
From: [REDACTED]
Sent: 16 November 2023 21:14
To: [REDACTED]
Cc: [REDACTED]
Subject: Re: [EXTERNAL] RE: Potential fuel benefits

Good evening [REDACTED],

Sorry for the late reply but at least I'm coming to you with some numbers which will hopefully help you make an informed decision on the considered options.

Our Airnav department made a few tests on our typical city pairs ex EMA and STN and at first glance all the truncated SID options considered for EMA and STN (options 1 and 2) would produce fuel savings.

However STN option 3 (remove NUGBO/UTAVA SIDs and use BKY SID to BKY) would not and on the contrary could even result in extra fuel burn / flight time on short and medium hauls.

See below after the assessment and results obtained by our analyst:

East-Midlands

Typical [REDACTED] eastbound city pairs: EMA/[REDACTED]

I ran EGNX-LFPG:

With a FL90 restriction at DTY (current STAR), the FPS calculated 15,324 lbs. fuel.

When I shortened the FL90 restriction to D23 DTY (proposal), the FPS calculated 14,848 lbs.

Theoretically saved 972 lbs. by climbing sooner.

Stansted

Typical [REDACTED] eastbound city pairs: STN/[REDACTED]

I ran EGSS-LFPG:

With a FL50 restriction until DET (current STAR), the FPS calculated 14,729 lbs. fuel.

When I shortened the FL50 restriction to DET D25 (proposal), the calculation was 14,352 lbs.

Theoretically saved 377 lbs. of fuel.

(We only use the DET SIDs due to noise abatement).

Typical [REDACTED] Westbound city pairs: EGSS-[REDACTED] / EGSS-[REDACTED] / EGSS-[REDACTED]

Replacing NUGBO/UTAVA with a revised BEK SID. Will it save gas? One would think so, since the restriction at BKY would be shorter than at either NUGBO or UTABA. But apparently not the case in all scenarios.

I ran EGSS-[REDACTED]:

UTAVA SID to Q75, restricted to FL40 until UTAVA. Fuel 21,336.

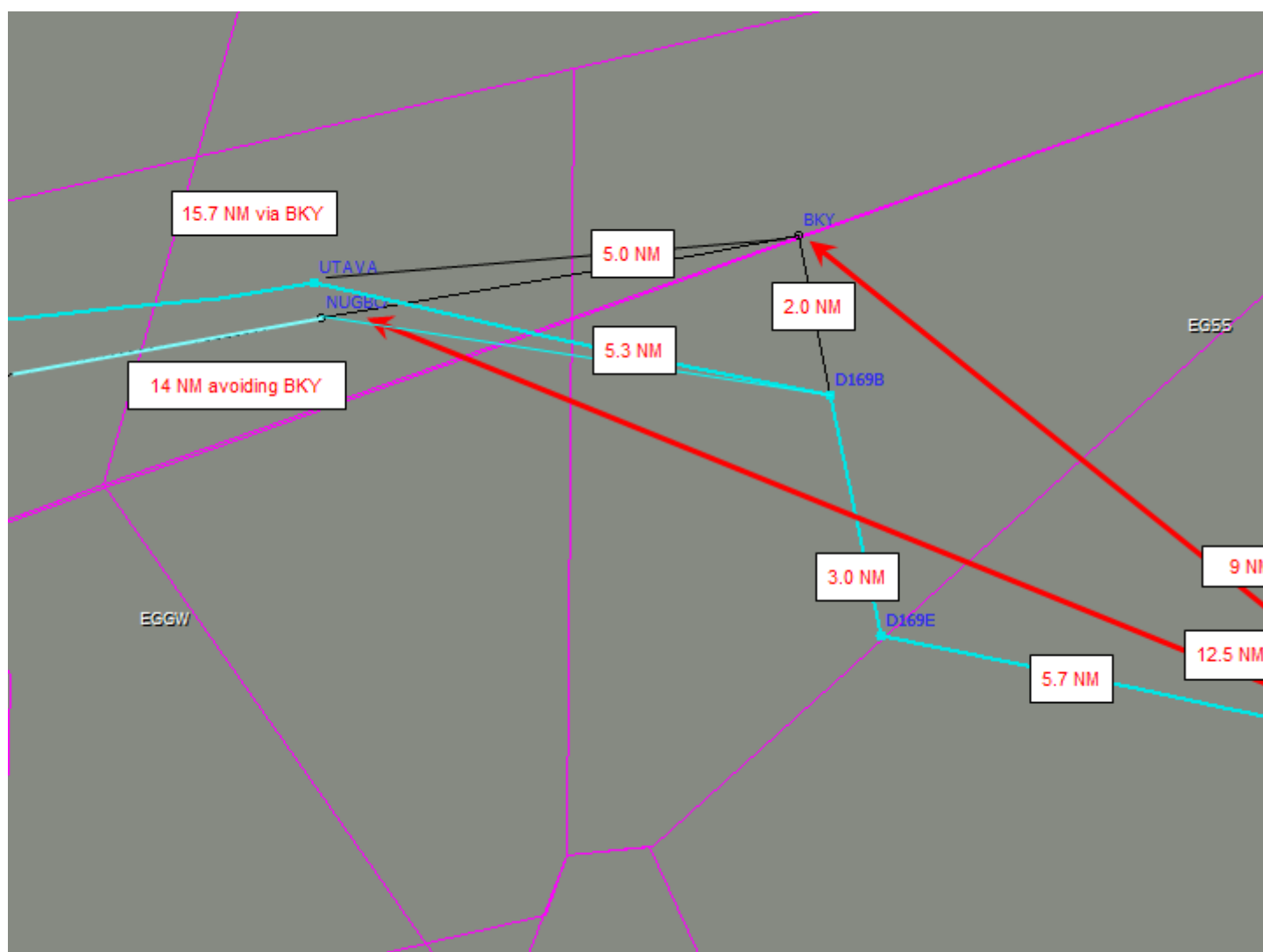
BKY SID to Q75, restricted to FL40 until BKY. Fuel 21,367.

Theoretically LOST 31 lbs. The flight time using BKY was a minute longer (see graphic).

NUGBO SID to M183, restricted to FL40 until NUGBO. 20,870 lbs.

BKY SID to M183, restricted to FL40 until BKY. Fuel 20,897.

Although the direct distance EGSS to BKY is shorter than EGSS to UTAVA or NUGBO, the route length is longer because the turn westbound is started at D169B.



Theoretically saved 369 lbs. The flight times were the same, probably because the route is so much longer that the 1 minute difference just evaporated.

In any case based on this assessment, ██████ would support the proposal to truncate the DTY SID in EMA and the DET/CLN SIDs in STN. But STN option 3 would require some closer analysis because as showed above it could allow some marginal fuel savings on our westbound long hauls to the US but also would result in a slight extra fuel burn / flight time on shorter flights to ██████

Rgds,