

**OPERATIONAL  
LETTER OF AGREEMENT**

**BETWEEN**

**AERONAUTICAL RADIO OF THAILAND LIMITED  
(AEROTHAI)**

**AND**

**STATE SECRETARIAT OF CIVIL AVIATION OF  
CAMBODIA (SSCA)**

**Effective date: 3 July 2008**

# Document Management

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## **1. INTRODUCTION**

The following document is an operational Letter of Agreement (LOA) between the State Secretariat of Civil Aviation of Cambodia (SSCA) and the Aeronautical Radio of Thailand Ltd. (AEROTHAI). The LOA details airspace arrangement, separation standards, level assignment and co – ordination procedures between the following Air Traffic Services (ATS) units:

**CAMBODIA Phnom Penh Area Control Centre (PACC)**

**THAILAND Bangkok Area Control Centre (BACC)**

**Objective** A statement of agreed procedures applicable between ATS Units of Cambodia and Thailand in respect to aircraft operating between the Phnom Penh and Bangkok FIRs.

**Scope** This Letter of Agreement (LOA) between Phnom Penh Area Control Centre (PACC) and Bangkok Area Control Centre is supplementary to the procedures contained in pertinent ICAO documents. Revision to this Agreement shall be made only with the concurrence of both parties.

**Effective Date** This Operational LOA shall be in effect on 3 July 2008, 0001 UTC and shall be superseded the previous LOA, dated 29 September 2005.

## **2. RESPONSIBILITY**

The ATS responsibilities of the various ATS units within Bangkok and Phnom Penh FIRs are detailed in the AIPs.

### **2.1 Bangkok Area Control Centre (BACC)**

Bangkok ACC shall be responsible for the provision of Air Traffic Control Services, Flight Information Service and Alerting Service to all aircraft within Bangkok FIR.

### **2.2 Phnom Penh Area Control Centre (PACC)**

Phnom Penh ACC shall be responsible for provision of Air Traffic Control Services, Flight Information Service and Alerting Service to all aircraft within Phnom Penh FIR.

### **3. CONTROL PROCEDURES**

#### **3.1 ATC Clearance Limit**

In general, the ATC clearance limit shall be the aerodrome of destination.

Where coordination cannot be achieved due to failure of the ATS communications, the clearance limit shall be at the transfer of control points.

If coordination can subsequently be achieved, a revision to the clearance limit is to be issued.

#### **3.2 RVSM Airspace**

Controlled airspace within Phnom Penh and Bangkok FIRs is designated as RVSM airspace between FL290 and FL410 inclusive. RVSM airspace is exclusionary in nature. Therefore, non-RVSM approved aircraft may not flight plan into this altitude stratum. There are exceptions for non-RVSM approved aircraft that meet specific criteria as described in the respective State's AIP Supplements.

When all aircraft are permitted to flight plan and operate at RVSM flight levels, RVSM approved aircraft will be given a higher priority over non- RVSM approved aircraft.

#### **3.3 Route Assignment**

The air traffic between the Bangkok and Phnom Penh FIR shall be routed along Air Traffic Service (ATS) routes outlined in the respective Aeronautical Information Publications (AIPs), except prior coordination effected individually for each flight off airways in case of potential hazards, which may affect the safety of flight (severe meteorological conditions, failure of aircraft equipment, etc.).

## **4 SEPARATION**

### **4.1 Vertical Separation**

The vertical separation minimum shall be applied according to Annex 2 Appendix 3.

The vertical separation minimum (VSM) of 2 000 ft shall be applied under the following circumstances:

- a) in contingency and emergency situations within RVSM airspace between FL 290 and FL 410, and
- b) between non-RVSM compliant aircraft and other aircraft when operating in RVSM airspace from FL290 to FL410.

#### **4.1.1 Coordination for Non – RVSM Compliant Aircraft**

The transferring ACC shall make prior coordination and obtain approval from the accepting ACC, at least one (1) hour prior to the time the non-RVSM compliant aircraft is estimated to pass over the transfer of control point. The coordination message shall contain the following items:

- a) The word (“REQUEST APPROVAL NON RVSM”)
- b) Aircraft Call sign
- c) Aircraft Type
- d) Departure Point
- e) The route to be flown, the Estimated time and requested Flight level at the transfer point
- f) Other pertinent information, if required.

The transferring ACC shall immediately notify the accepting ACC of any aircraft, which is being transferred, that is no longer RVSM compliant due to equipment failure before this aircraft passes over the transfer of control point and ensure that the appropriate separation between aircraft concerned exists.

To verbally supplement estimate messages of non–RVSM approved aircraft the phraseology “NEGATIVE RVSM or NEGATIVE RVSM STATE AIRCRAFT” should be used when applicable.

#### **4.1.2 Procedures for Suspension of RVSM**

Both ACCs will consider suspending RVSM procedures within its RVSM airspace when there are pilot reports of greater than moderate turbulence.

When decision is made to suspend RVSM, the ACC where RVSM is suspended should notify the other ACC of the level band and area where RVSM operation is suspended and advised of any planned or active suspension of RVSM as soon as possible.

## **4.2 Longitudinal Separation**

During the transfer of control, the minimum longitudinal separation to be used between aircraft assigned the same altitude along ATS/RNP10 routes and operating routes shall be shown on the table (5.7).

1. 10 minutes continuous or increasing on all ATS/RNAV routes,
2. 5 minutes or more when Mach Number Technique (MNT) is being applied base on MNT table, or

## **4.3 Radar Service and Procedures (Radar Handover Procedures)**

The application of radar separation standard shall be applied as specifies in Air Traffic Management (PANS-ATM) Doc.4444

### **4.3.1 General application for Radar Services**

The transfer of radar identification and control may be effect along the ATS routes where radar coverage of both units are well overlapped and ensure the continuity of radar services could be provide along the route segment.

Each unit shall set the radar display to extend up to 50 NM beyond the respective transfer of control points.

Radar identification of the aircraft shall be established at least 10 NM before the TCP.

The following circumstances should take into consideration while radar control service is provided:

- a) The transferring controller shall keep the accepting controller currently informed of any speed or vectoring instruction given the aircraft.
- b) If the accepting controller has any doubt as to the target's identification, the accepting controller shall request the transferring controller to use another method to transfer identification.

Radar provision will be performed for flight operating not beyond both FIRs or for tactical adjustment along the route segment, under the following circumstances:

- a) Vertical separation does not exist, or
- b) Longitudinal separation standard is less than the minimum, or
- c) Coordination between controllers of both units as necessary.

The radar spacing between the aircraft shall be as follows:

- a) The longitudinal separation shall be 20 NM or more when radar hand-over is effected;
- b) The lateral separation shall be 10 NM or more applying radar vector method.

#### **4.3.2 Suspension of radar handover procedures**

Suspension of radar handover procedures may be suspended at any time by the accepting controller. Circumstances that warrant this suspension will normally be due to:

- a) Degradation of ATC facilities, e.g. failure of a particular radar sensor; or
- b) Weather phenomena in the vicinity of the TCP which will not permit radar vectors; or
- c) Other circumstances that may affect safety.

When the accepting unit activates suspension of the above procedure, the separation shall be sorted by other means as appropriate to the transferred flight by transferring unit until the situation is resolved e.g.

- a) 5 minutes separation, provided the preceding aircraft is maintaining a true air speed of 40 knots or greater; or
- b) 9 to 5 minutes, provided the preceding aircraft is maintaining a Mach 0.02 to 0.06 or greater than the following aircraft.

## **5. COORDINATION PROCEDURES**

### **5.1 Approval Request**

If the flying time from the departure aerodrome of an aircraft to the boundary of both FIRs is less than 20 minutes the transferring unit shall, prior to clearing the aircraft, forward that information to the accepting ATC unit together with a request for approval at least 15 minutes before the actual time of departure.

### **5.2 Estimate Message**

An estimate message shall be transmitted in sufficient time to permit both ATS units concerned to receive the information at least 20 minutes before the time at which the aircraft is estimated to pass the transfer of control point or boundary point at which it comes under the control of such unit.

### **5.3 Revision Messages**

Revision to the estimate at the transfer of control point shall be passed to the receiving ACC if the revised estimated time differs by 3 minutes or more.

### **5.4 Establishment of Communication**

The accepting unit shall notify the transferring unit if two-way communication is not established within 5 minutes after the estimated time over the TCP.

### **5.5 Coordination Involving Level Change**

After the estimate for the TCP has been advised, the transferring unit shall not allow any aircraft to effect level change without prior coordination with the accepting unit, if the flying time to the TCP is less than 10 minutes.

The accepting unit shall not allow any aircraft to effect level change without prior coordination from the transferring unit within 5 minutes (non – radar) or 10 NM (radar) after the aircraft has passed the TCP.

### **5.6 Coordination procedure for traffic operating on N891 between XONAN and IGARI**

Phnom Penh ACC delegates the provision of Air Navigation Services over the southern portion of Phnom Penh FIR bounded by 091442.0N 1025018.0E; 090800.0N 10227.0E; 070007.8N 1025947.4E to Ho Chi Minh ACC.

In case of contingency, e.g. weather deviation, the coordination arrangement of the occurrence will be directly coordinated between Bangkok and Ho Chi Minh ACCs.

**5.7 Transfer of Communication /Control Points  
Flight Level Arrangement and Longitudinal Separation**

ATS Routes (1)	TCP (2)	BKK (3)	PNH (4)	Assigned FL by BACC (5)	Assigned FL by PACC (6)	Longitudinal Separation (7)
A340	BISOR	Sector 3	PACC	290 for flight proceeding beyond PNH FIR	All Even	10 minutes
B204	AGEDO	Sector 3	PACC	FL assigned subject to coordination		10 minutes
G474	MENAM	Sector 3	PACC	330 370 410	All Even	10 minutes
				FL assigned subject to coordination		
N891	BENSA	Sector 3	PACC	330	All Even	10 minutes
R468	BOKAK	Sector 3	PACC	270 330 410 for flight proceeding beyond PNH FIR	All Even	10 minutes
R334	KOH KONG	Sector 3	PACC	290 for flight proceeding beyond PNH FIR	All Even	10 minutes
R575	KOH KONG	Sector 3	PACC	270	All Even	10 minutes
R588	BASIT	Sector 6	PACC	270	All Even	10 minutes
OPG Route UBL-PHN FIR	RULOK	Sector 8	PACC	FL assigned subject to coordination	FL assigned subject to coordination	10 minutes
R345 (ROT-SRE)	BIDEM	Sector 8	PACC	FL assigned subject to coordination	FL assigned subject to coordination	10 minutes

Note :

(5), (6) *Other flight levels are subject to Prior Coordination*

*Non-standard flight levels may be assigned subject to prior co-ordination and agreement. This provision is to be used judiciously, e.g. to make more optimum levels available at times of significant one-way traffic flow.*

## **6. Special Coordination Procedures**

### **6.1 Arriving and Departing Flight at Phnom Penh International Airport**

#### **Application**

This procedure shall be applied to all international flight arriving to or departing from Phnom Penh International airport on ATS.

#### **Arrival Flight(s)**

The international flight(s) from Bangkok/Suvarnabhumi airport/Bangkok VOR arriving Phnom Penh airport shall be cleared via R468.

#### **Departure Flight(s)**

The international flight(s) departing from Phnom Penh airport entering Bangkok FIR shall be cleared via A340.

### **6.2 Coordination for Large Height Deviation (LHD)**

#### **6.2.1 Purpose**

This reporting procedure for LHD occurrences among Bangkok and Phnom Penh ACCs, in order to ensure the timely reporting of LHD occurrences equal to or greater than 300 ft for any reason by the respective Centre and consequently enhance airspace safety in RVSM operation, Bangkok ACC and Phnom Penh ACC agreed to implement a reporting procedure when LHD has occurred.

#### **6.2.2 Scope**

This notification of the LHD occurrences shall be used only for the airspace safety monitoring and LHD report should be submitted independently of this notification.

#### **6.2.3 Procedure**

When LHD is observed or reported involved with the two ACCs' operation, the supervisor of the Centre which has obtained the fact should inform the supervisor of the other Centre about the LHD occurrence in a timely manner.

## 7. COMMUNICATOINS

Use of communication systems for coordination between adjacent units shall be in the following order of priority:

- a) ATS Direct speech circuit (DSC);
- b) International telephone system;
- c) Aeronautical Fixed Telecommunications Network utilized "DD" priority
- d) Any other suitable means of communication

All direct voice communication between Bangkok and Vientiane ACCs shall be conducted in English, recorded on tape and kept for a minimum period of 30 days.

When the ATS Direct Speech Circuit resumes normal operations and an aircraft, which is being transferred, has not passed the transfer of control point, a previous transfer of control message which was sent via the AFTN shall be retransmitted on the ATS Direct Speech Circuit for confirmation.

### 7.1 ATS Direct Speech Circuit and International Telephone System

All communication on DSCs for co – ordination shall be prefixed to indicate the type of message to follow.

#### 7.1.1 Estimates

Transferring unit	Estimate (TCP, significant point) on (aircraft call sign)
Accepting unit reply	Go ahead
Transferring unit reply	(aircraft call sign)
	Squawking (SSR code)
	Estimated (TCP, significant point) at (time)
	Flight level or Climbing from (level) to (level) or Descending from (level) to (level)
	Assigned Mach number or true air speed (if assigned)

#### 7.1.2 Revisions

Transferring unit	Revision (TCP, significant point) on (aircraft call sign)
Accepting unit reply	Go ahead
Transferring unit reply	(aircraft call sign) (details as necessary)

#### 7.1.3 Transfer of Control

Accepting unit	Request release of (aircraft call sign)
Transferring unit	(aircraft call sign) not released [until (time or TCP or significant point)]

#### 7.1.4 Change of Clearance

Accepting unit	Unable (desire route, level, etc.) [for (aircraft call sign)]
	Due (reason)
	Alternative clearance proposed

### 7.1.5 Approval Request

Transferring unit	Approval request (aircraft call sign)
Accepting unit	go ahead
Transferring unit	(aircraft call sign) estimated departure from (aerodrome or TCP or significant point) at (time) Requesting (details as necessary)
Accepting unit	(aircraft call sign) Request Approved [(restriction if any)]; (aircraft call sign) Unable (Alternative instructions)

### 7.1.6 Radar Handover

Transferring unit	Radar handover (aircraft call sign) Squawking (SSR code) Position (aircraft position) Level
Accepting unit	(aircraft call sign) radar contact or identified and accepted

### 7.1.7 Read – Back

Read back shall comprise all elements of the Estimate Messages listed in 5.1.1.  
Read back by the receiving ACC conforms acceptance of the offer of transfer control, subject to other conditions negotiated.

The transferring unit shall ensure the read back is correct.

### 7.1.8 Exchange of initials

Both the transferring and accepting controller shall exchange their individual two letter initials at the end of a verbal coordination messages.

## 7.2 Aeronautical Fixed Telecommunications Network (AFTN)

AFTN Estimate (EST) Coordination (CDN) and Acceptance (ACP) messages are not required when voice communication has been successful.

When an AFTN message is required the following format shall be used:

### 7.2.1 Estimate Message

(Designator – Aircraft Identification/SSR Mode and Code – Departure Aerodrome – Destination)

*e.g. (EST – THA664/A6174 – VTBD – VTN 0735 F330 – ZGGG)*

### 7.2.2 Coordination Message

(Designator – Aircraft Identification/SSR Mode and Code – Estimate data)

*e.g. (CDN – THA664/A6174-F370)*

### 7.2.3 Acceptance Message

(Designator – Aircraft Identification/SSR Mode and Code – Departure Aerodrome – Destination)

*e.g. (ACP – THA664/A6174 – VTBD – VHHH)*

## 8. AGREEMENT

The designated persons for the coordination and management of this LOA are:

Aeronautical Radio of Thailand		State Secretariat of Civil Aviation of Cambodia	
Name	Mr. Prakit SUWANNABHOKIN	Name	Mr. Chhun Sivorn
Title	Vice President, Air Traffic Services Bureau 1	Title	Deputy Director, Flight Operation and Air Safety
Address	Aeronautical Radio of Thailand Ltd. (AEROTHAI) 102 Ngam Duplee, Rama 4 Rd., Tungmahamek, Satorn, Bangkok 10120 Thailand	Address	State Secretariat of Civil Aviation 62 Norodom Blvd. Phnom Penh Kingdom of Cambodia
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### 8.1 Temporary Deviations / Amendments

If a temporary deviation from the procedures established under this LOA becomes necessary, the Watch Supervisors on duty at the time of both ACCs/APPs may agree to put into effect temporary amendments to the procedures contained in this LOA provided that flight safety is not compromised. The temporary amendments shall be clearly defined with a mutually agreed upon effective and expiry date or time.

### 8.2 Revisions

This LOA shall be revised whenever a modification of ICAO's Standards and Recommended Practices occurs which might affect the procedures contained in this LOA. These include the commissioning of new communications or new air traffic services facilities.

## **9. AUTHORITY**

### **THAILAND**

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PRAKIT SUWANNABHOKIN  
Vice President,  
Air Traffic Services Bureau 1  
Aeronautical Radio of Thailand Ltd  
102 Ngamduplee,  
Tungmahamek, Bangkok  
10120 Thailand.

Date: 27 March 2008

### **CAMBODIA**

.....  
CHHUN SIVORN  
Deputy Director  
Flight Operation and Air Safety  
State Secretariat of Civil Aviation  
62 Norodom Blvd. Phnom Penh,  
Kingdom of Cambodia

Date: 27 March 2008

## Attachment A

### Phnom Penh ATS Units

Unit	Responsible for	Telephone
Phnom Penh Area Control Centre	G474 R468 A340 R334 N891 R575 R588 B204 W3 W13	Tel + 855 23 890 194 Fax +855 23 890 463 AFTN VDPPZRZX E mail <a href="mailto:saichonp@cats.com.kh">saichonp@cats.com.kh</a>

### Bangkok ATS Units

Unit	Responsible for	Telephone
Bangkok Area Control Centre Watch Supervisor		Tel +662 285 9111 Fax +662 285 9077 +662287 8077 AFTN VTBBZRZX E mail <a href="mailto:ops-bacc@aerothai.co.th">ops-bacc@aerothai.co.th</a>
Sector 3 Frequency 135.5 MHZ	G474 B204 B205 A340 R334 N891 R575 R588	Tel +662 285 9473
Sector 8 Frequency 133.9 MHZ	OPG route UBL-PNH FIR and R345	Tel +662 285 9478
Sector 6 Frequency 123.95 MHZ	R588	Tel +662 285 9476

## Attachment B

### Inter-unit Incident Reporting Procedures

1. Upon receipt of a report, details should be passed to the relevant Centre by facsimile, which shall be acknowledged by a return facsimile.
2. A response shall be provided to each report within 2 weeks.

Centre / Name	Contact	Remark
Phnom Penh ACC Watch Supervisor	Phone: +855 23 890 194 Fax: +855 23 890 463 AFTN: VDPPZRZX	H24
Bangkok ACC Watch Supervisor	Phone: +662-2859111 Fax: +662-2859077 AFTN: VTBBZRZX	H24