



*International Civil Aviation Organization*

**The Fifth Meeting of the South Asia/Indian Ocean ATM Coordination Group  
(SAIOACG/5)**

Bangkok, Thailand, 03-06 March 2015

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**Agenda Item 5: ATS Route Development**

**AIRSPACE USER REVIEW OF ASIA PACIFIC REGION ATS ROUTE CATALOGUE**

(Presented by IATA)

**SUMMARY**

This paper presents the results of a User review of Asia Pacific ATS Route Catalogue Chapter 1- "South Asia"

**1. INTRODUCTION**

1.1 No change to the current Chapter 1 except removal of IND 1 which has been implemented (ref Indian AIP SUPP 17/2013)

**2. DISCUSSION**

2.1 Appendix 1 shows Chapter 1 with IND 1 recommended for removal.

2.2 It is noted that the current online version of the route catalogue does not seem to have the full charted route requests included

**3. ACTION BY THE MEETING**

- a) The meeting is invited to: note the information contained in this paper; and
  - b) discuss any relevant matters as appropriate.
- .....

# **Chapter 1: South Asia**

**(referred to: SAIOACG, BOBASIO, ASIOACG as appropriate  
for review)**

APPENDIX 1

SAIOACG/5-WP06  
03-06/03/2015

ATS ROUTES	SIGNIFICANT PTS	COORDINATES	FIR	REMARK
<del>IND 4</del>	BBS BPL	N2014.6 E08548.8 N2317.0 E07720.2	KOLKATTA MUMBAI	Recommend remove
IND 7	PRA SERKA KAMAR BIRJAND	N2401.8 E07445.0 N2951.0 E06615.0 N3239.0 E06044.0 N3258.3 E05912.0	MUMBAI DELHI KABUL TEHERAN	N877 Extension
IND 8	VABB APANO WPT "X"	Details in chart	MUMBAI KARACHI	2 Route Options
IND 9	TELEM BHU (Bhuj) RKT (Rajkot) BBB (Mumbai)	N2407 E068 46 N2316.5 E06940.0 N2218.8 E07046.7 N1905.2 E072 52.5	MUMBAI	
IND 10	AAE (Ahmadabad) MORVI RASKI	N2304.1 E07237.7 N2249.0 E07050.0 N2303.5 E06352.0	MUMBAI	
IND 11	DPN LLH WPT 1  WPT1 HTN(Hotan) FKG (Fukang)  WPT1 KAMUD KA (Karakol) WPT 2 ALM	Details in chart N34 05.1 E07734.6 N3532.5 E07800.0  N3532.5 E07800.0 N3702.2 E07952.3 N4410.0 E08759.0  N3532.5 E07800.0 N4134.0 E07850.0 N4231.1 E07821.5 N4251.5 E077 52.0 N4322.5 E07705.1	DELHI  URUMQI  URUMQI BISHKEK  ALMATY	
IND12	INDEK WP1 CHG	N3246.0 E07316.0 N31 55.2 E07443.21 N3040.1 E07648.3	LAHORE DELHI	
PAK 01	KC MELOM	N2454.6 E06710.6 N2505.0 E06632.0	KARACHI	
THA 1	KORAT DAWEI	N1455.0 E10208.4 N1405.9 E09812.2	BANGKOK YANGON	
IDO 1	SJ MABIX	N0113.4 E10351.3 N0316.0 E09450.9	SINGAPORE JAKARTA	
COL 1	KAT TNV	N0709.7 E07952.1 S1842.2 E04731.1	COLOMBO MADAGASCAR	
HIMALAYA 1	KOLKATA NEPALGUNJ INDEK	2238.7N 08827.2E 2806.1N 08139.1E 3246N 7316E	KOLKATA KATHMANDU LAHORE	Moved from Chapter 4. Route requested by Nepal

APPENDIX 1

SAIOACG/5-WP06  
03-06/03/2015

HIMALAYA 2	KATHMANDU BAGHDOGRA GUWAHATI SILCHAR IMPHAL KUNMING	2740.5N 08521.0E 2641.3N 08819.8E 2606.1N 09135.3E 2454.8N 09258.9E 2446.0N 09354.5E 2501N 10244E	KATHMANDU KOLKATA KOLKATA KOLKATA KOLKATA KUNMING	Moved from Chapter 4. Route requested by Nepal
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**ATS ROUTE NAME: IND1**

REQUESTED BY: IATA

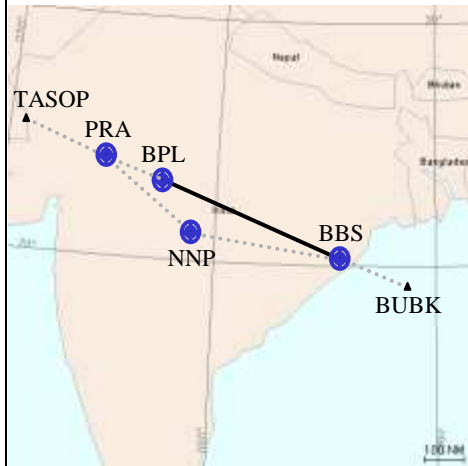
**ENTRY/EXIT POINT**  
**BBS / BPL**

**ROUTE DESCRIPTION**  
**BBS .. BPL**

**FLIGHT LEVEL BAND**  
**28000 – 46000 feet**

**PRIORITY: HIGH/MED/LOW**

**CHART**



Action Required	IATA
	ICAO

Saving	Per flight	Annual
Mileage / Time	25nm /3 mins	
Fuel	406kg	148190 kg
CO <sub>2</sub>	1250kg	456250kg
No <sub>x</sub>		

**Remarks:** Provides extension from N895 linking traffic from BKK and Northern Sub-continent and ME. Provides a 25nm reduction in track mileage. **Remove - implemented**

Potential City Pairs: Europe/South East Asia

**ATS ROUTE NAME:** IND 7 (N877 Extension)

**REQUESTED BY:** IATA

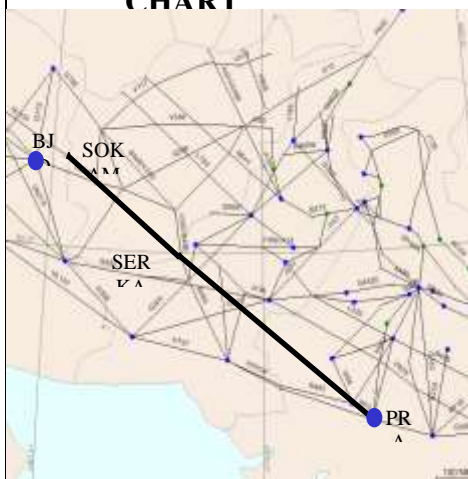
**ENTRY/EXIT POINT**  
**PRA - KAMAR**

**ROUTE DESCRIPTION**  
**Direct Route Track from PRATAGARH**  
**PRA – SERKA– SOKAM**  
**FLIGHT LEVEL BAND**

**28000-46000**

**PRIORITY: HIGH/MED/LOW**  
**HIGH**

**CHART**



Action Required	IATA.
	ICAO

Saving	Per flight	Annual
Mileage / Time	294 nm/37 min.	
Fuel	4777kg	1,743 tonnes
CO <sub>2</sub>	147,000kg	5,365 tonnes
No <sub>x</sub>		

**Remarks:** This proposal predates the extension of UL333 through Kabul FIR and has been under consideration for a number of years. The extension of UL333 is underutilised against other Kabul routes largely due the 45nm “penalty” in track mileage the current route structure requires. The routes primary benefit at this stage will be westbound and during BOBCAT traffic flow. As such a restricted route that accommodates this would be acceptable in the short term. Update 08/02/13PRA SERKA has been “approved” by India after lengthy consultation with the Military, complementary action from Pakistan awaited.

Potential City Pairs: KUL/SIN – EUROPE

**ATS ROUTE NAME:** *IND 08*

REQUESTED BY: IATA

Date: 25 June 2012

(ATM/AIS/SAR/SG-22)

**ENTRY/EXIT POINT**

VABB-APANO-AAE-  
VIKIT-MURLI-BI

**ROUTE DESCRIPTION**

Option 1 Routing:

VABB-APANO-  
W13N.AAE."WP1"  
(Mumbai/Delhi FIR  
waypoint) dct VIKIT

Option 2 Routing:

VABB-APANO-  
W13N.AAE."WP1"  
(Mumbai/  
Delhi FIR waypoint) dct  
"WP3"(10Nm clearance from  
POKHARAN{VI(D)123}) dct  
VIKIT

Pakistan Routing:

VAKIT dct MURLI dct BI  
then via existing route  
network.

**FLIGHT LEVEL BAND**

28000 – 46000feet

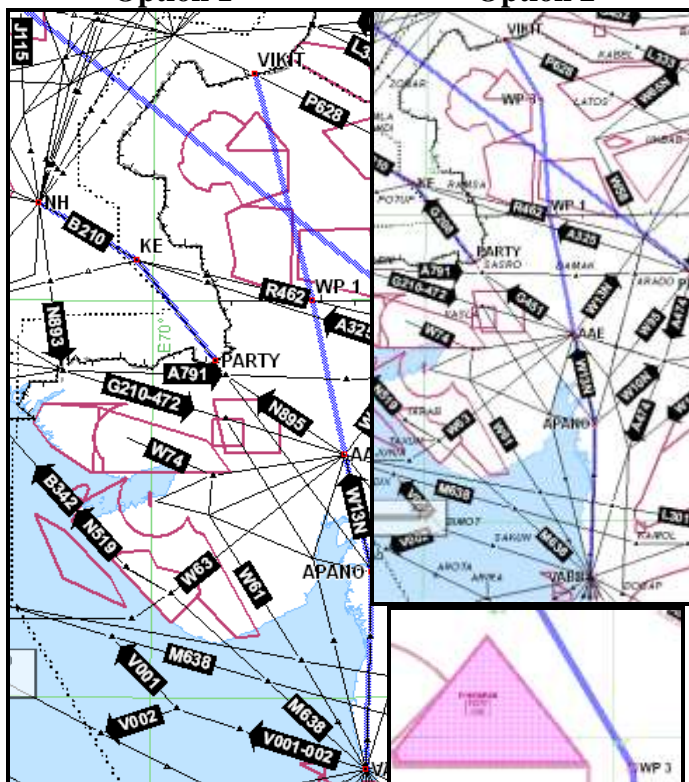
**PRIORITY:**

High/Medium/Low

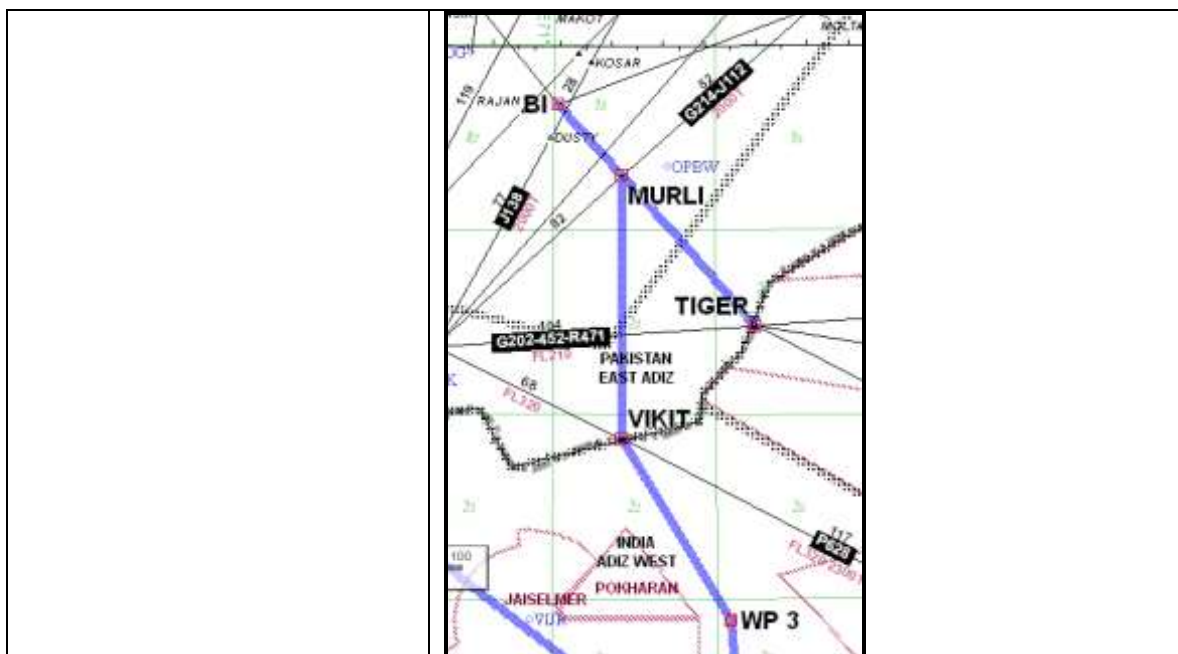
**CHART**

**Option 1**

**Option 2**



**Pakistan portion**



Action Required	IATA
	ICAO

**Option 1**

Saving	Per flight	Annual
Mileage / Time	62 nm / 6 mins	
Fuel	589 kg	215,000
CO <sub>2</sub>	1826 kg	677,000
No <sub>x</sub>		

**Option 2**

Saving	Per flight	Annual
Mileage / Time	101 nm / 13 mins	
Fuel	1132 kg	415,000
CO <sub>2</sub>	3510 kg	1,300,000
No <sub>x</sub>		

Remarks: Initial request time specific (1600 – 2359) to support late night operations to North America.

Potential City Pairs: Mumbai to North American cities



**ATS ROUTE NAME:** *IND 09*

**REQUESTED BY:** IATA

**Date:** 01/01/2013

**ENTRY/EXIT POINT**

TELEM – BBB

**ROUTE DESCRIPTION**

**TELEM – BHJ (Bhuj) – RKT (Rajkot) -  
BBB (Mumbai)**

**FLIGHT LEVEL BAND**

**29000 – 46000**

**PRIORITY: HIGH/MED/LOW**

**HIGH**

**CHART**



Action Required	IATA
	ICAO

Saving	Per flight	Annual potential
Mileage / Time	35nm / 5 min	
Fuel	300 kg	4,953,577kg
CO <sub>2</sub>	945 kg	15,603,766Kg
No <sub>x</sub>		
SO <sub>2</sub>		

Remarks: Facilitates Arrivals in to Mumbai, Bangalore from Europe. Reduces congestion around AMD with respect to BOM DEL BOM busy corridor, will assist CDOs that will add further fuel savings. (Route proposed at ANSCG Delhi meeting on 28/11/2008.)

Potential City Pairs: Europe / BOM, BLR

**ATS ROUTE NAME:** *IND10*

**REQUESTED BY:** IATA

**Date:** 01/01/2013

**ENTRY/EXIT POINT**  
AAE- RASKI

**CHART**

**ROUTE DESCRIPTION**  
AAE (Ahmadabad) –  
MORVI- RASKI

**FLIGHT LEVEL BAND**  
29000 – 46000

**PRIORITY:**  
HIGH/MED/LOW  
HIGH



Action Required	IATA
	ICAO

Saving	Per flight	Annual potential
Mileage / Time	173 nm / XX min	
Fuel	kg	kg
CO <sub>2</sub>	kg	Kg
No <sub>x</sub>		
SO <sub>2</sub>		

**Remarks:** Facilitates From / To Ahmadabad Middle East and overflying traffic between Far East Asia to Middle East.

Potential City Pairs: AMD, DAC, HKG, PVG, BJS / Middle East

**ATS ROUTE NAME: IND11**

REQUESTED BY: IATA

Date: 01/01/2013

**ENTRY/EXIT POINT**  
DPN – FKG and DPN KAMUD

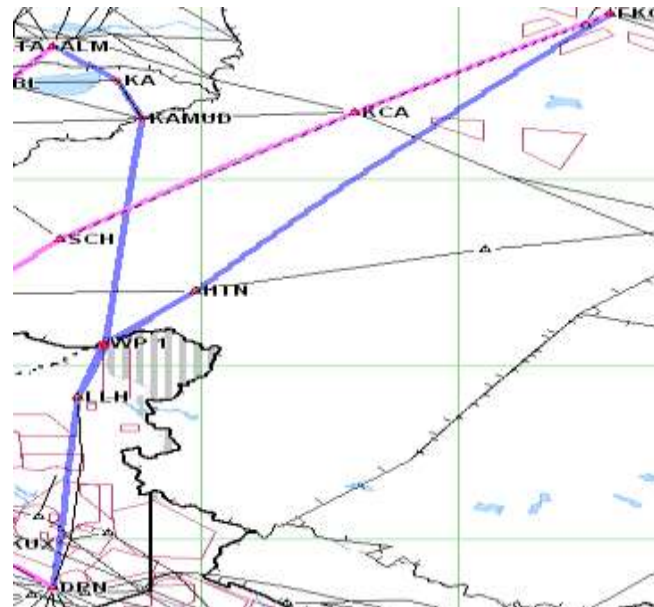
**ROUTE DESCRIPTION**

1. DPN (Delhi) – LLH(Leh) – WP1 (N3532.5 E07800.0) – HTN (Hotan) – FKG (Fukang)
2. DPN (Delhi)- LLH (Leh) – WP1 (N3532.5 E07800.0) – KAMUD – KA (Karakol) – ALM (Almaty)

**FLIGHT LEVEL BAND**  
29000 – 46000

**PRIORITY: HIGH/MED/LOW**  
**HIGH**

**CHART**



Action Required	IATA
	ICAO

Route 1:

Saving	Per flight	Annual potential
Mileage / Time	304 nm / XX min	
Fuel	kg	kg
CO <sub>2</sub>	kg	Kg
No <sub>x</sub>		
SO <sub>2</sub>		

Route 2:

Saving	Per flight	Annual potential
Mileage / Time	257 nm / XX min	
Fuel	kg	kg
CO <sub>2</sub>	kg	Kg
No <sub>x</sub>		
SO <sub>2</sub>		

Remarks: With Entry of Dreamliner aircraft that removes Passenger Oxygen system constraints in case of de-pressurisation, Flying over Himalayan high terrain is feasible. Proposed route will facilitate joining Polar Gateway at GOPTO as well as to the North Asian, Mid Asia routes onwards joining trans polar routes.

**ATS ROUTE NAME:** *IND 12*

**REQUESTED BY:** IATA

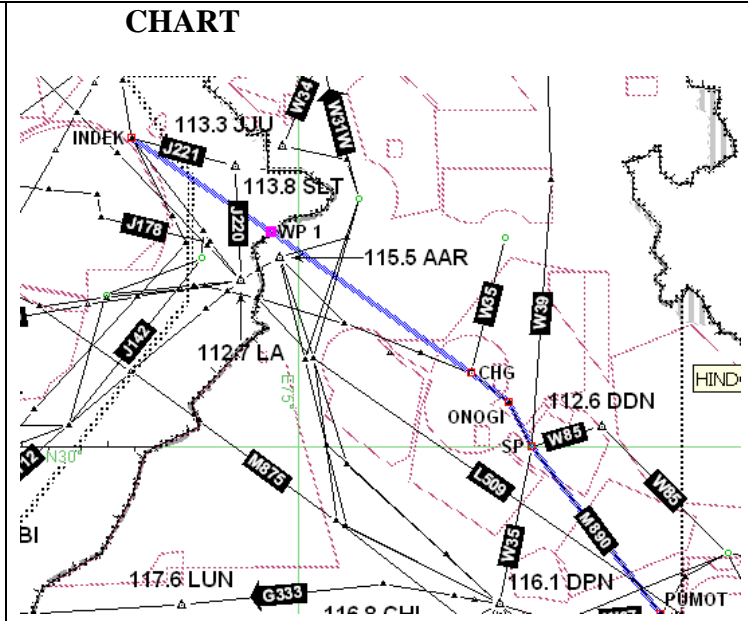
**Date:** 01/01/2013

**ENTRY/EXIT POINT**  
INDEK – CHG

**ROUTE DESCRIPTION**  
INDEK – WP1  
(PAKISTAN/INDIA) – CHG  
(Chandigarh)

**FLIGHT LEVEL BAND**  
29000 – 46000

**PRIORITY:**  
HIGH/MED/LOW  
HIGH



Action Required	IATA
	ICAO

Saving	Per flight	Annual potential
Mileage / Time	10 nm	
Fuel	Kg	
CO <sub>2</sub>	kg	
No <sub>x</sub>		
SO <sub>2</sub>		

Remarks: Route will facilitate separating overflying traffic from Delhi ARR/DEP traffic, especially when L509 closes. Although small distance savings but it will help in reducing traffic congestion and facilitating Optimum flight levels.

Potential City Pairs: Europe / South East Asia/ South Asia

**ATS ROUTE NAME:** PAK01

**REQUESTED BY:** IATA

**Date:** 01/01/2013

**ENTRY/EXIT POINT**  
Karachi (KC) – MELOM

**ROUTE DESCRIPTION**  
Direct KARACHI (KC) to MELOM

**FLIGHT LEVEL BAND**  
29000 – 46000

**PRIORITY: HIGH/MED/LOW**  
HIGH

**CHART**



Action Required	IATA
	ICAO

Saving	Per flight	Annual
Mileage / Time	12 nm / 2 min	
Fuel	100 kg	379,600kg
CO <sub>2</sub>	307 kg	1168 tonnes
No <sub>x</sub>		
SO <sub>2</sub>		

Remarks: Supports traffic South Asia – Europe, Middle East region

Potential City Pairs: South Asia – Europe

**ATS ROUTE NAME: THA1**

REQUESTED BY: IATA

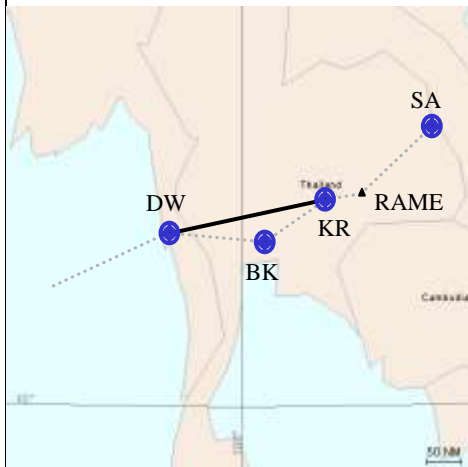
**ENTRY/EXIT POINT  
KRT / DWI**

**ROUTE DESCRIPTION  
KRT .. DWI**

**FLIGHT LEVEL BAND  
28000 – 46000 feet**

**PRIORITY: HIGH/MED/LOW**

**CHART**



Action Required	IATA
	ICAO

Saving	Per flight	Annual
Mileage / Time	15nm/ 2min	
Fuel	245kg	89,000kg
CO <sub>2</sub>	750kg	274,000kg
No <sub>x</sub>		

**Remarks:**

Potential City Pairs: Far East / Africa

**ATS ROUTE NAME:** IDO1

**REQUESTED BY:** IATA

**ENTRY/EXIT POINT**  
**SJ / MABIX**

**ROUTE DESCRIPTION**  
**SJ .. MABIX**

**FLIGHT LEVEL BAND**  
**28000 – 46000 feet**

**PRIORITY:** HIGH/MED/LOW

**CHART**



Action Required	IATA
	ICAO

Saving	Per flight	Annual
Mileage / Time	16nm/ 2min	
Fuel	260kg	95,000kg
CO <sub>2</sub>	800kg	292,000kg
No <sub>x</sub>		

**Remarks:** This route supports traffic from SIN to CBI, TVM and an alternative to the Middle East. It provides a 10 nm reduction in track mileage (16nm if traffic route via MDN).

Potential City Pairs: SIN/CMB/TRV/ Middle East

**ATS ROUTE NAME:** COL 1

**REQUESTED BY:** IATA

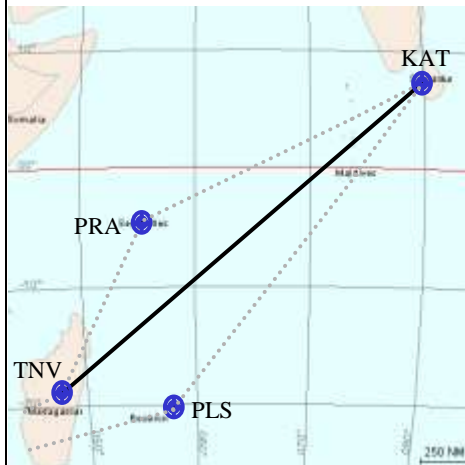
**ENTRY/EXIT POINT**  
KAT / TNV

**ROUTE DESCRIPTION**  
KAT .. TNV (ANTANANARIVO)

**FLIGHT LEVEL BAND**  
28000 – 46000 feet

**PRIORITY:** HIGH/MED/LOW

**CHART**



Action Required	IATA
	ICAO

Saving	Per flight	Annual
Mileage / Time	130nm /16 min	
Fuel	2110kg	770,000kg
CO <sub>2</sub>	6,500kg	2,370 tonnes
No <sub>x</sub>		

**Remarks:** This proposal supports traffic between THA/HKG/ South China and Southern Africa.

Update User Preferred Route (UPR) geographic area established which will support the same traffic flow however this proposal needs to be retained in the short term for aircraft not equipped with ADS-C/CPDLC.

Potential City Pairs: TNR / South East Asia



**ATS ROUTE NAME:** Himalaya 1

Requested by Nepal

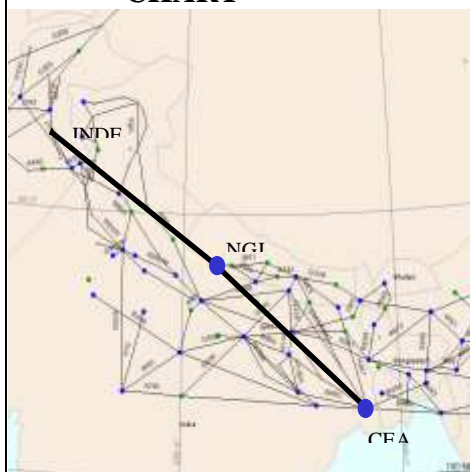
**ENTRY/EXIT POINT**  
**XXXXX**

**ROUTE DESCRIPTION**  
**Kolkata (CEA) .. Nepalgunj (NGJ) ..**  
**INDEK**

**FLIGHT LEVEL BAND**

**PRIORITY: HIGH/MED/LOW**

**CHART**



Action Required

States to coordinate implementation.

Benefit

Cost

Fuel Saving

Emission	CO <sub>2</sub>
	NO <sub>x</sub>

Remarks: The extension to L509 serves the purpose at present although is only available for limited hours daily. The availability of another route to the north will provide extra capacity but will need to be amended to link with a new transit route through Kabul.

**ATS ROUTE NAME:** Himalaya 2

Requested by : Nepal

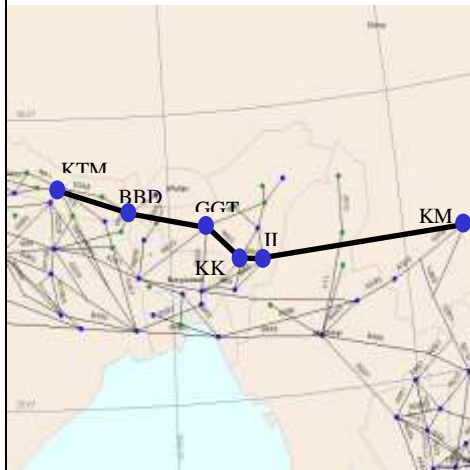
**ENTRY/EXIT POINT**  
**XXXXX**

**ROUTE DESCRIPTION**  
**Kathmandu (KTM) .. Baghdogra (BBD)**  
**.. Guwahati (GGT) .. Silchar (KKU) ..**  
**Imphal (IIM) .. Kunming (KTM)**

**FLIGHT LEVEL BAND**

**PRIORITY: HIGH/MED/LOW**

**CHART**



Action Required	States to coordinate implementation.
	.

Benefit		
Cost		
Fuel Saving		
Emission	CO <sub>2</sub>	
	NO <sub>x</sub>	

Remarks : The route has been implemented except for Imphal to Kunming which China had undertaken to review (as per current remarks). China advised that they would seriously look at the proposal and would coordinate with Nepal (ref. para 8.4of the SEA-RR/TF/4 report). This was also presented at the 22<sup>nd</sup> Meeting of the BBACG.