testing or resumption of normal operations.

3.15 A full review of the Plan shall be conducted at least once every 2 years. Provisions for the review of airspace, ATS route, co-ordination and communications details of the Plan shall be included in relevant ATS airspace, data and facility implementation plans.

4. CONTINGENCY ROUTE and FLIGHT LEVEL STRUCTURE

4.1 When the ATS services provided by Bangkok ACC is disrupted, contingency routes will be specified to ensure safety of flight and to facilitate limited flight operations commensurate with the prevailing conditions. Existing published ATS routes form the basis of the contingency routes to be used, and a flight level allocation scheme (FLAS) will be introduced to minimize the potential points of conflict and to limit the number of aircraft operating simultaneously in the system under the reduced ATS capacity.

4.2 The contingency route structure for international flights is detailed in Appendix 6. Additional unpublished contingency routes may be developed tactically by the AOCG and promulgated by NOTAM as and when circumstances require, such as in the case of volcanic ash cloud, radioactive cloud or severe weather event.

4.3 When circumstances require, domestic flights and international flights that have not yet departed may be temporarily suspended until a full assessment of the prevailing conditions has been determined and sufficient air traffic services restored. A decision to curtail or restart these operations will be made by the CCC. Temporary flight suspension will be promulgated by NOTAM and/or ATFM Daily Plan and/or conference call and/or via ICAO-established CCT and/or any other means of expeditious communication.

4.4 Aircraft on long-haul international flights and special operations (e.g. Search and Rescue (SAR), State aircraft, Humanitarian flights, Medivac flights, Hospital flight, flood and fire relief (FFR) flights, etc), shall be afforded priority for operations levels at FL310 and above. Domestic and regional operators should plan on the basis that FL310 and above may not be available.

4.5 International operators affected by the suspension of all operations from airports within the Bangkok FIR will be notified by the relevant airport authority as to when operations may be resumed, and pertinent flight planning information will also be made available.

4.6 International operators may elect to avoid the Bangkok FIR. The ATS routes to be used in this scenario will be provided by the ATS authorities concerned.

5. AIR TRAFFIC MANAGEMENT AND CONTINGENCY PROCEDURES

Reduced ATS and provision of Flight Information Services (FIS)

5.1 During the contingency period ATS provision including ATC service, communications, and ATS surveillance service may not be available. When the services are not available, a NOTAM will be issued providing relevant information, including an expected date and time of the resumption of service. This Contingency Plan provides for limited flight information and alerting services to be provided by ATS authorities from the adjacent ACCs.

5.2 FIS and flight monitoring will be provided by designated adjacent ATS authorities through whose FIRs the contingency routes transit. A chart depicting the airspace arrangement is provided in Appendix 6.

5.3 The primary means of communication will be via VHF radio. Details of the communication requirements are provided in Appendix 6..

ATS Responsibilities

5.4 During the early stages of a contingency event, ATC may be overloaded and tactical action taken to reroute aircraft on alternative routes not included in this Plan.

5.5 In the event that ATS cannot be provided in the Bangkok FIR, Bangkok International NOTAM Office shall issue a NOTAM(s) indicating topics as following :

a) time and date of the beginning of the contingency measures;
b) airspace available for landing and overflying traffic and airspace to be avoided;
c) details of the facilities and services available or not available and any limits on ATS provision (e.g., area control service, approach control service, aerodrome control service and flight information service), including an expected date of the resumption of services if available;
d) information on the provisions made for alternative services;
e) any changes to the ATS contingency routes contained in this Plan;
f) any special procedures to be followed by neighboring ATS units not covered by this plan;
g) any special procedures to be followed by pilots; and
h) any other details with respect to the disruption and actions being taken that airspace users may find useful.

5.6 NOTAM templates are provided at Appendix 4

5.7 In the event that the Bangkok International NOTAM Office is unable to issue the NOTAM, alternate International NOTAM Office in Malaysia and/or Lao PDR will take an action to issue the contingency NOTAM upon notification by CAAT or its designated authority.

Aircraft Separation

5.8 Aircraft separation criteria will be applied in accordance with the Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM, Doc 4444) and the Regional Supplementary Procedures (Doc 7030).

5.9 The minimum longitudinal separation will be 15 minutes. However, this may be reduced to 10 minutes in conjunction with application of the Mach number technique. Differential Mach number technique with faster aircraft behind slower aircraft will not be permitted.

5.10 The contingency route structure provides for lateral separation of 100 NM. When the spacing between aircraft is less than 100NM, or aircraft are on crossing tracks, a minimum vertical separation of 2000 ft will be applied.

Priority for Flight Levels

5.11 Where possible, aircraft on long-haul international flights shall be afforded priority for cruising levels.

Airspace Classifications

5.12 Depending on the degree of disruption airspace classifications may be changed to reflect the reduced level of services. Changes to airspace classification will be notified by NOTAM. For the contingency airspace including published contingency route with no ATC service, the provision of airspace class G (uncontrolled) will be applied in accordance with the provisions of Annex 11.

Aircraft Position Reporting

5.13 The primary means of communication will be by VHF.

5.14 Pilots shall continue to make routine position reports in line with normal ATC reporting procedures.

5.15 Traffic Information Broadcast by Aircraft (TIBA) procedures shall apply in the Bangkok FIR. Details of TIBA procedures and communications requirements are provided in the Attachment B to Annex 11 to the Convention on International Civil Aviation and are reproduced in Appendix 7.

5.16 TIBA frequency is 128.95 MHz

VFR Operations

5.17 VFR flights shall not operate within the Bangkok FIR during the contingency period unless otherwise designated by the AOCG, except in special cases such as State aircraft, Medivac flights, hospital flight, search and rescue flight, humanitarian flights and any other essential flights authorized by the DGCA.

5.18 All VFR Flight, as mentioned in 5.17 and wished to operate within Bangkok FIR during the contingency period, shall make a request via Air Navigation Operation Planning Division (AND), a representative from the Civil Aviation Authority of Thailand in AOCG.

Procedures for ATS Units

5.19 The ATS units providing ATC services in the Bangkok FIR will follow their unit emergency operating procedures and activate the appropriate level of contingency procedures in line with the operational Letter of Agreement. These procedures include the following:

a) when ATS provided by Bangkok ACC is reduced or disrupted by a short-notice contingency event, ATC will inform pilots of the emergency condition and advise if it is likely that the ACC will be evacuated and ATS suspended. Should the situation necessitate an evacuation from the ACC building, the unit evacuation procedures will be activated, and time permitting, ATCs will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternative means of communication;

b) during the period when the contingency procedures are in effect, flight plan and other aircraft movement messages must continue to be transmitted by operators via AFTN to the Bangkok ACC with the normal procedures;

c) on notification by DGCA, Thailand, the ATS authorities operating the ACCs of the adjacent FIRs specifically, Yangon, Vientiane, Kuala Lumpur, and Phnom Penh ACCs will activate the contingency procedures in accordance with their respective operational Letter of Agreement or other contingency arrangements;

d) prior to entering to the Bangkok FIR during contingency operation period, prior authorization must be obtained from DGCA, and flights must comply with the ATC clearance and communications instructions issued by the ATS authority responsible for the airspace immediately prior to the Bangkok FIR;

e) coordination of aircraft boundary estimates and flight levels by the adjacent ATS authority responsible for aircraft entering the Bangkok FIR shall be in accordance with the respective operational Letter of Agreement or other contingency arrangement;

f) the ACC responsible for the aircraft entering the Bangkok FIR will instruct pilots to maintain the last flight level assigned and speed (MACH number if applicable) while overflying the Bangkok FIR;

g) the ACC responsible for the aircraft entering the Bangkok FIR will not authorize any change in route flight level or speed (MACH number, if applicable) unless specifically authorized under the operational Letter of Agreement or other contingency arrangement;

h) the ACC responsible for the aircraft entering the Bangkok FIR will inform aircraft that they must establish communication with the next ATS unit after transiting the Bangkok FIR not less than 10 minutes before the estimated time of entry into the next FIR;

i) aircraft may also choose to avoid the Bangkok FIR via published ATS routes, or via any contingency ATS routes promulgated by NOTAM issued by the controlling authorities of the adjacent FIRs.

Transfer of Control and Coordination

5.20 Unless otherwise specified in the Letter of Agreement, transfer of control and communication should be at the common FIR boundary between ATS units.

5. 21 The ATS providers concerned should review the effectiveness of current coordination requirements and procedures in light of contingency operations or short notice of airspace closure, and make any necessary adjustments to the Contingency Plan and LOAs.

Transition to and from Contingency Scheme

5.22 During times of uncertainty when airspace closures may be possible, aircraft operators should be prepared for a possible change in routing while en-route, familiarization of the alternative routes outlined in this Contingency Plan, as well as those which may be promulgated by a State via NOTAM or AIP.

5.23 In the event that the Bangkok FIR is closed but the information has not been promulgated, ATC should, if possible, broadcast to all aircraft in the airspace of the impending closure and advise aircraft to stand by for further instructions.

5. 24 Recognizing that different airspace users may have different requirements regarding their operations during airspace contingency, the ATS units should be ready to facilitate various aircraft requests safely.

Air Traffic Flow Management

5.25 Collaborative Air Traffic Flow Management Measures should be the first priority response to Category A (Restricted or No ATS) contingency events, and for the management of deviating traffic during Category B and C (Airspace closure or unserviceable) events.

6. PILOTS AND OPERATOR PROCEDURES

Flight Plan Filing

6.1 Flight planning requirements detailed in AIP - Thailand continue to apply during contingency operations, except when modified by the contingency ATS routes and FLAS specified by ATC and/or in NOTAM and as detailed in Appendix 8.

6.2 A Flight Plan (FPL) for flights within any portion of the Bangkok FIR should be submitted not less than 3 hours prior to the Estimated Off-Block Time (EOBT) except where necessary for operational and technical reasons.

Overflight Approval

6.3 Airspace users must obtain overflight approval from the DGCA prior to operating flights through the Bangkok FIR. While this Contingency Plan is active, the adjacent ATS authority will provide normal ATC clearances for the aircraft to enter the Bangkok FIR. However, the adjacent ATS authority is not responsible for coordination or provision of overflight clearances for the Bangkok FIR and the operator must ensure any required overflight approval had been obtained.

CNS Capability

6.4 Flights operating through the Bangkok FIR shall be equipped with the following minimum communications, navigation and surveillance capability:

a) VHF Radio Communication Equipment – Two-Way Communication
b) Pressure – Altitude Reporting Transponder
c) Airborne Collision Avoidance System (ACAS II)
d) Emergency Locator Transmitter (ELT)

Pilot Operating Procedures

6.5 Pilots will continue to make or broadcast routine position reports in line with normal ATC reporting procedures.

6.6 Pilots of aircraft operating in the Bangkok FIR during contingency operations shall comply with the following procedures:

a) all aircraft proceeding along the Contingency Routes established in this Contingency Plan will comply with the instrument flight rules (IFR) and will be assigned a flight level in accordance with the flight level allocation scheme applicable to the route(s) being flown as specified in Appendix 6;
b) flight plans shall be filed based on the Contingency Routes specified in Appendix 6, according to their airport of origin and destination;
c) aircraft are to operate as close as possible to the centerline of the assigned Contingency Route;
d) continuous communications watch shall be maintained on the specified contingency frequency described in Appendix 6;

e) aircraft navigation and anti-collision lights shall be displayed;

f) except in cases of emergency or for reasons of flight safety, pilots are to maintain during their entire flight within the Bangkok FIR, the last assigned flight level, Mach number and SSR transponder code. If no transponder code has been assigned, aircraft shall use squawk code 3300;

g) aircraft are to reach the flight level last assigned by the responsible ACC at least 10 minutes before entering the Bangkok FIR or as otherwise instructed by the ATC unit in accordance with the operational Letter of Agreement or other contingency arrangements;

h) pilots are to include in their last position report prior to entering Bangkok FIR, the estimated time over the Bangkok FIR entry waypoint and the estimated time over the relevant Bangkok FIR exit waypoint;

i) pilots are to contact the next adjacent ACC as soon as possible, and in any event not less than ten (10) minutes before the estimated time over the relevant exit waypoint from the Bangkok FIR;

j) pilots are strictly adhering to the ICAO Traffic Information Broadcasts by Aircraft (TIBA) procedure, to report the aircraft position and other information as necessary, reproduced in Appendix 7, on the specified frequency listed in Appendix 7 (128.95 MHz). When necessitated by emergency conditions or flight safety requirements, pilots shall transmit blind on these frequencies, their current circumstances and the commencement and completion of any climb and descent or deviation from the cleared contingency route;

k) whenever emergencies and/or flight safety reasons make it impossible to maintain the flight level assigned for transiting the Bangkok FIR, pilots are to climb or descend well to the right of the centerline of the contingency route. If a deviation outside the Bangkok FIR is required, pilots are to immediately inform the ACC unit responsible for that airspace. Pilots are to broadcast details of any level change along with their aircraft identification, aircraft position and route, vacated flight level, intended flight level, flight level passed and cruising flight level to be maintained on 121.5 MHz;

l) pilots are to maintain own longitudinal separation of 15 minutes or 10 minutes in conjunction with application of the Mach number technique from preceding aircraft at the same cruising level; and

m) not all operational circumstances can be addressed by this Contingency Plan and pilots are to maintain a high level of alertness when operating in the contingency airspace and take appropriate action to ensure the safety of flight.

Interception of Civil Aircraft

6.7 Pilots need to be aware that a contingency routing requiring aircraft to operate off normal traffic flows may result in an intercept by military aircraft. Aircraft operators must therefore be familiar with international intercept procedures contained in ICAO Annex 2 – Rules of the Air, paragraph 3.8 and Appendix 2, Sections 2 and 3.

6.8 Pilots are to comply with instructions given by the pilot of the intercepting aircraft, and shall broadcast the information on the situation.

6.9 If circumstances lead to the closure of the Bangkok FIR and no contingency routes are available, aircraft will be required to remain clear of the Bangkok FIR. As much warning as possible will be provided by the appropriate ATS authorities in the event of the complete closure of Thailand airspace.

6.10 Pilots need to continuously guard the VHF emergency frequency 121.5 MHz and should operate their transponder at all times during flight, regardless of whether the aircraft is within or outside the airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponders should be set on the last discrete code assigned by ATC or select code 3300 if no code had been assigned.

In-Flight Emergencies

6.11 In case of a **non-critical** in-flight emergency, the aircraft should proceed via contingency route as cleared until leaving the Bangkok FIR.

6.12 In case of a **critical** in-flight emergency (de-pressurization, etc.) where the aircraft is unable to comply with its IFR clearance, the aircraft should follow ICAO emergency descent procedures, broadcast status and intentions on 121.5 MHz and proceed at the discretion of the pilot in command until clear of the Bangkok FIR and in contact with the ACC responsible for the next airspace.

6.13 In case of a **medical** emergency the aircraft should proceed as cleared until leaving the Bangkok FIR

7. COMMUNICATION PROCEDURES

Degradation of Communication - Pilot Radio Procedures

7.1 When operating within the contingency airspace, pilots should use normal radio communication procedures where ATS services are available. Where limited or no ATS is available communications shall be conducted in accordance with the procedures in this Plan, or as otherwise notified by NOTAM.

7.2 If communications are lost unexpectedly on the normal ATS frequencies, pilots should try the next applicable frequency. For example, if en-route contact is lost, the next appropriate frequency, ie., the next normal handover frequency should be used. Pilots should also consider attempting to contact ATC on the last frequency where two-way communication had been established. In the absence of communication with ATC, the pilot should continue to make routine position reports on the assigned frequency, and also broadcast positions in accordance with the TIBA procedures.

Communication Frequencies

7.3 A list of frequencies to be used for the contingency routes and the ATS units providing FIS and air-ground communication monitoring for the Bangkok FIR is detailed in Appendix 6.

8. AERONAUTICAL SUPPORT SERVICES

Aeronautical Information Services (AIS)

8.1 A NOTAM contingency plan will be developed to ensure continuation of the NOTAM service for the Bangkok FIR in support of contingency operations. The NOTAMs will establish the actions to be taken to reduce the impact of the failures in the air traffic services. The NOTAMs will also establish necessary coordination and operational procedures that would be established before, during and after any contingency phase.

8.2 NOTAM services will be provided by neighboring AIS authorities in accordance with operational Letter of Agreement or other contingency arrangements.

Meteorological Services (MET)

8.3 Thai Meteorological Department is the designated meteorological authority of Thailand. It is also the provider of meteorological services for the international and domestic air navigation. In order to comply with the ICAO requirements on aeronautical meteorology specified in Annex 3, Meteorological Service for International Air Navigation and the APAC Air Navigation Plan, the Thai Meteorological Department should ensure regular provision of the following products and services:

a) Aerodrome observations and reports – MET REPORT and SPECIAL (Local routine and Local special report) or MET information, as well as WMO-coded METAR and SPECI; METAR and SPECI should be provided for all international aerodromes listed in the AOP Table of Asia/Pacific Basic ANP and FASID Table MET 1A; APAC ANP, Volume II, Table MET II-2;

b) Terminal aerodrome forecast - TAF as per the requirements indicated in FASID Table MET 1A; APAC ANP, Volume II, Table MET II-2

c) SIGMET for the Bangkok FIR; SIGMET should be issued by the meteorological watch offices (MWO) designated in FASID Table MET 1B; APAC ANP, Volume II, Table MET II-1;

d) Information for the ATS units (TWR, APP, ACC) as agreed between the meteorological authority and the ATS units concerned;

e) Briefing and Flight Documentation as per Annex 3, Chapter 9.

8.4 It is expected that Thailand MET services would continue to be available in the event of an ATS contingency situation. However, should ATS services for the Bangkok FIR be withdrawn, timely MET information may not be immediately available to pilots in flight. Alternative means of obtaining up-to-date MET information concerning the Bangkok FIR will be provided to the extent possible through the adjacent ATS authorities. In addition, alternative means of OPMET information transmission to the Regional OPMET Data Bank Singapore, which offers available contingency for the global dissemination of OPMET information will be attempted.

9. SEARCH AND RESCUE SERVICES

Notification and Coordination

9. 1 The SAR authority responsible for the Bangkok SRR is the Bangkok Rescue Coordination Centre (Bangkok RCC)

TEL: (662) 285 5451, (662) 286 0594

FAX: (662) 287 3186

E-MAIL: bkkrcc@yahoo.com, bkkrcc@mot.go.th

AFTN Address: VTBAYCYX

9.2 ACCs involved in this Contingency Plan are required to assist as necessary to ensure that the proper Search and Rescue (SAR) authorities are provided with the information necessary to support aircraft in distress or aircraft with an in-flight emergency in the Bangkok FIR.

9.3 Each ACC shall assist as necessary in the dissemination of INCERFA, ALERFA and DETRESFA in respect to incidents in the Bangkok SRR.

9.4 In the event that the Bangkok ACC is not available, the responsibility for coordinating with the Bangkok RCC for aircraft emergencies and incidents involving the Bangkok SRR will be under taken by the AOCG. The CCC will take appropriate steps to ensure that SAR information is made available to the Bangkok RCC. The AOCG will also oversee SAR coordination and disseminate relevant contact information.

10. NOTIFICATION OF SUSPECTED DANGEROUS COMMUNICABLE DISEASES, OR OTHER PUBLIC HEALTH RISK, ON BOARD AN AIRCRAFT

10.1 Upon an identification of suspected cases of communicable disease or other public health risk onboard an aircraft en-route, the flight crew shall promptly notify the ATS unit with which the pilot is communicating with the information listed below:

a) aircraft identification;
b) departure aerodrome;
c) destination aerodrome;
d) estimated time of arrival;
e) number of persons onboard;
f) number of suspected case(s) on board; and
g) nature of the public health risk, if known.

10.2 The ATS unit, upon receipt of such information, shall forward the message as soon as possible to the ATS unit serving the destination/departure aerodromes, unless procedures exist to notify the appropriate authority designated by the State and the aircraft operator or its designated representative.

10.3 When the report of is received by the ATS unit serving the destination/departure, from another ATS unit or from an aircraft or an aircraft operator, the unit concerned shall forward the message as soon as possible to the public health authority (PHA) or the appropriate authority designated by the State as well as the aircraft operator or its designated representative, and the aerodrome authority.

(Ref: ICAO PANS – ATM, Doc 4444, Chapter 16.6)

11. COORDINATED RECOVERY FROM ATS CONTINGENCY OPERATIONS

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.

1. Establishing, 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. Providing 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). The template NOTAM for notification of resumption as Appendix 4

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.

12. THAILAND AIRSPACE CLOSURE OR UNSERVICEABILITY

12.1 In the case of a closure, whether the whole or portion, Thailand airspace, a NOTAM shall be issued to inform all airspace users in order to avoid Bangkok FIR.

12.2 In the case of a partial unserviceability of Thailand airspace, a NOTAM shall also be issued to inform all airspace users of relevant information, including contingency routings.

13. VOLCANIC ASH CLOUD ACTIVITIES

13.1 Monitoring the volcanic ash activities for all phases, Pre-Eruption Phase, Start of Eruption Phase, On-going Eruption Phase and Recovery Phase, to coordinate the affected states from volcanic ash cloud with any relevant volcanic ash information for updating all stakeholders who are involved.

13.2 The list of relevant volcanoes is specified in the Smithsonian Institution List of Volcanoes of the World for VAAC Use, available at https://volcano.si.edu/projects/vaac-data/

13.3 Series of templates for different stages of volcanic activity is detailed in Appendix 9.

Appendix 1

Contact Details of the Civil Aviation Authorities and Organizations Participating in the Thailand ATM Contingency Plan

NO.	Adjacent States / ATS Unit	Telephone Number	Fax Number	E-mail address	AFTN
Myanmar					
1.	Myanmar/Yangon ACC	+951 533 040 +951 533 030 ext 455	+951 533 016 +951 533 000	-	VYYFZRZX
Cambodia					
2.	Cambodia/Phnom Penh ACC	+855 23 890 160	+855 23 890 159	ans.ssca@civilaviation.gov.kh	VDPPYAYC
Malaysia					
3.	Malaysia/Kuala Lumpur ACC	+603 7846 5458 +603 7847 3573	+603 7847 3572	-	WMFCZQZX
Laos PDR					
4.	Laos PDR/Vientiane ACC	+856 21 512237 +856 21 512091	+856 21 520748	atsd.division@lans.gov.la	VLVTZRZX

Appendix 1

Contact Details of the Civil Aviation Authorities and Organizations Participating in the Thailand ATM Contingency Plan (Cont.)

NO.	Adjacent States / ATS Unit	Telephone Number	Fax Number	E-mail address	AFTN
Civil Aviation Authority of Thailand					
5.	Aeronautical Information Management Department (AIM)	+662-568-8831 +66 63-205-8831	-	ais@caat.or.th	
6.	Air Navigation Operation Planning Division, Air Navigation Operation Planning Division (AND)	+66 63-205-8804	-	and_np@caat.or.th	
7.	Flight Permit Division, Air Navigation Operation Planning Division (AND)	+662-568-8815 +66 63-205-8815	-	atreg@caat.or.th https://fpos-office.caat.or.th/	
ICAO					
8.	Regional Director ICAO, Asia and Pacific Office 252/1 Vibhavadi Rangsit Rd, Chatuchak, Bangkok, 10900, Thailand	+66 2 5378189 Ext 37	+66 2 537 8199	Icao_bkk@bangkok.icao.int	VTBBICOX

IATA				
9.	IATA APAC Office	+65 6499 2428	+65 6499 2428	gennaouip@iata.org

Appendix 2

Term of Reference of the Central Coordinating Committee

1. Background

The Central Coordinating Committee of Thailand is a set of representatives from all relevant organization who has responsibility relating to ATM Contingency operation with function for the development, maintenance, activation and conduct of contingency plans, and for the forming and convening of an ATM Operational Contingency Group (AOCG) function.

2. Terms of Reference

2. 1 The Central Coordinating Committee is included representation from the following:

1) Director General of the Civil Aviation Authority of Thailand
2) Representative of the Thai Meteorological Department
3) Representative of Bangkok Rescue Coordination Centre (Bangkok RCC)
4) Representative from Royal Thai Air Force
5) Representative from Royal Thai Navy
6) Representative from Department of Airports (DOA)
7) Representative from Aeronautical Radio of Thailand (AEROTHAI)
8) Representative from Airports of Thailand Public Company Limited (AOT)
9) Representative from Bangkok Airways Public Company Limited (Airport Operator)
10) Representatives from the airlines committee
11) Representatives from the Thai Pilots Association
12) Other participants as required

2.2 The CCC duties:

1) Develop and keep ATM Contingency plan up to date.
2) Determine when ATM Contingency plan should be pre-activated and activated in order to respond to contingency situation as well as terminated the ATM Contingency plan for resuming to normal operation.
3) Supervise AOCG for support their day-to-day operations under the contingency arrangements

3. Member and Contact Detail:

NO.	Organization	Representative		Contact
1.	The Civil Aviation Authority of Thailand	Primary	Mr. Suttipong Kongpool Director General of Civil Aviation	Tel. : (+66)2 568-8806 Email : suttipong.k@caat.or.th
2.	Thai Meteorological Department	Primary	Ms. Payao Muangngam Deputy Director-General for Operations Thai Meteorological Department	Tel. : (+66) 85-130-6922 Email : payao.m@tmd.mail.go.th
		Secondary	Mr. Nuttawut Dandee Director of Bureau of Aeronautical Meteorology	Tel. : (+66) 80-076-9390 Email : wut.tmd.com@gmail.com
3.	Bangkok Rescue Coordination Centre (RCC)	Primary	Mr. Punlop Sungsillert Chief of Technical and Standard Group, Transport Technical Officer, Senior Professional Level	Tel. : (+66)2 285-5450 Email : punlopsung@yahoo.com punlop.s@mot.go.th
		Secondary	Pol.Lt.Col. Phitak Rerngphitak Chief of Search and Rescue Coordination Group, Transport Technical Officer, Professional Level	Tel. : (+66)2 285-5450 Email : rerngphitak@yahoo.com
4.	Royal Thai Air Force	Primary	Gp.Capt. Jirasin Kaseamtanasatian Director of Air Defense Division, Air Defense Center, Air Operation Control Command	Tel. : (+66) 87-771-6996 Email : jirasin@rtaf.mi.th
		Secondary	Gp.Capt. PaniThan Wanasook Deputy Director of Air Defense Division, Air Defense Center, Air Operation Control Command	Tel. : (+66) 83-773-1555 Email : panithan@rtaf.mi.th
5.	Royal Thai Navy	Primary	RADM. Surachai Jaroenrob	Tel. : (+66)81-835-8603

NO.	Organization	Representative		Contact
			Naval Air Division Commander	Email : jaroenrob_s@yahoo.com
		Secondary	LCdr.Thongwit Ingchaiyapoom Cheif Of Radar Approach Control	Tel. : (+66) 81-523-4756 Email : thongwiting@gmail.com
6.	Department of Airports (DOA)	Primary	Mr. Narong Arunpakmongkol Expert in Ground Safety	Tel. : (+66)2 287-0320 ext. 2801 (+66)98-653-2894 Email : narong.a@airports.go.th narong3800@gmail.com
		Secondary	Ms. Wilasinee Phanngam Transport Technical Officer, Professional Level	Tel. : (+66)2 287 03209 ext. 2857 Email : wilasinee.p@airports.go.th
7.	Aeronautical Radio of Thailand (AEROTHAI)	Primary	Mrs. Sirikes Niemloy Executive Vice President	Tel. : (+66) 2-307-2140 (+66) 2-307-2141 (+66)86-099-5094 Email : sirikes.ni@aerothai.co.th
		Secondary	Mr. Sunun Nimfuk Vice President (Air Traffic Management)	Tel. : (+66)92-414-9535 Email : sunun.ni@aerothai.co.th
		Third	Mr. Thongchai Jamphatippong Senior Director, Bangkok Area Air Traffic Control Management Bureau	Tel. : (+66)62-593-5885 Email : thongchaija@aerothai.co.th
8.	Airports of Thailand Public Company Limited (AOT)	Primary	Mr. Phethai Chanthima Deputy Vice President Aerodrome Standardization and Safety Department,	Tel. : (+66)98-259-6289 Email : phethai.c@airportthai.co.th

NO.	Organization	Representative		Contact
		Secondary	Mr. Boosapa Tahvichai Aerodrome Standardization and Safety Department Expert	Tel. : (+66)95-952-8423 Email : boosapa@airportthai.co.th
9.	Bangkok Airways Public Company Limited (Airport Operator)	Primary	Mr. Nijjapat Piyapant Vice President – Airport	Tel. : (+66)81-816-2328 Email : nijjapat@bangkokair.com
		Secondary	Ms. Vararat Vanichkajorn Manager - Airport Standard	Tel. : (+66)86-893-5369 Email : vararat@bangkokair.com
10.	Airlines Committee	Primary	Ms. Ratchanee Chiewsuktrakul AOC Executive Committee	Tel. : (+66)81-641-5857 Email : ratchanee.hse6@jal.com secretary@aocbkk.com
		Secondary	Mr. Dechathorn Ruensook AOC Executive Committee	Tel. : 084 751 7073 Email: dechathronr@bfsasia.com
11.	Thai Pilots Association	Primary	Mr. Sivanit Ratanadib IFALPA Director, Thai Pilots Association	Tel. : (+66)91-564-1455 Email : pastrium@gmail.com
		Secondary	Mr. Akharapon Doron	Email : doron.ard@gmail.com

Appendix 3

Term of Reference of ATM Operational Contingency Group

1. Background

The establishment of Thailand's ATM Operational Contingency Group (AOCG) was established by the Central Coordinating Committee (CCC) for a primary responsibility to oversee the day-to-day operations under the contingency arrangements, and coordinate operational ATS activities, 24 hours a day, throughout the contingency period.

2. Terms of Reference

2.1 The AOCG will include any necessary specialist personnel from the following disciplines:

2.1.1 Air Traffic Services (ATS)

2.1.2 Aeronautical Meteorology (MET)

2.1.3 Aeronautical Information Services (AIS)

2.1.4 Communication, Navigation and Surveillance service provider (CNS)

2.1.5 Air Traffic Flow Management (ATFM)

2.1.6 Airspace Management (ASM)

2.1.7 Contingency Coordination Team (CCT)

2.1.8 Representatives from Civil Aviation Authority of Thailand

2.1.9 Other participants as required

2.2 The AOCG duties:

2.2.1 Reviewing and proposing any update of the contingency situation to CCC as required;

2.2.2 Keeping up to date at all times with the contingency situation;

2.2.3 organizing contingency support teams in each of the specialized areas;

2.2.4 Keeping in contact with and updating the ICAO Asia/Pacific Regional Office, the IATA Regional Office and other airspace users;

2.2.5 Exchanging up-to-date information with the adjacent ATS authorities concerned to coordinate contingency activities;

2.2.6 Notifying the designated organizations in Thailand of the contingency situation sufficiently in advance and/or as soon as possible thereafter;

2.2.7 Taking the necessary action to issue NOTAMs as soon as practicable based on the templates provided in Appendix 4 according to this Plan or as otherwise determined by the contingency situation, preferably 48 hours in advance of the contingency event on the condition that it is foreseeable.

2.2.8 Maintaining an activity log using the form in Appendix 5.

2.2.9 Conducting plan testing and reviewing of the Plan in accordance with the requirement stipulated in the Plan.

2.2.10 Ensuring that the testing and reviewing plans are up-to-date and providing necessary actions to support the revision of the Plan.

3. Working Method

When the disruption of ATS emerged and DGCA activate this contingency plan, CCC will establish AOCG to coordinate and operate all relevant to ATS for Bangkok Flight Information Region) BKK FIR. The termination of AOCG will be dismissed by DGCA after the contingency plan is deactivated

4. Member and Contact Detail

NO.	Organization	Representative		Contact
1.	Aeronautical Radio of Thailand Ltd. Air Traffic Services (ATS)	Primary	Mrs. Aungkana Kay Air Traffic Control Manager, Bangkok Area Control Centre,	Tel. : (+66)2-285-9411 (+66)81-448-1929 Email : aungatc@hotmail.com
		Secondary	Mr. Aram Lertlum Air Traffic Control Manager, Bangkok Area Control Centre,	Tel. : (+66)2-285-9111 (+66)2-285-9112 (+66)85-569-9111 (+66)85-123-6238 Email : aram.le@aerothai.co.th
		Third	Mrs. Siriporn Ruangraiwan Air Traffic Control Manager, Bangkok Area Control Centre	Tel. : (+66)81-829-9545 Email : siriporn.ru@aerothai.co.th
2.	Thai Meteorological Department Aeronautical Meteorology (MET)	Primary	Ms. Rassmee Damrongkietwattana Director of Aeronautical Weather Monitoring Subdivision	Tel. : (+66)2-134-3918 (+66)89-057-3918 Email : rassmee@hotmail.com
		Secondary	Ms. Wattana Singtuy Director of Southeast Asia Meteorological Telecommunication Center	Tel. : (+66)62-604-4423 Email : wattana123@yahoo.co.th

NO.	Organization	Representative		Contact
3.	Aeronautical Radio of Thailand Ltd. Aeronautical Information Services (AIS)	Primary	Mr. Bunpot Kujaphun Aeronautical Information Manager	Tel. : (+66)81-847-9939 Email : bunpot.ku@aerothai.co.th
		Secondary	Mrs. Jittima Asawachaiporn Aeronautical Information Manager	Tel. : (+66)88-638-9555 Email : tima14@aerothai.co.th
4.	Aeronautical Radio of Thailand Ltd. Communication, Navigation and Surveillance service provider (CNS)	Primary	Mr. Chanyoot Janprasong Director, Air Traffic Surveillance Systems Engineering Department	Tel. : (+66)85-481-1746 Email : chanyoot.ja@aerothai.co.th
		Secondary	Mr. Piboonseth Sombattheera Director, Air Traffic Communication Systems Engineering Department	Tel. : (+66)63-265-3660 Email : piboonseth.so@aerothai.co.th
5.	Aeronautical Radio of Thailand Ltd. Air Traffic Flow Management (ATFM)	Primary	Ms. Chananya Pinklaoprasert Acting Director, Network Operations ATM Centre	Tel. : (+66) 86-712-1665 Email : chananya.pi@aerothai.co.th chananpink@gmail.com
		Secondary	Mr. Sugoon Fucharoen Executive Air Traffic Management Network Officer Network Operations, Air Traffic Management Center	Tel. : (+66)2-287-8024 (+66)2-287-8025 (+66)81-965-0939 Email : sugoon.fu@aerothai.co.th
		Third	Mr. Dudsadee Sungthong Executive Air Traffic Management Network Officer Network Operations, Air Traffic Management Center	Tel. : (+66)86-711-5229 Email : dudsadeesu@aerothai.co.th shart3035@gmail.com
6.	Aeronautical Radio of Thailand Ltd.	Primary	Mr. Sunun Nimfuk	Tel. : (+66)92-414-9535

NO.	Organization	Representative		Contact
	Airspace Management (ASM)		Vice President (Air Traffic Management)	Email : sunun.ni@aerothai.co.th
		Secondary	Mr. Thaweesak Rattanajuntranon Senior Director, Air Traffic Management Network Bureau	Tel. : (+66)92-685-5545 Email : thaweesak.ra@aerothai.co.th
		Third	Mr. Thongchai Jamphatippong Senior Director, Bangkok Area Air Traffic Control Management Bureau	Tel. : (+66)62-593-5885 Email : thongchaija@aerothai.co.th
		Forth	Ms. Chananya Pinklaoprasert Acting Director, Network Operations ATM Centre	Tel. : (+66) 86-712-1665 Email : chananya.pi@aerothai.co.th chananpink@gmail.com
7.	Contingency Coordination Team (CCT)	Primary	Mr. Piyawut Tantimekabut Air Traffic Management Network Manager Network Operations Air Traffic Management Center	Tel. : (+66)89-697-5859 Email : piyawut@aerothai.co.th
		Secondary	Mr. Sugoon Fucharoen Executive ATM Network Officer Network Operations, Air Traffic Management Center	Tel. : (+66)2-287-8024 (+66)2-287-8025 (+66)81-965-0939 Email : sugoon.fu@aerothai.co.th
8.	Civil Aviation Authority of Thailand (ANS)	Primary	Mrs. Tawika Huayhongtong Manager of Air Navigation Services Standards Department (ANS),	Tel. : (+66)2 568-8824 Email : tawika.h@caat.or.th
9.	Civil Aviation Authority of Thailand (AIM)	Primary	Gp.Capt. Sudarat Jayakorn Manager of Aeronautical Information Management Department (AIM)	Tel. : (+66)2 568-8800 Ext. 3101 Email : sudarat.j@caat.or.th

NO.	Organization	Representative		Contact
10.	Civil Aviation Authority of Thailand (AND)	Primary	Mr. Buntoeng Megchai Manager of Air Navigation Operations Management Department (AND)	Tel. : (+66)2 568-8817 (+66)81-638-1720 +66 63-205-8804 Email : buntoeng.m@caat.or.th and_np@caat.or.th

Appendix 4

NOTAM Template (Section E – NOTAM Content)

a) **Airspace available Limited ATS**

NOTAM .....

DUE TO ANTICIPATED DISRUPTION OF ATS IN THE BANGKOK FIR ALL ACFT ARE ADVISED THAT THERE WILL BE LIMITED ATS. PILOTS MAY EXPERIENCE DLA AND OVERFLIGHTS MAY CONSIDER AVOIDING THE AIRSPACE.

b) **Contingency plan activated**

NOTAM .....

DUE TO DISRUPTION OF ATS IN BANGKOK FIR ALL ACFT ARE ADVISED THAT THE ATM CONTINGENCY PLAN FOR FLIGHTS TRANSITING THE BANGKOK FIR IS IN EFFECT. FLIGHT PLANNING MUST BE IN ACCORDANCE WITH THE CONTINGENCY ROUTES LISTED AND FL ASSIGNMENT. PILOTS MUST STRICTLY ADHERE TO THE CONTINGENCY PROCEDURES. ONLY INTERNATIONAL FLIGHTS WITH EXISTING PERMISSION MAY OVERFLY THAILAND AIRSPACE USING THE LISTED CONTINGENCY ROUTES.

c) **Non-adherence to the Contingency Plan**

NOTAM.....

OPERATORS NOT ABLE TO ADHERE TO THE CONTINGENCY PLAN SHALL AVOID THE BANGKOK FIR.

d) **Avoidance of airspace**

NOTAM.....

DUE TO DISRUPTION OF ATS IN THE BANGKOK FIR ALL ACFT ARE ADVISED TO AVOID THE FIR.

e) **Resume to Normal Operation**

NOTAM .....

THAILAND CONTINGENCY – RECOVERY TO NORMAL OPERATIONS

TRANSITION TO NORMAL OPERATIONS IN THE BANGKOK FIR WILL COMMENCE AT [TIME] UTC

ALL FLIGHTS OPERATING IN THE BANGKOK FIR PRIOR TO [TIME] UTC SHALL FILE FLIGHT PLAN AND OPERATE IN ACCORDANCE WITH THE REQUIREMENTS PROMULGATED IN PART ENR 3.5 THAILAND AIP.

FLIGHTS PLANNED TO OPERATE IN THE BANGKOK FIR AT OR AFTER [TIME] UTC SHALL FILE FLIGHT PLAN VIA STANDARD NON-CONTINGENCY ATS ROUTES AS PUBLISHED IN THAILAND AIP. LEVEL AND ROUTE RESTRICTIONS MAY BE TACTICALLY APPLIED DURING THE TRANSITION TO NORMAL OPERATIONS. OPERATORS SHOULD CONSIDER THE CARRIAGE OF ADDITIONAL FUEL.

FLIGHTS OPERATING WITHIN THE BANGKOK FIR SHALL NOT SUBMIT IN-FLIGHT RE-FILE OF FLIGHT PLANS OR REQUEST TACTICAL RE-ROUTING TO NORMAL ROUTES OR TRACK SHORTENING, EXCEPT ONLY IN CASES OF EMERGENCY OR DIVERSION FOR LANDING AT AERODROMES OTHER THAN FLIGHT PLANNED.

ATC MAY TACTICALLY OFFER IMPROVED ROUTES OR FLIGHT LEVELS WHERE AVAILABLE.

FLIGHT CREWS SHOULD BE AWARE THAT THERE MAY BE MIXED CONTINGENCY ROUTE/LEVEL AND NON-CONTINGENCY ROUTE/LEVEL OPERATIONS IN THEIR VICINITY DURING THE TRANSITION TO NORMAL OPERATIONS.

Appendix 5

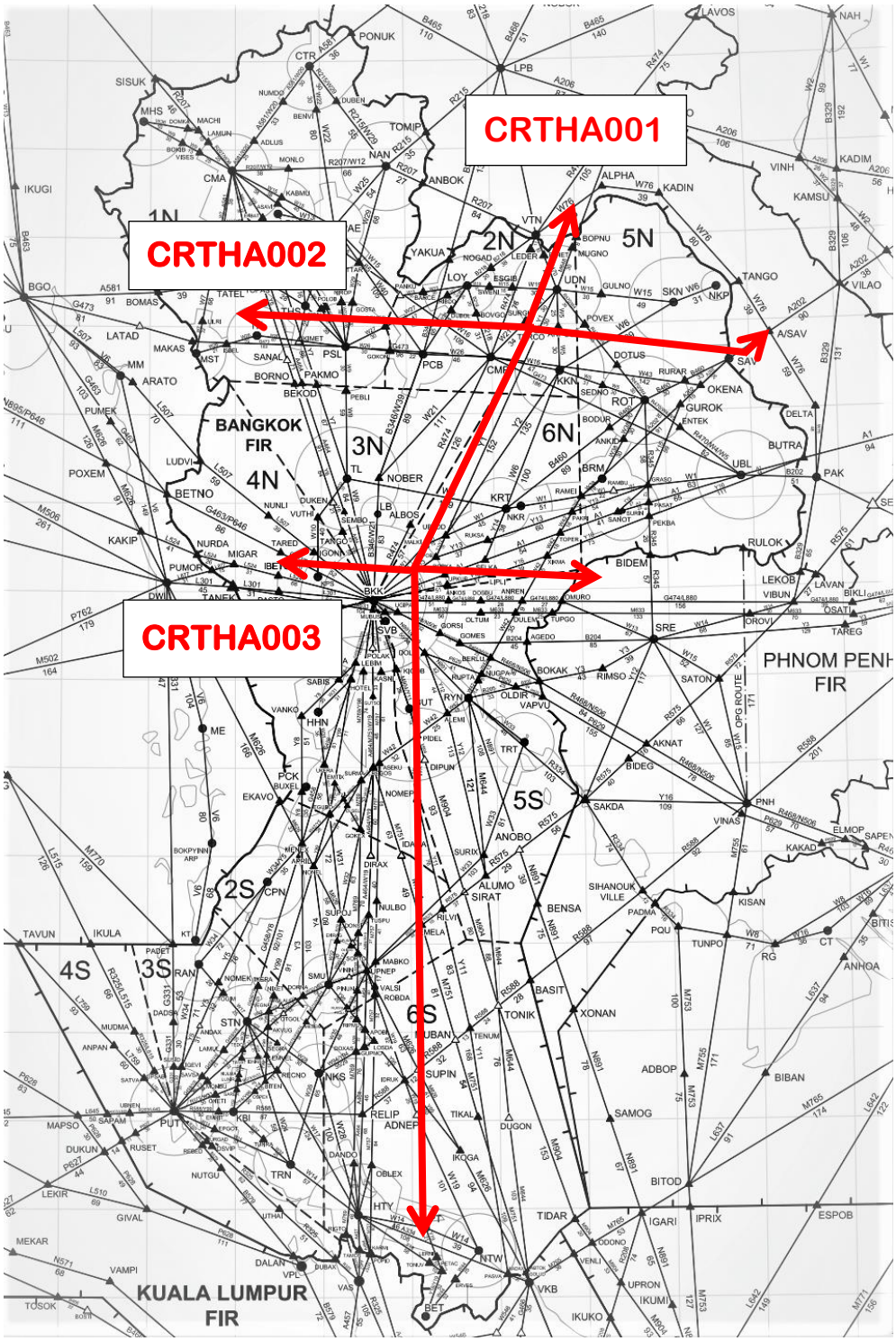
Activity Log

No.	DD/MM/YYYY	TIME	DESCRIPTION	INITIAL
0.	*5/6/2017*	*0230 UTC*	*Issued NOTAM for activating the Contingency plan*	*PA*

Appendix 6

INTERNATIONAL ROUTE STRUCTURE AND COMMUNICATIONS FOR TRANSIT OF THE BANGKOK FIR WHEN NO ATS AVAILABLE IN BANGKOK FIR

Contingency Route	ATS Route	Direction (Two way)	Flight Level Allocation	Area Control Center (ACC)	Frequency
CRTHA001	VTN R474 BKK A464 KARMI	Northbound	FL 310	Vientiane ACC	124.1 MHz
		Southbound	FL 390	Kuala Lumpur ACC	133.7 MHz
CRTHA002	MAKAS G473 CMP W43 OKENA A202 SAV	Eastbound	FL 370 FL 410	Vientiane ACC	128.3 MHz
		Westbound	FL 340	Yangon ACC	128.75 MHz
CRTHA003	TANEK L301 BKK G474 OMURO	Eastbound	FL 330 FL 410	Phnom Penh ACC	127.5 MHz
		Westbound	FL 360	Yangon ACC	124.75 MHz


CRTHA001
CRTHA002
CRTHA003
BANGKOK FIR
KUALA LUMPUR FIR
PHNOM PENH FIR
1N
2N
3N
4N
5N
6N
2S
3S
4S
5S
6S

Appendix 7

TRAFFIC INFORMATION BROADCASTS BY AIRCRAFT (TIBA) AND RELATED OPERATING PROCEDURES

1. TIBA Procedures

1.1 Special procedures have been developed for pilot use in active contingency zones if communications are significantly degraded or unavailable, These TIBA procedures supersede and take the place of lost communication procedures that are outlined in Annex 2 to the Chicago Convention and PANS-ATM (DOC 4444) and will enable traffic information broadcasts by aircraft (TIBA) to be made as well as providing collision hazard information. When aircraft will enter designated airspace in which it is known in advance that normal communication is not available, pilots should maintain a listening watch on the TIBA frequency 10 minutes prior to entering that airspace until leaving the airspace.

1.2 For an aircraft taking off from an aerodrome located within the lateral limits of the designated airspace listening watch should start as soon as appropriate after take-off and be maintained until leaving the airspace.

2. Times of Broadcast

When a loss of normal communications requires TIBA procedures to be implemented, pilots shall make broadcasts **in English** on **128.95 MHz** as follows:

a) At the time the loss of normal communications is recognized;
b) 10 minutes before entering a designated airspace when it is known in advance that normal communications will not be available within that airspace or, for a pilot taking off from an aerodrome located within the lateral limits of the designated airspace, as soon as appropriate after take-off;
c) 10 minutes prior to crossing a reporting point;
d) 10 minutes prior to crossing or joining an ATS route;
e) at 20-minutes intervals between distant reporting points;
f) 2 to 5 minutes, where possible, before a change in flight level;
g) at the of a change in flight level; and
h) at any other time considered necessary by the pilot.

Note: Normal position reporting procedures should be continued at all times, regardless of any action taken to initiate or acknowledge a traffic information broadcast.

3. Broadcast Format

TIBA broadcasts should be made using the following phraseology:

a) For other than those indicating changes in flight level:

ALL STATIONS (call sign) FLIGHT LEVEL (number) [of CLIMBING TO FLIGHT LEVEL (number)] (direction) (ATS route) [or DIRECT FROM (position) TO (position) POSITION] (position) AT (time) ESTIMATING (next reporting point, or the point of crossing or joining a designated ATS route) AT (time) (call sign) FLIGHT LEVEL (number) (direction)

Example: "ALL STATIONS WINDAR 671 FLIGHT LEVEL 380 NORTHWEST BOUND A464 POSITION 80 MILES SOUTH EAST OF KEVOK AT 2358 ESTIMATING KOBAS AT 0020 WINDAR 671 FLIGHT LEVEL 380 NORTHWEST BOUND OUT"

Note: For broadcasts made when the aircraft is not near an ATS significant point, the position should be given as accurately as possible and in any case to the nearest 30 minutes of latitude and longitude.

b) Before a change in flight level:

ALL STATIONS (call sign) (direction) (ATS route) [or DIRECT FROM (position) TO (position)] LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (position and time)

c) At the time of a change in flight level:

ALL STATIONS (call sign) (direction) (ATS route) [or DIRECT FROM (position) TO (position)] LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number) followed by: ALL STATIONS (call sign) MAINTAINING FLIGHT LEVEL (number)

d) When reporting a temporary flight level change to avoid an imminent collision risk:

ALL STATIONS (call sign) LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number) followed as soon as practicable by: ALL STATIONS (call sign) RETURNING TO FLIGHT LEVEL (number) NOW

4. Acknowledgement of the broadcasts.

TIBA broadcasts should not be acknowledged unless a potential collision risk is perceived.

5. Cruising level changes

5.1 Cruising level changes should not be made within the designated airspace, unless considered necessary by pilots to avoid traffic conflicts, to climb to minimum en-route or safe altitudes, to overcome operational limitations, to avoid adverse weather, or in response to an operational emergency.

5.2 When cruising level changes are unavoidable, all available aircraft lighting which would improve the visual detection of the aircraft should be displayed while changing levels.

6. Collision avoidance

If, on receipt of a traffic information broadcast from another aircraft, a pilot decides that immediate action is necessary to avoid an imminent collision risk, and this cannot be achieved in accordance with the right-of-way provisions of Annex 2 to the Chicago Convention, the pilot should:

a) unless an alternative maneuver appears more appropriate, immediately descend 150 m (500 ft), 300 m (1 000 ft) if above FL 290 in an area where a vertical separation minimum of 600 m (2 000 ft) is applied:

b) display all available aircraft lighting which would improve the visual detection of the aircraft;

c) as soon as possible, reply to the broadcast advising action being taken;

d) notify the action taken on the appropriate ATS frequency and

e) as soon as practicable, resume normal flight level, notifying the action on the appropriate ATS frequency.

7. Operation of Transponders

When implementing TIBA procedures, pilots shall operate aircraft transponders on Mode A and C at all time. In the absence of alternative instructions from the appropriate ATS unit, aircraft not assigned a discrete code should squawk code 3300.

8. Operation of TCAS

Unless otherwise directed by an appropriate authority, pilots should operate TCAS in TA/RA Mode at maximum range setting during the cruise phase of flight and at a range setting appropriate to the traffic situation when in the departure or terminal phases of flight.

9. Special Operations

Specific aircraft may need to be involved in special operations during the period when a FIR is an activated contingency zone. These aircraft may therefore be unable to utilize the contingency route structure for a significant period of their flights, Aircraft that will be classified as special operations are as follows:

a) Special operations of State aircraft

b) Aircraft in emergency situations or operating with significant reduction in operating efficiency

c) Mercy flights and aircraft engaged in search and rescue, medical evacuation, and

d) coastal surveillance operations.

10. Activation and Cancellation of TIBA Procedures

This procedure shall be included in AIP Supplements or NOTAM on TIBA procedures and will be cancelled by NOTAM.

Appendix 8

FLIGHT PLANNING REQUIREMENT

Airline operators are expected to familiarize themselves with the Contingency Plans of Bangkok FIR and the activation times. For aircraft intending to operate in areas during periods when the contingency plans are activated, the operators shall plan the flight to conform with the requirement of Contingency Plans.

The flight planning requirements during the contingency period will be in accordance to ICAO Annex 2 Chapter 3 and Doc 4444 Chapter 4 and Appendix 2. Additional information, will, however, be required, to indicate that the flight will operate in airspace where the contingency plan is active.

Repetitive Flight Plans (RPLs/Bulk Stored) will not be accepted during the time that the contingency plan is activated. Airline operators are required to file flight plans in accordance with the contingency flight planning procedures.

Appendix 9

A series of templates for different stages of volcanic activity

1. Action to be taken by the ACC in the event of a volcanic eruption

In the event of significant pre-eruption volcanic activity, a volcanic eruption occurring or a volcanic ash cloud being reported in areas which could affect routes used by international flights, the ACC/FIC responsible for the FIR concerned, on receiving information of the occurrence, should take the following actions:

a) Pass this information immediately to aircraft in flight which could be affected by the volcanic ash cloud and advise ACCs in relevant adjacent FIRs. Issue an ASHTAM or a NOTAM through the State International NOTAM Office (NOF), in accordance with Annex 15, Chapter 5, giving details of the pre-eruption activity, volcanic eruption and ash cloud, including the name and geographical coordinates of the volcano, the date and time of the eruption, the flight levels and routes or portions of routes which could be affected and, as necessary, routes temporarily closed to air traffic. Include in the address list for ASHTAMs or NOTAMs concerning volcanic activity the associated MWO, all VAACs and the SADIS WIFS gateway at EGZZVANW.

Note 1.— In issuing an ASHTAM or a NOTAM concerning significant pre-eruption volcanic activity, or for volcanic eruptions not producing ash plumes, it is recommended that the ASHTAM or NOTAM text include the following actual wording, as appropriate:

"INCREASED VOLCANIC ACTIVITY REPORTED FOR VOLCANO (NAME AND LAT/LONG) AIRCRAFT ADVISED TO EXERCISE CAUTION UNTIL FURTHER NOTICE AND MAINTAIN WATCH FOR ASHTAM/NOTAM/ SIGMET FOR AREA".

or

"VOLCANO (NAME AND LAT/LONG) ERUPTED (DATE/TIME UTC) BUT NO ASH PLUME REPORTED, AIRCRAFT ADVISED TO AVOID FLYING WITHIN … KM OF THE VOLCANO UNTIL FURTHER NOTICE, MAINTAIN WATCH FOR ASHTAM/NOTAM/SIGMET FOR AREA".

Use of such language in an ASHTAM or a NOTAM ensures that large volumes of airspace are not rendered unavailable to aircraft unnecessarily until such time as a volcanic ash plume/cloud is actually reported, or observed from satellite data.

Note 2.— In order to ensure speedy transmission of initial information to aircraft, the first ASHTAM or NOTAM issued may simply contain information that an eruption and/or ash cloud has been reported and the date/time and location. It is not necessary to await further detailed information; this may be included in subsequent ASHTAMs or NOTAMs as it becomes available.

Note 3.— Volcano level of alert colour codes for aviation should be used by some volcanological agencies to report volcanic activity information (see 4.2.4). In States where the volcano level of alert colour codes for aviation have been introduced by the vulcanological agency, it is highly desirable to include the reported colour code in ASHTAMs or NOTAMs issued for volcanic activity.

b) Activate contingency arrangements, including the implementation of alternative routes bypassing the area likely to be affected by the volcanic ash cloud, in coordination with ACCs and FICs responsible for adjacent FIRs.

c) Advise the associated MWO(s) and VAAC of the volcanic eruption and/or the existence of volcanic ash cloud (including the forwarding of all special air-reports in accordance with existing provisions in Annex 11, 4.2.3) and maintain continuous coordination with the MWO to ensure consistency in the issuance and content of ASHTAMs or NOTAMs and SIGMETs.

d) Cancel the ASHTAM or NOTAM as soon as it is considered that the volcano has reverted to its normal state and the airspace is not contaminated by volcanic ash.

2. Action to be taken by the NOF in the event of a volcanic eruption

The ASHTAM (or NOTAM) to other NOFs for whom the information is of direct operational significance, the NOF should include in the address list the VAAC responsible for the FIRs concerned.

As an example, an ASHTAM issued by the Tegucigalpa NOF would be sent to VAAC Washington as follows:

ZCZC
GG KWBCYMYX
170630 MHTGYNYX
VAMH0001 MHTG 04170630
ASHTAM
A. CENTRAL AMERICAN FIR
B. 04170555
C. VOLCAN SAN CRISTOBAL.14004-02
D. 124211N0870024W
E. YELLOW ALERT
F. SFC/11000FT
G. E/SE
H. VOR/DME MGA A317 TUKOR CNL
I. VOR/DME MGA A317 TUKOR RTE AVBL. ALT RTE
MGA VOR/DME A502 BERTA GABOS A317.

VOR/DME/CAT/ABVL

J. INSTITUTO NACIONAL DE ESTUDIOS TERRITORIALES. DPTO. DE SISMOLOGÍA

K. GNE AVIATION CTN WIND 60KM/H E/SE FM VOLCANO

NNNN

LETTER OF AGREEMENT

This State Letter of Agreement shall come into effect upon signing by the Parties.

IN WITNESS WHEREOF, the undersigned, being duly authorized by the Parties, have signed this State Letter of Agreement

_____

Director-General
State Secretariat of Civil Aviation of Cambodia

Day…….Month……Year…….

_____

Director-General
Department of Civil Aviation of Laos

Day…….Month……Year…….

_____

Director-General
Civil Aviation Authority of Malaysia

Day…….Month……Year…….

_____

Director-General
Department of Civil Aviation of Myanmar

Day…….Month……Year…….

REVISION, MODIFICATION AND AMENDMENT

1. The Parties may request in writing a revision, modification or amendment of all or any part of this State Letter of Agreement

2. Such revision, modification or amendment shall come into effect on such date as may be determined by the Parties.

WITHDRAWAL

Each Party shall notify its intention to withdraw from this Letter of Agreement by giving three months' notice in writing to another Party. In the event of a withdrawal by the Party, the Party will provide for the continuance of any arrangement entered into under this Letter of Agreement but not fully performed prior to the withdrawal of that Party.

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