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Kenya Airways
The Pride of Africa

FREE ROUTE AIRSPACE –AFRICA

Kenya Airways(KQ)

KENYA AIRWAYS

- **Introduction: UPR TRIALS AFRICA**

- ☐ The Free Route Airspace, Africa trials were inaugurated during the November 2023 AFRAA/FRA Meeting in Addis Ababa.
- ☐ 1st Trial coordinated and performed on KQ508 NBOACC on the **2nd November 2023.**
- ☐ On the initial flight , there was no significant saving as the Normal routing is almost **as direct as the created UPR.**



KENYA AIRWAYS

- **Introduction: UPR TRIALS AFRICA**

- ☐ Further Trials done on :
 - ☐ NBO-ABJ-NBO Routes
 - ☐ NBO-CPT-NBO Routes



KENYA AIRWAYS UPR TRIALS

- Status of the Trials performed for 2024

Date	City Pair	Flight	Aircraft	Comment
30-Jan-24	NBOABJ	KQ520	B738	Operated almost as planned
06-Feb-24	NBOABJ	KQ520	B738	STAR cleared different from planned
08-Feb-24	NBOABJ	KQ520	B738	Rerouted in EBB FIR due HUP10, STAR cleared different from planned
14-Mar-24	NBOABJNB O	KQ520/521	B738	FL planned not cleared during the trial
16-Mar-24	NBOABJNB O	KQ520/521	B738	
19-Mar-24	ABJNBO	KQ521	B738	Flight not flown as per plan due Wx
21-Mar-24	NBOCPT	KQ784	B788	Restricted to FL400 and above

KENYA AIRWAYS UPR TRIALS

- Status of the Trials performed for 2024

Date	City Pair	Flight	Aircraft	Comment
25-Apr-24	NBOABJNBO	KQ520/521	B738	Significantly improved coordination by the ATC Units
27-Apr-24	NBOABJNBO	KQ520/521	B738	Significantly improved coordination by the ATC Units
30-Apr-24	NBOABJNBO	KQ520/521	B738	Significantly improved coordination by the ATC Units

KENYA AIRWAYS UPR TRIALS

• Initial Feedback – NBOABJ Route

- One of the flights in one of the FIRs was initially denied to fly the UPR route but later rerouted back on the UPR. This was sorted for subsequent flights.
- Due to the fact that the routes were direct, the FIRs Entry / Exit and reporting points were given as **Latitude and Longitudes** positions which were difficult for the ATC units without Radar to ascertain the actual position of the aircraft. To mitigate this the crew gave the positions in relation to **abeam known positions.**
- During the trials most of the ATC units were very helpful in facilitating the UPR Routes while a few units, information on the trials had not been well coordinated.



KENYA AIRWAYS UPR TRIALS

• Feedback-NBOABJ Route

- Some distances from one point to another were too far apart for the initial routes thus affecting the fuel checks. This was corrected by adding position reports in between for the next trial.
- Due to weather build up in some areas, the flights requested for rerouting to circumvent the weather thus fuel requirement was higher than the planned.
- Due to level restrictions and changes in the planned STAR in some cases, the fuel requirement was higher than the planned.



KENYA AIRWAYS UPR TRIALS

- Feedback-NBOCPT Route**

- Very restrictive ATC conditions we had to change the initial trial date due to equipment capability as the Flight was to be operated **at or above FL400. B788**
- Going South on the UPR route there was quite a significant saving on the burn-off.
- Some ATC units were not aware of the trial as planned despite the ATC being filed accordingly.



KENYA AIRWAYS UPR TRIALS

- Fuel Analysis-NBOABJ Route**

	30th Jan		6th Feb		8th Feb	
	Normal	UPR	Normal	UPR	Normal	UPR
Planned Flight Time	06:04	05:59	05:45	05:38	05:44	05:40
Actual Flight Time		06:05		05:36		05:43
Min Fuel	20100	19950	18960	18980	18090	18300
FP Distance - Nm	2503	2502	2503	2502	2503	2502
Planned Burn Off	16366	16523	15361	15387	13866	14038
Actual Burn Off		16110		15460		14396
Fuel Saving (Kgs)		256		-99		-530
CO2 saving		808.96		-312.84		-1674.8
Cost saving (USD)		250.52		-98		-518.66



KENYA AIRWAYS UPR TRIALS

Fuel Analysis-NBOABJ Route

	14th March	KQ520	14th March	KQ521	16th March	KQ520	16th March	KQ521	19th March	KQ520
	Normal	UPR	Normal	UPR	Normal	UPR	Normal	UPR	Normal	UPR
Planned Flight Time	05:51	05:59	05:54	05:54	05:49	05:49	05:44	06:00	06:00	05:59
Actual Flight Time		05:51		05:51		05:43		05:41		05:53
Min Fuel	18959	18067	16410	16470	19060	19130	18480	18360	18930	18920
FP Distance - Nm	2503	2512	2508	2513	2503	2512	2508	2502	2503	2513
Planned Burn Off	14585	14696	13583	13639	15474	15547	15369	15259	15481	15588
Actual Burn Off		14510		13450		15240		15430		15790
Fuel Saving (Kgs)		75		133		234		-190		-309
CO2 saving (Kgs of CO2e)		237		420.28		739.44		-600.4		-976.44
Cost saving (USD)		73.6		141.29		229.64		-201.84		-303.24

KENYA AIRWAYS UPR TRIALS

Fuel Analysis-NBOCPT Route

	21st March	KQ784
	Normal	UPR
Planned Flight Time	05:07	05:04
Actual Flight Time		04:50
Min Fuel	34580	34110
FP Distance - Nm	2280	2275
Planned Burn Off	23616	23161
Actual Burn Off		22300
Fuel Saving (Kgs)		1,316
CO2 saving (Kgs of CO2e)		4158.56
Cost saving (USD)		1291.47

KENYA AIRWAYS UPR TRIALS

Fuel Analysis-NBOCPT Route

	3rd Sept	KQ784	3rd Sept	KQ785	5th Sept	KQ784	5th Sept	KQ785	7th Sept	KQ784
	Normal	UPR	Normal	UPR	Normal	UPR	Normal	UPR	Normal	UPR
Planned Flight Time	05:44	05:44	05:06	05:08	05:31	05:38	05:06	05:08	05:35	05:37
Actual Flight Time	05:44			05:08	05:31			05:08	05:35	
Min Fuel	20410	20540	15720	15640	19060	19130	15720	15640	18560	18630
FP Distance - Nm	2266	2272	2239	2253	2278	2284	2239	2253	2274	2284
Planned Burn Off	14000	14120	13585	13630	14474	15447	13580	13620	14481	14588
Actual Burn Off	14000			13450	14474			13620	14481	
Fuel Saving (Kgs)		0		80		0		80		0
CO2 saving (Kgs of CO2e)		0		237		0		240		0
Cost saving (USD)		0		76.5		0		76.8		0

KENYA AIRWAYS UPR TRIALS

Fuel Analysis-NBOCPT Route

	7th Sept	KQ785	10th Sept	KQ784	10th Sept	KQ785				
	Normal	UPR	Normal	UPR	Normal	UPR				
Planned Flight Time	05:11	05:11	05:34	05:38	05:13	05:14				
Actual Flight Time	05:11		05:34			05:14				
Min Fuel	16550	16590	19950	20120	16600	16550				
FP Distance - Nm	2239	2253	2278	2284	2239	2253				
Planned Burn Off	13000	13120	14585	14630	13474	13447				
Actual Burn Off	13000		14585			13447				
Fuel Saving (Kgs)		0		0		50				
CO2 saving (Kgs of CO2e)		0		0		60.5				
Cost saving (USD)		0		0		48.5				

KENYA AIRWAYS UPR TRIALS

- **Challenges**

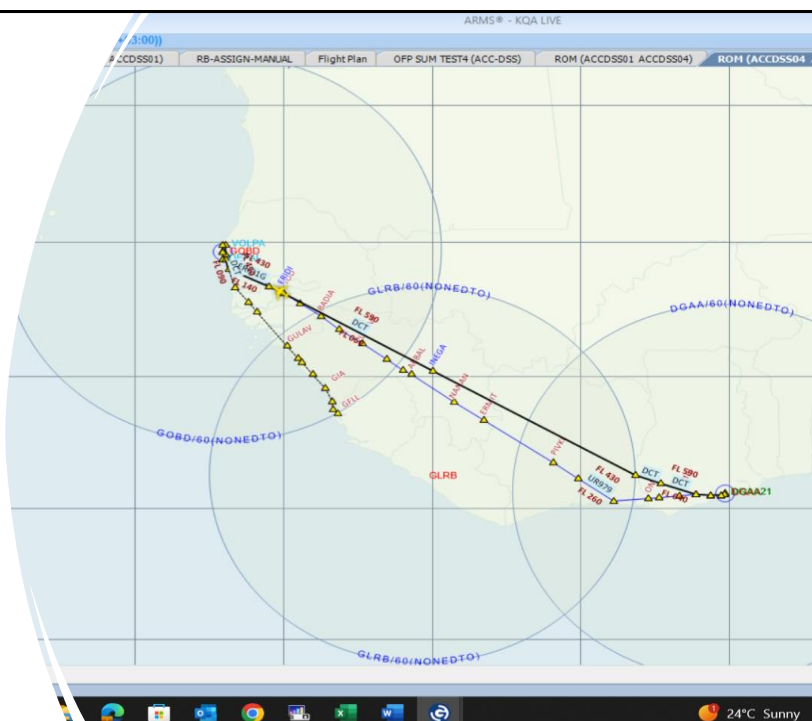
- FL restriction in FVHF FL400+ (B738 Capability)
- Some FIRs were still not aware of the trials
- Weather build up in West Africa leading to deviations
- Use of Latitude/Longitude positions were not embraced by the ATC units thus need to fly to a published FIR exit Waypoint
- Change of STARS from the planned.

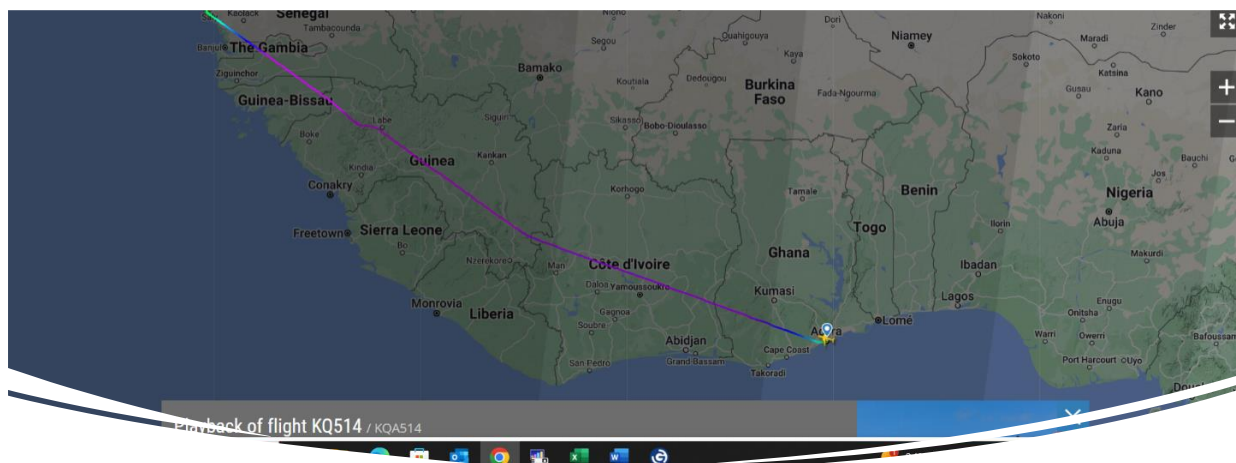


KENYA AIRWAYS UPR TRIALS

- **FRA ASECNA REGION – WEST AFRICA**

- KQ is enjoying the benefits of the FRA in West Africa. Time and Fuel





KENYA AIRWAYS UPR TRIALS

- FRA ASECNA REGION – WEST AFRICA
- KQ is enjoying the benefits of the FRA in West Africa

KENYA AIRWAYS UPR TRIALS

• Conclusion

- There is significant benefit in terms of fuel and time savings should the FRA be fully implemented for the entire Africa region.
- Most ANSPs have been very supportive during the trials

THANK YOU

Africa

33 destinations

