FARNBOROUGH AIRPORT

FARNBOROUGH AIRPORT FASI-S AIRSPACE CHANGE PROPOSAL

ACP-2022-038

Appendix D -

Frequently Asked Questions Document

VERSION 3.0

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1.0	December 2022
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FARNBOROUGH AIRPORT

Frequently Asked Questions - Stage 2 (May 2024)

CAP1616 Process & Methodology

Q. Are you liaising with Heathrow & Gatwick Airports?
A. Heathrow and Gatwick are stakeholders for our ACP and vice versa. They have been invited to our Stage 2 engagement workshops and we are also conducting regular technical bi-lateral meetings with them, other FASI airports and NATS NERL.

Q. How is safety measured and is there any vulnerability with PBN routes and jamming?
A. Safety is difficult to measure. We have to demonstrate that the design is tolerably safe and no less safe than today's operations. We will not be able to do that, until our final ACP submission. At the earlier stages, we will assess safety by looking at our options and consider the potential impacts on ATC workload, controlled airspace and traffic patterns inside and outside CAS.

Farnborough already has an airspace design predicated on PBN, so have already had to demonstrate to the CAA what the fallbacks and mitigations are for any issues. All sponsors will have to have contingency procedures in place for if GPS jamming was an issue.

Q. Do the airports have equal weighting with each other/what happens if two airports want the same airspace?
A. Where competing demands for airspace exists, there is a process that considers the cumulative impacts of multiple airports' options and provides transparency around the trade-offs made in any design conflict resolution. This process will be worked through in Stage 3.

Design Principles & Baseline

Q. Are the design principles prioritised?
A. Yes. More information on our design principles and the priority is available in our Stage 1 Submission documents, here.

Q. What is the baseline for the newly overflown referenced in the Design Principles?
A. In Stage 1, we said that our Stage 2 baseline would take account of the results of the Post Implementation Review (PIR) of the CAP725 ACP. However, we have not yet got the outcome from the CAA yet. Information from the CAA is that the "Do Nothing" baseline can only be based on the current position known at the time, which is the existing airspace. Note the Design Principle Evaluation is a qualitative assessment only.
If the PIR results in a change to the existing airspace is required, then the baseline will need to be updated.

Q. Can you clarify DP7, "Make best use of Farnborough's modern aircraft fleet capabilities"? Are you referring to new aircraft technologies yet to be implemented?
A. We are referring to technologies that exist but are not utilised within Farnborough's existing airspace design.

Q. When will you be sharing the methodology used for assessing certain aspects, such as safety, which you state in Design Principle 1?
A. The methodology for our Design Principle Evaluation will form part of our Stage 2 submission to the CAA which will be available on the CAA's Airspace Change Portal, shortly after submission to the CAA.

Q. Please could you identify the airfields which make up the "clutch airfields" which is referred to in the design principles etc?
A. The Farnborough Clutch traffic is now known as the Wessex group of Airports which are Odiham, Lasham, Fairoaks, Blackbushe and Dunsfold. The DPs are specifically referring to the handling of traffic to/from those airports which are joining or leaving controlled airspace.

Q. Some of the options are incompatible with some design principles, so why have they been produced?
A. Our options were designed to explore multiple competing demands/principles i.e. improved operational performance, a reduction in population numbers affected by noise, a reduction in CO_2 emissions per flight, a reduction in the volume of CAS, minimise overflight of AONBs and National Parks and so on.

In airspace design, it is highly unlikely that a single option can address all these demands to the maximum extent. Therefore, the airspace design process seeks to enable sponsors to investigate a series of different options that meet each principle to a greater or lesser extent. It is inevitable that where one option may fully meet Principle X it may only partly meet Principle Y, and another option vice-versa. Our goal is to arrive at a final proposal that best balances the series of competing demands and in order to do that, options need to be created at the outset that may be undesirable against a single objective. As we progress through the Initial Appraisal (Stage 2), network integration, Full Options Appraisal, consultation (Stage 3) and refinement (Stage 4), designs will be whittled down and/or merged to combine the optimal components of different options.

Farnborough Airport PIR & Planning Permission

Q. What impact does the current planning application to increase movements at Farnborough Airport have on this airspace change proposal?
A. There are no dependencies between the Planning Application and this ACP or vice-versa. However, in Stage 3 when we produce our Full Options Appraisal, this will need to consider the forecast movements based on the decision from Rushmoor Borough Council. Please see slides 19-21 of our first Stage 2A engagement pack for the effect on forecast movements with and without planning consent.

Q. Will the airspace design be fit for purpose if the planning application is approved?
A. Annual movements are largely irrelevant for airspace design. What is relevant is the hourly movements, as the airspace needs to be able to accommodate a certain number of movements per hour. The peak hourly movement is the significant factor, and that is what the airspace design will ultimately be tested against.

Q. The expansion of Farnborough airport and this process cannot be dealt with in isolation. Are there are assumptions that you have made regarding the potential increase of flights?
A. No assumptions have been made at this stage. See previous answers.

Local Area/AONB Impacts

Q. Has any consideration been given to population density or protected landscapes/AONBs at this stage?
A. Yes, our Design Principle Evaluation and also our Initial Options Appraisal will consider these factors. We are aware of potential changes to the Surrey Hills AONB. We will use the latest official boundaries in our assessments. At this time, we expect our Full Options Appraisal in Stage 3 will take place after formal changes to the Surrey Hills boundaries have been consented.

Q. How will future planned developments be accounted for?
A. We do have to account for any future developments in Stage 2. This information will be part of our Stage 2 submission. As we move into Stage 3, we will start to gather more detailed information which can be added to household counts for the Full Options Appraisal.

Noise/Metrics

Q. What metrics will be used to assess noise; rural areas need to be accounted for?
A. The metrics used to assess noise are taken from CAP1616 Edition 4. This places most focus on the population numbers within the LOAEL (Lowest Observed Adverse Effect Level) which are those communities closest to the airport and are therefore considered to be most adversely effected. We also produce information on population within 60 and 65dB L_{AMax} contours as well as the number of people overflown although the latter is not a measure of noise. We may be able to produce different noise metrics beyond those required by CAP1616 however these are not part of CAA's decision-making metrics.

Q. Do you show the difference between housing and noise sensitive receptors such as schools/hospitals?
A. Yes, we produce counts of noise sensitive receptors such as schools and hospitals although the fidelity of the information increases as we progress through the process.

Q. Why are noise contours only around the airport itself?
A. Certain noise contours are required by the CAP1616 process and contours shown are the LOAEL, the Lowest Observed Adverse Effect Level, where the most frequent aircraft movements take place. This contour is the (51db day/45db night) which typically covers aircraft up to 4000ft above the ground. If you are outside of this contour, you are not considered adversely effected by noise. Farnborough's LOAEL contours don't extend more than 3nm from each runway end. However, we also produce N60 and N65 noise contours which provide information on the number of events exceeding 60dB/65dB in those areas. These contours extend further from the airport than the LOAEL.

Q. How do noise footprints vary according to aircraft type?
A. Noise footprints are driven by the frequency of aircraft, height of aircraft and type of aircraft. Heavier, noisier, older aircraft will produce a bigger noise contour. Therefore, we must show a "Do Nothing" baseline of what would happen in the future if we don't carry out the ACP, alongside the baseline of what we expect with the proposal. This is so the airspace change doesn't claim any benefits associated with the quieter aircraft of the future.

Q. Do you have a standard aircraft that you use for noise modelling?
A. LOAEL contours will be produced in Stage 3. For Stage 2 we will produce single sound event contours for the most frequent aircraft type at Farnborough, the Global Express business jet.

Q. Has continuous climb been modelled for noise impacts?
A. Some of our options do assume that aircraft can climb to a higher level than today before levelling off and this will be reflected in the early noise modelling performed in our Initial Options Appraisal.

Airspace/Airspace Users

Q. Can holds be shared with another airport?
A. Farnborough's outer holds, at/above 7000ft are already shared with Southampton and Bournemouth airports. This may continue in the future. Any contingency holding closer to Farnborough would usually only be used by Farnborough's aircraft.

Q. What considerations are being given to General Aviation (GA)?
A. In the comprehensive list of options slide pack you will see that we have ruled out creating any options which would require large additional swathes of controlled airspace. Some of our options will likely require more changes to controlled airspace than others. We have also created heatmaps showing the typical traffic patterns and density of operations outside controlled airspace. These are shared in our second slide pack and have been used to inform out assessments of how much each option may affect GA.

Q. Are the comprehensive list of options based on there being no additional Controlled Airspace (CAS)?
A. We are trying to work within the existing airspace. However, PBN routes require a certain amount of protection either side of the centreline which aircraft will fly, which could lead to a requirement of additional airspace.
The aspiration is, that if Heathrow and Gatwick departures are able to climb higher, Farnborough aircraft will be able to fly better profiles, which could result in the release of some of the existing CAS.

Comprehensive List of Options

Q. Is it possible to show the potential heights/altitudes of aircraft on the comprehensive list of options?
A. Owing to the dependencies on the changes required to the routes to/from adjacent airports combined with the general uncertainty with their designs, defining accurate profiles for Farnborough is extremely challenging. However, the second set of slides that are our Stage 2, Round 2, engagement pack, contain an estimate of what typical vertical profiles might be like with each option, based on some assumptions. These can then be compared to an existing 'average' profile for Farnborough's traffic flows. This should be treated as an approximate indication only at this stage. Such profiles have been generated at the request of stakeholders and would not normally be produced at this stage of the process given the absence of a wider airspace design for London.

Q. Can you provide more information on the contingency holds, when they would be used, what heights etc?
A. The second set of slides in our Stage 2 engagement pack contain a slide on the potential minimum holding level of each hold in the locations posed so far. We have also indicated whether this could be expected to require a change to the base of Controlled Airspace.

General

Q. What impact will the Single Design Entity have on the airspace change proposal?
A. We don't know. The CAA/DfT have not published any information on proposals though we understand they will first be the subject of a consultation in the summer.

Q. What flights are included in the statistics? Does it include the clutch airfield flights which use the Farnborough routes, and does it include Government flights?
A. The summer movements on Slide 20 of the first Stage 2 engagement pack have been based on all the movements that occur at the airport, i.e. the "included" and the "excluded" movements. The exception is the small number of movements by military aircraft types, which have been excluded.

The annual movements on Slide 20 of the first Stage 2 engagement pack include only the "included" movements as this is how compliance with the annual day noise budget is assessed. The "excluded" movements have not been included, these are a small number of movements such as military flights, those associated with the air show and emergencies.

Farnborough Clutch (Wessex Group) flights are not included in the statistics.

Q. As the runway in use is dependent on wind, how can potential shifts in wind direction be accounted for?
A. During the Stage 3 consultation we will have to produce a wide range of metrics and images. The annual modal split will be based on the average across the last 20 years (if 20 years of data does not exist it will be for as many years as are on record). The noise analysis model split will be based on the average across the 92-day summer period over the last 20 years. In our consultation material in Stage 3, we will also provide information showing impacts if a particular runway was in use for 100% of the time.

Q. Will Cost Benefit Analysis (CBA) take place?
A. Yes, CBA is a key part of the Options Appraisal process and will take place later in Stage 3 as part of the Full Options Appraisal.

Q. What is the definition of a Zero Emissions Aircraft?
A. 'Zero emission' aircraft are aircraft that will utilise future zero emission propulsion technologies (including hydrogen, fuel cell and battery electric) that are currently in development. These next generation aircraft are expected to start to become available by the 2030s (and the subsequent generation expected after that in the 2050s) but they do not exist yet and so their noise performance is unknown.

Q. Is 2022 movement data not going to show some residual effects of the COVID-19 pandemic?
A. 2022 movement data is showing a good representation of the traffic levels having resumed normalcy since the pandemic.

Q. Are the average movements per hour over 24 hours or Farnborough Airport's operating hours?
A. The average movements per hour on Slide 21 of the first slide pack (Comprehensive List of Options Engagement) are over the hours of operation of Farnborough Airport, not a 24hr period. That is 0700-2200 weekdays and 0800-2000 at the weekend (Local times).

Q. Are you considering compensation for any homes that are de-valued because of the airspace change?
A. The current Noise Insulation Scheme came into effect in 2009, a review of this has been undertaken as part of the recent planning application and can be viewed on the Rushmoor Borough Council website.

FARNBOROUGH AIRPORT

Frequently Asked Questions - Stage 1

(updated March 2023)

Q. What impact does the previous airspace change proposal/current PIR have on this airspace change proposal?

A. The 2 airspace changes are completely separate. The previous ACP was undertaken under CAP725 and this proposal is following the CAP1616 process. However, the outcome of the Post Implementation Review (PIR) for the airspace change that was implemented in 2020, could have an impact on this proposal, in terms of timelines, requirements and establishing the baseline used to compare our options against.

Q. What baseline will be used for this airspace change proposal?

A. The baseline for this airspace change proposal will need to be set in Stage 2. The outcome of the PIR may have an impact on the baseline.

Q. Will all the different airports routes be integrated?

A. The existing airspace design is currently integrated. The aim for the FASI-S programme is that the future routes will be more efficiently managed than today. Farnborough Airport being part of the overall programme means that we can work with the surrounding airports and aim to create the optimal design for all.

Q. How is the statutory requirement to have regard for AONBs/National Parks factored in?

A. Air Navigation Guidance 2017 states that *"where practicable, it is desirable that airspace routes below 7,000 feet should seek to avoid flying over Areas of Outstanding Natural Beauty (AONB) and National Parks"*. This will be factored in during the options design and assessment stage of the CAP1616 process (Stage 2). Multiple options will be developed, and it is likely that some could have more regard for AONBs/National Parks than others. This will allow us to understand the trade-offs between competing policy objectives.

Q. What are Farnborough Airport hoping to achieve from this airspace change, that they couldn't achieve from the previous change?

A. The previous airspace change proposal was constrained by the surrounding route network within Controlled Airspace. For this proposal, all the surrounding airports are making changes, which means the opportunity for change and the improvement of Farnborough's airspace and flight paths is increased.

Q. Is Farnborough Airport closing an option?

A. No.

Q. Is the amount of aircraft movements at Farnborough Airport going to increase?

A. The aim of this airspace change proposal is to make the current operations at Farnborough Airport as efficient as possible. Any increase in numbers of aircraft movements above the existing cap would have to go through a separate standalone planning process with Rushmoor Borough Council.

Q. Where can I find out more information about airspace change, in general?

A. The full CAP1616 Airspace Change Process can be found here. The UK Airspace Modernisation Programme can be found here. Further information on the Airspace Change Organising Group (ACOG) and One Sky One Plan can be found here and here.

Q. Where can I find out more about this airspace change proposal?

A. You can find out more information on this airspace change proposal and follow its progress on the CAA Portal here.

Q. How will any data used, particularly forecasts be verifiable? Including details of all assumptions?

A. The data sets used, including forecasts and assumptions will be articulated within our ACP documentation at the relevant stages.

Q. How will forecast traffic levels be validated?

A. Farnborough's forecast traffic levels will be compared to NATS and Eurocontrol regional forecasts.

Q. Will RNP approaches with a steeper approach profile be investigated?

A. Farnborough's existing Instrument Landing System (ILS) glide path approach angle is at 3.5˚. We will be investigating if RNP Approaches into Farnborough are possible, and the maximum angle permitted for those is 3.5˚. However, there is added complexity in that the air temperature affects the glide slope angle of RNP Approaches and therefore 3.5˚ may not be possible for those. However, even with RNP Approaches, we would still expect the main landing aid to continue to be the ILS.

Q. Have stakeholders been able to comment on the Statement of Need?

A. No. The Statement of Need is in Step 1A of Stage 1 of the CAP1616 process. It is written by the sponsor of the airspace change proposal (Farnborough Airport) setting out what airspace issue or opportunity the sponsor is seeking to address. Stakeholders are not engaged until Step 1B of Stage 1, Design Principles.

Q. What impact will a potentially smaller volume of controlled airspace have on the ability to provide respite?

A. It is likely that the more routes Farnborough has, the more controlled airspace will be needed to contain them. The pros and cons of multiple routes versus fewer routes needs to be considered during the ACP.

Q. What population data will be used for environmental impact assessments?

A. We will use CACI population forecast data sets.

Q. Why are Farnborough Airport carrying out this ACP?

A. One of the most important initiations of the Airspace Modernisation Strategy is to upgrade the airspace structure and the route network that serves London and the Southeast of the UK. All the other airport surrounding Farnborough, including Heathrow, Gatwick, Southampton, and Bournemouth are part of this initiative and are going through their own proposals to

change their airspace, and NATS NERL are upgrading the route structure above 7000ft. This widescale change presents Farnborough with the opportunity to improve CCO/CDO performance for Farnborough operations, reduce the volume of Controlled Airspace, create the capacity for efficient growth, appropriately manage the adverse effects of aircraft noise and to reduce CO_2 emissions. For further details, please see the Statement of Need on the CAA Portal, here.

Q. How will the Farnborough Air Show be accommodated in a new airspace design?

A. For previous years, Restricted Airspace (Temporary) and Temporary Holds have been established alongside the existing Farnborough controlled airspace. The same approach will be taken in the future.

Q. Will the principles of CAP1378 PBN Departure and Arrivals Mitigations be considered?

A. Yes, CAP1378 will be referenced during the ACP process.

Q. Will the Use of PBN Route Spacing and CAS Containments in CAP1385 be considered?

A. Yes, CAP1385 and the CAA's Controlled Airspace Containment Policy will be referenced during the ACP process.

Q. Is visual amenity being considered?

A. CAP1616 only makes reference to the consideration of the negative impact upon tranquillity or visual intrusion in Areas of Outstanding Natural Beauty or National Parks.

Q. Will new routes consider mitigating the effects on Air Quality Management Areas (AQMAs)?

A. Farnborough Airport will undertake a qualitative assessment, reviewing available air quality data from monitoring (including from the local authorities) and modelling (including the Defra background maps), to determine if there is a credible risk of significant air quality impacts from any airspace change at Farnborough, such as an exceedance of air quality objectives or worsening of an existing exceedance. The results of these qualitative assessments will be used to determine if there is a need for a full, quantitative assessment of any options. The area surrounding Farnborough Airport is not currently situated within an AQMA.

Q. Will the Transition Altitude be raised from 6000ft?

A. No. The AMS refers to *"a transition altitude standardised at one altitude across UK airspace, for example 6,000 feet".*

Q. What is controlled/uncontrolled airspace?

A. In the UK there are two types of airspace, controlled airspace, and uncontrolled airspace. Controlled airspace is usually established around airports and to protect its users, mainly commercial airlines. Pilots must obtain a clearance from Air Traffic Control (ATC) to enter controlled airspace. In uncontrolled airspace, aircraft may fly when and where they like (subject to a set of rules). There is no legal requirement for pilots to communicate with ATC. Further information can be found here.

Q. How does the adjacent airports, (Heathrow, Gatwick, and Southampton) being ahead of Farnborough Airport in the process effect this ACP?

A. The FASI airspace programme is being coordinated by ACOG and the Masterplan. The Masterplan is currently in Iteration 2 and more information can be found here. As Farnborough Airport joined the programme after Iteration 2 was published, there is no mention of the airport, however all future iterations will include Farnborough Airport. The masterplan states that no interdependent ACP will be able to proceed to public consultation on proposed options until a system-wide airspace design of the proposed options and their cumulative impacts are represented. Therefore, although other dependent airports are currently ahead of Farnborough, those ACPs will all need to be aligned in Stage 3.