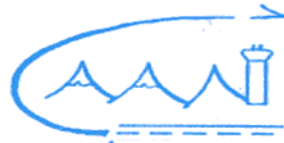


# **Letter of Agreement (LOA)**

**between**



**Civil Aviation Authority of Nepal**

**and**



**Airports Authority of India**

## Document Management

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**Subject**      **Procedures relating to Separation Standards, Level assignment and Coordination Procedures between the following:**

- 1)      Airports Authority of India**
- 2)      Civil Aviation Authority of Nepal**

## **1. INTRODUCTION**

**Effective Date**      **This letter of agreement becomes effective on 9<sup>th</sup> October 2009**

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**Objective**      **A statement of agreed procedures applicable between ATS units of Civil Aviation Authority of Nepal and Airports Authority of India in respect of aircraft operating on routes between Kolkata / Varanasi / Delhi ACC and Kathmandu ACC to ensure a safe, orderly and expeditious flow of air traffic.**

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**Scope**      **The procedures contained in this operational Letter of Agreement supplement or detail, where so required in the vicinity of the common FIR boundary, those prescribed by ICAO Annex 2, Annex 11, PANS/ATM Doc 4444, Regional Supplementary Procedures (Doc 7030) and respective *national AIPs*.**

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## **2. CONTROL PROCEDURES--**

### **2.1 Airspace**

#### **Airspace Definition**

**Within Kolkata/Delhi FIRs the airspace is classified as follows:**

**Class D – Airspace in Terminal Areas, Airways  
Control Areas, Control Zones and Aerodrome  
Traffic Zones.**

**Class E – Airspace in the designated  
ATS routes outside terminal and control areas.**

**Class G – Airspace other than those in the  
Class D & E.**

**Within Kathmandu FIR the airspace is classified as follows:**

**Class C - Airways, Airspace in Terminal Areas,  
Control Areas, Control Zones and Aerodrome  
Traffic Zones.**

**Class G - Airspace other than in Class C.**

### **2.2 Area of responsibility.**

**Kolkata ACC**      **Kolkata ACC is responsible for provision of Air Traffic control / Advisory / Flight Information / Alerting service to aircraft operating within Kolkata Flight Information Region.**

**Varanasi ACC**      **Varanasi ACC is responsible for provision of Air Traffic Control / Flight Information / Alerting service to aircraft operating within Varanasi TMA.**

**Delhi ACC**      **Delhi ACC is responsible for provision of Air Traffic control / Advisory / Flight Information / Alerting service to aircraft operating within Delhi Flight Information Region.**

**Kathmandu ACC**      **Kathmandu ACC is responsible for provision of Air Traffic Control / Advisory / Flight Information / Alerting service to aircraft operating within Kathmandu Flight Information Region.**

## 2.2. Separation

<p><b>Vertical Separation</b></p>	<ol style="list-style-type: none"> <li>1. Assignment of cruising levels shall comply with the Table of Cruising Levels in Appendix 3 of ICAO Annex 2</li> <li>2. In Indian FIRs, semi-circular cruising levels are assigned</li> <li>3. In Kathmandu (Nepal) FIR, quadrantal cruising levels are assigned at or below altitude 13,500 ft. and semi circular cruising levels are assigned at or above FL 150. Levels above 13,500 ft and below FL 150 is kept as buffer</li> <li>4.             <ol style="list-style-type: none"> <li>i) A nominal 1000 ft separation below FL 290.</li> <li>ii) A nominal 1000 ft at or above FL 290 upto FL 410 inclusive between RVSM approved aircraft.</li> <li>iii) A nominal 2000 ft at or above FL 290 upto FL 410 inclusive between Non-RVSM approved aircraft and any other aircraft when authorized to operate in Exclusive RVSM airspace.</li> <li>iv) A nominal 2000 ft separation above FL 410..</li> </ol> </li> </ol>
<p><b>Longitudinal Separation</b></p>	<p>The longitudinal separation minima between aircraft flying on the same track on route segment between Kolkata /Delhi FIR and Kathmandu FIR shall be 10 minutes.</p>
<p><b>Longitudinal Separation On reciprocal tracks</b></p>	<ol style="list-style-type: none"> <li>1. Where lateral separation is not provided, Vertical Separation shall be provided at least 10 minutes prior to and after the time the aircraft are estimated to pass, or are estimated to have passed. If it has been determined that the aircraft have passed each other (definite crossing), this minima does not apply.</li> <li>2. Aircraft utilizing on-track DME may be cleared to climb or descend to or through the levels occupied by other aircraft utilizing on-track DME, provided that it has been positively established that the aircraft have passed each other and are at least 10 NM apart.</li> </ol>
<p><b>Longitudinal Separation on Crossing tracks</b></p>	<p>If tracks are crossing over a nav-aid facility, separation minima of 10 minutes shall be applicable. If tracks are crossing over a point other than a nav-aid, separation minima of 15 minutes shall be applicable.</p>

### 3. CO-ORDINATION PROCEDURE

#### 3.1.1. ATS Routes & Transfer of Control Points

S. No.	Route	From/ To	Route Details	Transferring Unit	Accepting Unit	TRANSFER OF CONTROL POINT	REMARKS
1.	B345	Kathmandu/ Delhi	KTM-BHP- BWA- LLK (Uni-directional)	Kathmandu ACC	Varanasi ACC	'LUMBI' (FIR boundary) 27° 25' 39" N 083° 11' 03" E	Applicable for all west bound flights using B345.
2.	G598	Delhi/ Kathmandu	LLK-SMR (Uni-directional)	Varanasi ACC	Kathmandu ACC	'PARSA' FIR boundary 27° 08' 22" N 084° 39' 54" E	Applicable for all east bound flights using G598.
3.	R325	Kathmandu/ Kolkata	KTM-LNC- LALBA-JKP- CCU (Uni-directional)	Kathmandu ACC	Kolkata ACC	'JANAK' (FIR boundary) 26° 39' 12" N 085° 57' 24" E	Applicable for all east bound flights using R325.
4.	R581	Kolkata/ Kathmandu	CCU –ROMEO (Uni-directional)	Kolkata ACC	Kathmandu ACC	'GAURA ' FIR boundary 26° 44' 46" N 085°18' 52"E	Applicable for all west bound flights using R581.
5.	R344	Kathmandu/ Dhaka	KTM-BRT- KH-RAJ (Uni-directional)	Kathmandu ACC	Kolkata ACC	'BIRAT' (FIR boundary) 26° 21' 10" N 087°18' 15"E	Applicable for all east bound flights using R344.
6.	A467	Biratnagar/ Kolkata	BRT-KH-CCU (Bi-Directional)	Kathmandu ACC	Kolkata ACC	'BIRAT' (FIR boundary) 26° 21' 10" N 087°18' 15"E	Applicable for all flights using A467
7.	G463	Dhaka/ Kathmandu/	DCN-RAJ- MONDA- ROMEO (Uni-directional)	Kolkata ACC	Kathmandu ACC	'GAURA ' (FIR boundary) 26° 44' 46" N 085°18' 52"E	Applicable for all west bound flights using G463.
8.	G335	Kathmandu/ Patna	KTM-LNC- LALBA-JKP- PPT (Uni-directional)	Kathmandu ACC	Kolkata ACC	'JALES ' (FIR boundary) 26° 38' 10" N 085°51' 51"E	Applicable for all east bound flights using G335.
9.	G336	Patna/ Kathmandu	PPT-DODUD- SMR-KTM (Uni-directional)	Kolkata ACC	Kathmandu ACC	'BIRGA ' (FIR boundary) 26° 53' 55" N 085°00' 30"E	Applicable for all west bound flights using G336.

S. No.	Route	From/ To	Route Details	Transferring Unit	Accepting Unit	TRANSFER OF CONTROL POINT (For ATS purposes only)	REMARKS
10.	G590	Kathmandu/ Varanasi	SMR-OMUPA-BODOG-BBN (Bi-directional)	Kathmandu ACC	Kolkata ACC	'OMUPA'  FIR boundary 27 ° 00' 1" N 084 ° 47' 116" E	Applicable for all flights using G590.
11.	G348	Kathmandu/ Paro	KTM-KIMTI-TTR-MECHI- - PRO (Bi-directional)	Kathmandu ACC	Kolkata ACC	'MECHI'  26 ° 46' 05" N 088 ° 10' 55" E	Applicable for all flights using G348.

### 3.1.2. ATS route L626 (RNP 10) & Transfer of Control Point

S.No	Route	From/ To	Route Details	Transferring Unit	Accepting Unit	TRANSFER OF CONTROL POINT (For ATS purposes only)	REMARKS
1.	L626*	Kathmandu / Delhi	KATHMANDU-BHARATPUR-PALPA-SURKHET-MAHENDRANAGAR-ONISA-PANTANAGAR-SIKANDARABAD-DELHI	KATHMANDU ACC	DELHI ACC	'ONISA'  28 ° 57' 47" N 080 ° 08' 53" E	Applicable for all flights using L626.

\* Applicable on promulgation by CAA Nepal

**3.1.3 In view of the close proximity of Flight Information Region boundaries of Kathmandu and Kolkata/Delhi, the flight plan message shall be exchanged between the transferring unit and the accepting unit as soon as they are available and in any case not later than 30 minutes before EOBT.**

**3.1.4 Near Boundary Operations:-** ATS units shall relay significant details of any specific flight, such as Survey, SAR, Flight Calibration, non-specified holding, deviation due weather or technical, within 10NM of the common FIR boundary.

**3.1.5 Departure message shall be exchanged between the transferring unit and the accepting unit as soon as possible after the departure of the aircraft including SSR codes.**

**3.1.6 SSR codes once allotted by adjacent ACC/APP shall be retained and included in the coordination/estimate exchange message.**

**3.1.7 All ATS units shall coordinate an estimate for the transfer of Control point [TCP] at least 10 minutes prior to TCP whenever practicable or ASAP, except in the case when the origin of the flight is less than 10 minutes from TCP. Such coordination constitutes an offer of transfer of responsibility.**

**3.1.8 After the estimate for the TCP has been advised, units shall relay any revised TCP estimate that varies by 3 minutes or more.**

### **3.2 Communication Methods & Exchange of Estimates**

#### **3.2.1. Communication System :-**

The use of communication system between adjacent ATS Units shall be in the following order of priority,

- ATS Direct Speech Circuit
- IDD / ISD
- Aeronautical Fixed Telecommunication Network (AFTN)
- AMSS – satellite link via Mumbai
- AMHS

AFTN Estimate (EST) and acceptance messages (ACP) are not required when voice communication has been successful to offer or accept transfer of control.

#### **TELEPHONE NUMBERS of ACCs**

##### **Delhi ACC**

**Telephone 91-11-5653283**  
**Fax 91-11-5653284**

##### **Kolkata ACC**

**Telephone 91-33-25130134**  
**Fax 91-33-25130134**

##### **Varanasi ACC**

**Telephone 91-542-2623671**  
**Fax 91-542-2565051**

##### **Kathmandu ACC**

**Telephone: 977-1-4113259**  
**Fax : 977-1-4113411**



### 3.3.2 Estimate Messages :-

The estimate message shall contain the following information in the order shown:

- **Aircraft call-sign/ SSR code**
- **Place of Departure**
- **Estimate TCP**
- **Flight Level**
- **Destination**

**3.2.3 Read backs:** - Read backs shall comprise all elements of the Estimate Message. It also confirms acceptance of transfer of control.

**3.2.4 3.3 Pre-Coordinated Levels in case of No-Contact between ATS Units:** - When transferring unit is unable to contact the accepting unit on any channel, the following procedures shall be observed.

*In case of two way communication between both ATC units, all appropriate levels shall be available on all ATS routes for aircraft departing from Kathmandu subject to traffic with the accepting unit.*

**a) For traffic departing from Kathmandu:** - The aircraft will be transferred to Delhi/Varanasi/ Kolkata at any level between the band of flight level indicated below.

S. No.	Route	Route Details	Pre coordinated Fight level
1.	B345	KTM-BHP-BWA-LLK (Uni-directional)	1.FL 260. FL 280 (On trial basis for two months) 2.Appropriate quadrantal/semicircular level for low-level flight.
2.	R325	KTM-LNC-LALBA-JKP-CCU (Uni-directional)	1. FL 230 and FL 290 2. Appropriate quadrantal/semicircular level for low-level flight
3.	R344	KTM-BRT-KH-RAJ (Uni-directional)	1. FL 290 2. Appropriate quadrantal/semicircular level for low level aircraft.
4.	G335	KTM-LNC-LALBA-JKP-PPT (Uni-directional)	FL 170 and FL 135

5.	G348	KTM-KIMTI-TTR- MECHI- PRO (Bi-directional)	FL 270
7.	G336/G590	KTM-SMR-OMUPA-BODOG- BBN (Bi-directional)	1. FL 160 – FL 200 2. Appropriate semicircular level for low level aircraft.
8.	L626*	<i>KATHMANDU- BHARATPUR-PALPA- SURKHET- MAHENDRANAGAR- ONISA-PANTANAGAR- SIKANDARABAD- DELHI</i>	FL 280 and FL 320

\* Subject to promulgation by CAA Nepal

**b) For traffic arriving to Kathmandu:-** The aircraft will be transferred to Kathmandu at levels indicated below.

S.No.	Route	Route Details	Fight level
1.	G590	SMR-OMUPA-BODOG-BBN (Bi-directional)	1. At or above FL 210 for high level aircraft. 2. Appropriate quadrantal level for low-level aircraft.
2.	G598	LLK-SMR (Uni-directional)	1. At or above FL 210 for high level aircraft 2. Appropriate quadrantal level for low-level aircraft.
3.	G336	PPT-DODUD-ROMEO-KTM (Uni-directional)	1. At or above FL 210 for high level aircraft 2. Appropriate quadrantal level for low-level aircraft..
4.	R581	CCU –ROMEO (Uni-directional)	1. At or above FL 210 for high level aircraft. 2. Appropriate quadrantal level for low-level aircraft..
5.	G463	DCN-RAJ-MONDA-ROMEO (Uni-directional)	1. At or above FL 210 for high level aircraft. 2. Appropriate quadrantal level for low-level aircraft..

6.	G348	PRO- MECHI- TTR-KIMTI-KTM (Bi-directional)	FL260
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**3.4 Clearance Amendment:** - Prior coordination is required before amending any ATC clearance issued by an adjacent ATC unit.

**3.5 Co-ordination Timings:** -

i) As far as practicable, clearance shall be coordinated with the accepting unit, prior to departure, when the flying time to the TCP is less than fifteen (15) minutes.

ii) Within ten (10) minutes after an aircraft has passed the TCP, coordination shall be effected prior to any amendments to the ATC clearances issued by the transferring ATS Unit.

3.6 If communication with the aircraft is not established within five minutes after the estimated time over the transfer of control point, the accepting ATC unit shall notify the transferring ATC unit.

**3.7 Level changes:** - After the estimate for the TCP has been advised, the transferring ATS Unit shall coordinate any level change prior to the aircraft crossing the FIR boundary

**4. REVISIONS:** -

a) Revision Conditions: - This agreement shall be subject to revision whenever,

- i) A modification to ICAO Standards, Recommended Practices and/or Regional Supplementary Procedures and/or India or Nepal operating procedures or instructions, which might affect the procedures, contained in this agreement occur,
- ii) New communication facilities, or Air Traffic Service Systems, which might affect these procedures, are commissioned.

b) **The Procedure for Initiating Change**

- i) In the case of changes in ICAO regulations, either State shall initiate the modification procedures, or in the case of new installations or modification to existing installations, the state concerned shall initiate modification procedure.
- ii) For any other reason, which might make it advisable to change this agreement and its associated attachments, the interested State shall propose the pertinent revision.

- iii) When less than thirty (30) days exists between an identified need to amend this agreement and the effective date of the amendment, the respective centre Managers and/or Civil Aviation Authority or their designated representatives shall agree via telephone, followed by a confirming fax message signed by all parties, on the nature of the change and circulate the change to concerned units by a suitable local instruction. Formal exchange of signed copies of the amended document shall take place as soon as practicable thereafter.

**5. DISSEMINATION: -**

- 5.1 Dissemination of subsequent modification shall normally be made in thirty (30) days before the effective date.**
- 5.2 This letter of agreement cancels all previous letter of agreements between the KOLKATA ACC / VARANASI ACC / DELHI ACC and KATHMANDU ACC**

**Signed in: Airports Authority of India, RG Bhawan, New Delhi on 9<sup>th</sup> September 2009**

V. P. Agrawal  
Chairman  
AIRPORTS AUTHORITY  
OF INDIA

Keshab R. Khanal  
Director General  
CIVIL AVIATION AUTHORITY  
OF NEPAL