London Airspace Modernisation Programme 2, Deployment 1.1 (LD1.1) ACP-2017-70

Free Route Airspace Deployment 2 (FRA D2) ACP-2019-12

Consultation FAQs

This document is intended to provide quick answers to "Frequently Asked Questions" (FAQs). As such it is to be used in conjunction with all other consultation materials. All materials can be accessed on the consultation website here. The main source of reference for this consultation is the Consultation Document which can be viewed and downloaded from the consultation website. The consultation document is intended to provide all the detail necessary for stakeholders to understand the changes proposed, and give feedback as appropriate.

How might this affect general public stakeholders on the ground?

The changes proposed should have very little impact on stakeholders on the ground. The LD1.1 changes are all above 7,000ft (the majority are much higher) and FRA D2 changes are all above 24,500ft. Government guidance stipulates that due to the relatively minor impact that changes above 7,000ft have on stakeholders on the ground, consultation on such changes should be focused on aviation stakeholders.

How might this affect aviation stakeholders/airlines/MoD, users of the airspace?

Users of the airspace will see significant changes, which should be beneficial. In the systemised airspace (FL70-FL245/305) a new ATS route system will be introduced. This will enable a "file it – fly it" approach so that there is less tactical intervention and aircraft will fly the filed flight plan much more consistently. This will bring improvements in predictability for flight crews and should yield improved capacity of the airspace. Above FL245 (option 6) or FL305 (option 4) there will be Free Route Airspace (FRA) which enables flights to route to any point chosen point (subject to some restrictions). This will give airline operators more flexibility flight planning. The combination of the LD1.1 and FRA D2 changes will bring benefits in reduction of CO_2 emissions and fuel burn.

How might this affect sport/recreational/general Aviation stakeholders, & users of adjacent airspace.

The proposed airspace designs for both options require some changes to the volume of controlled airspace (CAS). As a part of the design process a widespread review of the CAS required has been undertaken. There have been some areas where new of controlled airspace has been necessary, and other areas where it has been possible to release CAS by reclassifying it as Class G (uncontrolled airspace).

On balance, the proposed changes will "release" much more airspace to Class G, than will be "taken". The net figure of airspace released is approximately 89 cubic nautical miles of CAS (below FL195). Hence users of the adjacent airspace would benefit since the amount of airspace available to them would be increased.

Why are there two consultations going on at the same time? How do these relate to each other?

The two airspace changes started out as separate independent ACPs. They cover almost the same geographical area, and are being implemented in the same time-scale. By implementing the two changes at the same time it will be possible to deliver benefit earlier. Also, this negates the need for a transitional state when one change has been implemented but not the other. This significantly reduces the cost of implementation (such as validation, safety assurance and training), and reduces the burden (and complexity) on stakeholders during the project.

The relationship is as follows, LD1.1 concerns the lower airspace and FRA D2 concerns the high-level airspace. However the outcome of the LD1.1 consultation will determine where the division is between the two. This is termed the Division Flight Level (DFL), and the two possible options are:

Option 4: DFL = FL305 (FRA starts above FL305)
Option 6: DFL = FL245 (FRA starts lower/earlier in flight, above FL245)

The ACPs are now interdependent, and as such if there is a delay in the process for one it will delay the implementation of the other. Option 6 is NATS preference, since it gives the greatest combined benefit.

Should I respond to both consultations?

Anyone can respond to either consultation and we encourage you to do so. However, in terms of relevance to you, the following are useful guidelines.

- Aviation stakeholder − if your operations include flights above FL245 you should respond to both.

- Sport/recreational/general Aviation stakeholder − LD1.1 relevant: you should respond.
                                            - FRA D2 − only relevant if you fly above FL245.

- General public/ stakeholder on the ground. Whilst you are at liberty to respond to either consultation, they are not likely to have any impact on you.

What are the fundamental questions that you want feedback on for the LD1.1 ACP?

Do you prefer the division flight level (DFL) between LD1.1 and the overlying FRA to be:

- FL305 (option 4) or

- FL245 (option 6) (NATS preference)?

What are the fundamental questions that you want feedback on for the FRA D2 ACP?

Which of the 3 main options do you prefer?

- FRA Option 1. In which all ATS routes are removed.   (NATS preference)

- FRA Option 2. In which the ATS route structure is partially maintained.

- FRA Option 3. In which the ATS route structure is maintained, but aircraft are not constrained to flight plan the routes within the FRA.

Also we request feedback on the buffer distance to be applied around Special Use Airspace (SUA) when calculating Flight plan buffer zones (FBZ).

What are the impacts of the proposed LD1.1 systemised routes on the air traffic flows for each airport?

A key benefit of systemisation is the increase to airspace capacity − the ability to route more aircraft through a similar volume of airspace. This is expected to deliver reduced air and ground delay, improvements in vertical profiles and increased resilience to disruption. We recognise that the introduction of systemisation will in some cases require aircraft to fly a different distance than they do today to join or leave these new routes. This means some aircraft will fly a shorter route than they do currently and some further. We also explained our expectation that while trade-offs are always part of redesigning airspace, we have attempted to minimise any negative impact whilst also having the additional offset or benefit brought by the concurrent introduction of Free Route Airspace. These airspace change proposals are the first step in a broad programme of change to modernise the en-route network and our systems, and as such, are a stepping stone to realising the full initiatives of the Airspace Modernisation Strategy and benefit in the future. As ever, your views are vital in helping us shape the final design.

We have provided the table below illustrating examples of changes summarised for each airport. Key things to consider when interpreting the data are that it is derived from a snap shot in time i.e. what would the difference have been if these changes had been in place on those particular days, with those particular routes flown by those specific types. We have been conservative in our analysis, using busy weekday samples when the airspace is more constrained due to military activity etc. Assumptions were used during the analysis, e.g. all aircraft fly in perfect accordance with procedures, which does not take account of the many tactical short cuts or early climbs which will continue to be available.

These broader contextual elements should be considered when assessing the proposals and responding to the consultations. We believe that the modernisation of the airspace, as proposed in these consultations, will benefit all of the airports that feed traffic into this critical part of the airspace network.

AIRPORT	FLOW	No of Flights in Baseline	Ave fuel difference per flight (Kg)	Ave track mileage difference per flight (nm)
BIRMINGHAM	DEPARTURE	12	0	1.8
	ARRIVAL	26	6	1.2
BOURNEMOUTH	DEPARTURE	1	13	5.3
	ARRIVAL	12	-1	1
BRISTOL	DEPARTURE	289	-1	-0.2
	ARRIVAL	308	5	0.9
CARDIFF	DEPARTURE	70	7	1.7
	ARRIVAL	74	8	1.6
EXETER	DEPARTURE	40	0	0.2
	ARRIVAL	36	-3	-0.9
FARNBOROUGH	DEPARTURE	8	2	1.7
	ARRIVAL	9	-65	-1.7
LIVERPOOL	DEPARTURE	20	12	3.3
	ARRIVAL	50	-2	1.2
LONDON CITY	DEPARTURE	9	-37	0.2
	ARRIVAL	13	50	9.6
LONDON GATWICK	DEPARTURE	109	-4	1.9
	ARRIVAL	69	0	0.1
LONDON HEATHROW	DEPARTURE	295	-7	1.3
	ARRIVAL	230	-25	1.1
LONDON LUTON	DEPARTURE	12	-19	-2.1
	ARRIVAL	3	-6	8
LONDON STANSTED	DEPARTURE	23	-63	-6
	ARRIVAL	19	5	1.3
MANCHESTER	DEPARTURE	88	1	1
	ARRIVAL	91	-11	0.7
NEWQUAY	DEPARTURE	23	-4	-0.8
	ARRIVAL	26	2	0.6
SOUTHAMPTON	DEPARTURE	13	-7	1.3
	ARRIVAL	12	1	-1.2
SOUTHEND	DEPARTURE	9	-15	-2.9
	ARRIVAL	8	50	10.8

Airport arrivals and departures analysed using traffic sample for 3 days in June/July 2018 (westerly operations).

Colour coding key:

Fuel
- Black = Less than +/-5kg difference (marginal)
- Green = average reduction in fuel burn of more than 5Kg per flight
- Red = average increase in fuel burn of more than 5Kg per flight

Track mileage
- Black = Less than +/-1nm difference (marginal)
- Green = average reduction in track mileage of more than 1nm
- Red = average increase in track mileage of more than 1nm per flight

Note: Extended track mileage can still result in overall fuel benefit where vertical profiles can be improved.

Airline Question: What will happen to the Standard Route Document (SRD) when FRA is introduced? And as we use a lot of stored PRED I like the idea of keeping the AWY routes and over laying the FRA as we have 1000s that can be blended over a longer period of operations rather than being dumped after a particular AIRAC?'

We will continue to publish the SRD updates each AIRAC and it will look very similar to today. The difference will be for entries which contain a FRA portion, we will be inserting a new indicator <FRA> to indicate that this portion of routeing is FRA airspace and that the operator may file DCT or via any FRA relevant waypoint in that portion.

Where waypoints are mandated to be used in certain situations, this will also be reflected in the SRD. There are likely to be a high number of mandated waypoints within the West FRA volume. Consequently, there may be less opportunity to insert the <FRA> indicator and a greater number of routes promulgated as waypoint DCT waypoint within the West airspace.

The map below shows some example FRA routings. The table below shows how these routings could be described in the SRD.

Example FRA routings
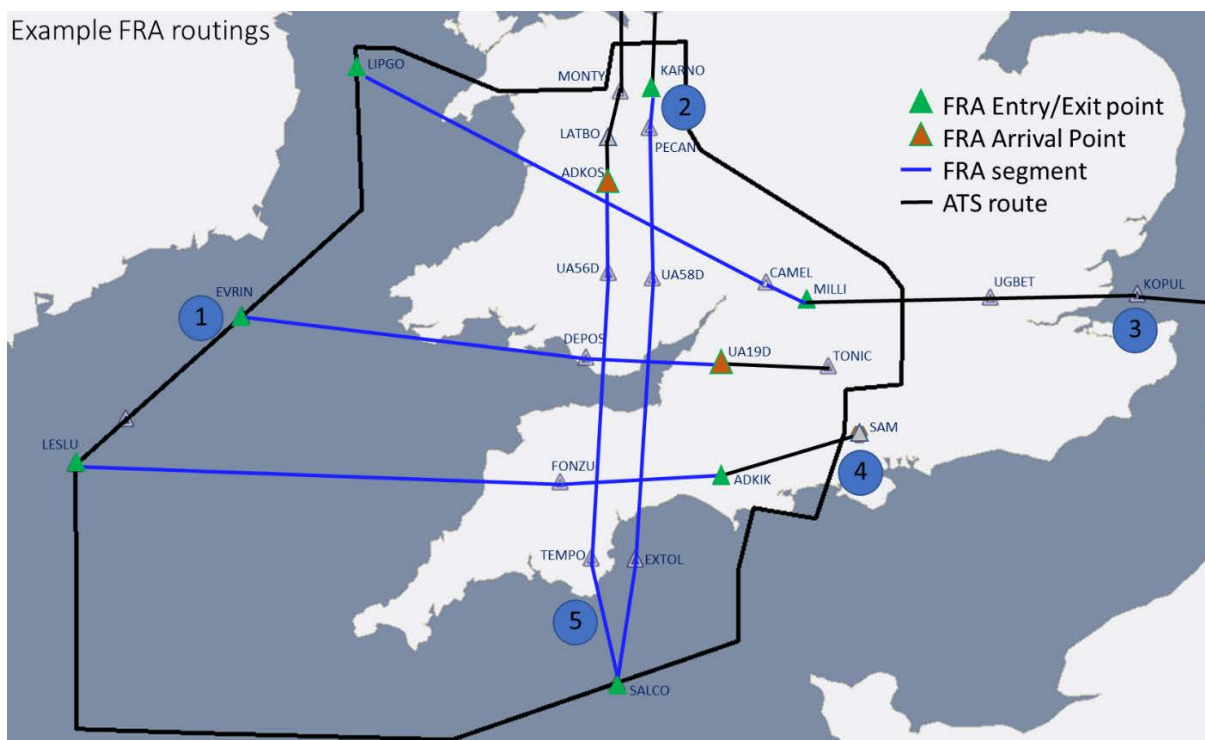
Ref	Route	Example FRA routing	Example SRD routing with mandated waypoints
1	Eastbound EVRIN – EGLL	EVRIN <FRA> UA19D P2 TONIC TONIC1H EGLL	EVRIN DCT DEPOS DCT UA19D P2 TONIC TONIC1H EGLL
2	Southbound EGNT – SALCO	KARNO <FRA> SALCO	KARNO DCT PECAN DCT UA58D DCT EXTOL DCT SALCO
3	Westbound KOPUL – LIPGO	RAPIX L610 KOPUL Q60 UGBET UA50E (ROUTE B) MILLI <FRA> LIPGO	RAPIX L610 KOPUL Q60 UGBET UA50E (ROUTE B) MILLI DCT CAMEL DCT LIPGO
4	Westbound EGKK – LESLU	SAM N19 ADKIK <FRA> LESLU	SAM N19 ADKIK DCT FONZU DCT LESLU
5	Northbound SA LCO – EGGP	SALCO <FRA> ADKOS P16 MONTY	SALCO TEMPO UA56D ADKOS P16 MONTY

KEY: FRA ENTRY POINT   FRA ARRIVAL POINT   FRA EXIT POINT

Where traffic is joining/leaving FRA to/from an airfield for which there are mandated FRA arrival/departure connecting routes promulgated in the RAD Pan Europe, then this mandated portion will be displayed in the SRD entry, from the FRA Arrival/Departure Points as shown in Example 1 & 5.

For LD1.1 & FRA D2, it may be that there are specific RAD mandated DCTs to avoid danger areas when active. If this is the case, then it is likely that we will publish these as full route strings (waypoint DCT waypoint) in the SRD.

KEY: FRA ENTRY POINT   FRA ARRIVAL POINT   FRA EXIT POINT