



**12<sup>th</sup> Meeting of Arabian Sea-Indian Ocean ATS Coordination Group ASIOACG/12) & 8<sup>th</sup> Meeting  
of Indian Ocean Strategic Partnership to Reduce Emissions (INSPIRE/8)  
New Delhi, India, 20 - 21 September 2017**

**AGENDA ITEM 2: Update from ANSPs, Airspace Users & other industry organizations including updates on open action items from previous meetings**

**ECONOMIC IMPACT OF FLAS WITHIN THE MUMBAI FIR**

(Presented by Kenya Airways)

**SUMMARY**

This paper presents the issues faced by Kenya Airways (KQ), the national airline of Kenya, in the MUMBAI FIR when operating flights to Mumbai, Bangkok and Hanoi. Due to the imposition of a Flight Level Allocation Scheme (FLAS), KQ flights are required to plan at non-optimum levels and consequently the airline incurs a substantial fuel penalty.

**1. INTRODUCTION**

1.1. Kenya Airways operates 14 weekly flights to Mumbai (VABB), 7 weekly flights to Bangkok and 3 weekly flights to Hanoi. These are 28 movements to and from Mumbai on B738, 14 movements to and from Bangkok on B788 and 6 weekly movements to and from Hanoi on B788. These flights operate along the AWY G450 between ORLID & BBB for flights to and from Mumbai, ORLID & MELAX for flights to and from Bangkok and ORLID & DIVTA for flights to and from Hanoi. Due to the FLAS, Eastbound flights from Nairobi are required to be planned at a Non Optimum Flight Level 330 prior to entering Mumbai FIR and westbound flights are allocated FL 320. These two Flight Levels are very restrictive and have significant Economic impact on our cost of operations.

**2. DISCUSSION – FUEL IMPACT ON KENYA AIRWAYS**

2.1 Below is the fuel impact on Kenya Airways

ORIGIN	DEST	A/C	FLAS	OPTIMUM	LOSS	WEEKLY FREQUENCY	ANNUAL FUEL (Kg)	COST (USD)
NBO	BOM	B738	19,200	18,970	230	14	167,440	100,464
BOM	NBO	B738	19,470	19,390	80	14	58,240	34,944
NBO	BKK	B788	53,410	52,650	760	7	276,640	165,984
BKK	NBO	B788	55,560	54,830	730	7	265,720	159,432
NBO	HAN	B788	53,650	52,400	1,250	3	195,000	117,000
HAN	NBO	B788	60,360	59,070	1,290	3	201,240	120,744
							1,164,280	698,568

This is 1,165 Tons of fuel wasted and 3,700 Tons of CO<sub>2</sub> unnecessarily emitted to the environment.

- 2.2 During ASIOACG 11 – INSPIRE 7 Meeting held in Magaliesberg, South Africa on 16-18 November, 2016 and AFI/APAC/MID ATM/SCM Meeting held in Mumbai on 19-20 January 2017, Air Mauritius presented Working Papers showing the negative effects of FLAS on their operations. This was supported by Kenya Airways in both meetings.
- 2.3 From Mid-November 2016, the available Even Flight Levels were revised from FL300 to FL320 while odd Flight Level was revised from FL310 to FL330. This has provided relief for the EAST-WEST operations. Experience from the last ten months shows that this adjustment has not caused any safety issues – the main reason for imposing FLAS.
- 2.4 As noted by Air Mauritius, Kenya Airways data also reveal that Mumbai can provide optimum flight levels. Between Jun and August, 2017, 62% of the West-Bound Flights got levels between FL340 and FL380 while 38% of East-Bound Flights got levels between FL350 and FL370.

### **3. ACTION BY THE MEETING**

- 3.1 The meeting is invited to:
- a) Take note of the information contained in this paper.
  - b) Take note that the continued implementation of FLAS imposes a great challenge on the contribution of the African airlines to a clean atmosphere as envisaged by the INSPIRE program.
  - c) Discuss the suggestion to progressively revise the flight levels available to from FL320 and FL330 to FL340 and FL350 respectively as suggested during the Magaliesberg meeting and supported by data presented by this paper and the Working Paper presented by Air Mauritius during the AFI/APAC/MID Meeting held in Mumbai in January, 2017.

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