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# FARNBOROUGH AIRPORT FASI-S AIRSPACE CHANGE PROPOSAL

### ACP-2022-038



Annex 1

## **Design Principle Evaluation**

VERSION 1.0

#### Classification: Public

| No       | Design Principle   | Detailed Criteria   | Approach to Evaluation  |   | Met  | Partially Met  | Not Met   |  |  |
|----------|--|---|---|---|--|--|---|--|--|
| 1        | Must be as safe or safer<br>than today for all<br>stakeholders that are<br>affected by the airspace<br>change  | N/A   | A qualitative assessment undertaken by SME as to whether the option is<br>improve safety, whether further safety assurances will be required or w<br>identified which could be detrimental to safety. To support the assessmen<br>of Electronic Conspicuity (EC) data for the area around Famborough hit<br>includes signals received from Mode S, ADSB, FLARM and Pilot Aware t<br>take account of non-conspicuous aircraft. This analysis is present  | e expected to maintain or<br>hether there are issues<br>it, FAL procured 6 months<br>ports airspace. The data<br>but does not and can not<br>ad in Appendix A.  | Maintains existing level of<br>safety, or improves on it<br>inside and outside CAS   | Expected to maintain existing level<br>of safety, or improve on it for<br>Famborough's operations inside<br>CAS. Small changes to CAS may be<br>required and, whils it imay have an<br>impact, it's not possible to ascertain<br>at this time whether it would be<br>detimental to safety. | Issues identified which could be detrimental to safety  |  |  |
|          |  | Safety  | The outcome of DP1 will be used to evaluate this AMS of   | Evaluated in DP1 and met<br>that design principle   | Evaluated in DP1and Partly Met that<br>design principle  | Evaluated in DP1and did not<br>meet that design principle  |   |  |  |
|          |  | Integration of diverse users  | The outcome of DP4C, DP4D and DP5 will be used to evaluate the outcome of DP4C, DP4D and DP5 will be used to evaluate the outcome of DP4C.  | nis AMS objective   | Evaluated in DP4C, DP4D<br>and DP5 and met all those<br>design principles  | Evaluated in DP4C, DP4D and DP5<br>and a mixture of Met, Partly Met and<br>Not Met those design principles   | Evaluated in DP4C, DP4D and<br>DP5 and did not meet all those<br>design principles  |  |  |
|          |  | Simplification, reducing complexity<br>and improving efficiency   | The outcomes of DP4, DP5, DP7 and DP8 will be used to evaluate  | this AMS objective  | Evaluated in DP4, DP5, DP7<br>and DP8 and met all those<br>design principles   | Evaluated in DP4, DP5, DP7 and<br>DP8 and a mixture of Met, Partly Met<br>and Not Met those design principles  | Evaluated in DP4, DP5, DP7<br>and DP8 and did not meet all<br>those design principles   |  |  |
|          |  | Environmental sustainability  | The outcomes of DP4 and DP6 will be used to evaluate this A   | MS objective.   | Evaluated in DP4 and DP6<br>and met all those design   | Evaluated in DP4 and DP6 and a<br>mixture of Met, Partly Met and Not   | Evaluated in DP4 and DP6 and<br>did not meet all those design   |  |  |
|          |  |   | Overall AMS Evaluation  |   | All evauluations Met   | All evaluations Partly Met ot a<br>Mixture of Met, Partly Met and Not<br>Met.  | All evaluations not met   |  |  |
| 2        | Accord with:<br>a) the CAA's published<br>alrspace modernisation<br>strategy (CAP1711) and<br>any current or future<br>plans associated with it        | Minimise and where possible reduce,<br>the total adverse effects on health and<br>quality of life from aircraft noise | ANG states that the Lowest Observed Adverse Effect Level (LOAEL) is<br>which adverse effects begin to be seen on a communit<br>This qualitative assessment considers whether there are any aspects o<br>affect the position and size of the LOAEL and it so, whether it could be<br>decrease population numbers within it. This is performed using the exten<br>Planning Consent LOAEL that is within FAL's planning application to Ru<br>and which we featured within our Stage 2 engagement material along s<br>map.  | regarded as the point at<br>y basis.<br>Feach option which may<br>expected to increase or<br>to the forecast 2031 With<br>shmoor Borough Council<br>ide a population density  | Option could be expected to<br>offer a reduction in the<br>number of people within the<br>LOAEL, subject to further<br>modelling | Option could have minor effect or<br>not expected to have any effect on<br>the LOAEL   | Option could be expected to<br>generate an increase in the<br>number of people within the<br>LOAEL, subject to further<br>modelling |  |  |
|          | <ul> <li>b) Air Navigation</li> <li>Guidance 2017 &amp; other<br/>relevant policy and<br/>legislations</li> </ul>                                      | Air Quality   | A qualitative statement on whether the options could be expected to<br>ANC2017 states that due to the effects of mixing and dispersion, emiss<br>1,000 feet are unlikely to have a significant impact on local<br>If an option has a change to flightpaths below 1000ft it will be evaluated<br>further analysis will be required to determine the scale of change to local<br>no change to flightpaths below 1000ft it will be evaluated   | affect local air quality.<br>ions from aircraft above<br>air quality.<br>as 'Partially Met' however<br>air quality. If an option has<br>I as 'Met'.   | No change below 1000ft<br>expected therefore option is<br>unlikely to affect local air<br>quality                                | Option has potential to affect local air quality below 1000ft  | N/A - Not possible to ascertain without detailed modelling  |  |  |
|          |  | Tranquillity  | A qualitative assessment which compares the overflight of Surrey Hills No<br>and South Downs National Park of each option compared to Opti  | rth Wessex Down AONBs<br>on 1 (Do Nothing)  | Option can be seen to have a<br>reduction in overflight  | No Change or not possible to<br>ascertain at this stage  | Option clearly increases the<br>area overflown  |  |  |
|          |  | Ecology and/or biodiversity   | CAP1616 Ed4 (p.162 and p.173) says that most airspace change propo<br>an effect upon biodiversity. Though there is limited research available on<br>midlifle, there is some evidence that disturbance effects associated wit<br>take-off and landing where aircraft are below around 500m (-1,840h). Co-<br>be given to the effects on ecology and biodiversity where options overfly<br>Special Areas of Conservation, and Stess of Special Scientific Interes<br>purposes of our assessment ecology is equivalent to biodiversity as desc<br>a qualitative assessment twich considers whether the average overfligh<br>have potential to affect any of these environmental sites be | sals are unlikely to have<br>the effects of aircraft noise<br>h aircraft can occur during<br>onsideration will therefore<br>Special Protection Areas,<br>below 2000h. For the<br>ribed in CAP1616. This is<br>t contours of each option<br>low 2000h. | No change to sites currently<br>overflown  | A change of overflight of existing sites could occur below 2000th  | N/A - Not possible to ascertain if<br>there is a significant impact<br>without extensive analysis                                   |  |  |
|          |  | CO2   |   | See   | DP4b.  |  |   |  |  |
|          |  |   | Overall DP 2 Evaluation   |   |  |  |   |  |  |
| 3        | Shall not constrain the<br>Far   | a ability to meet forecast demand for<br>mborough Airport   | A qualitative SME assessment of whether the option has any characterist<br>the ability to meet forecast demand for Farnborough A  | ics which could constrain<br>Airport  | Expected to meet forecast demand   | N/A  | Not expected to meet forecast demand  |  |  |
|          | Improve vertical profiles<br>compared to the<br>baseline published<br>SID/STAR levels, to<br>enable:   | a) a reduction in population numbers<br>affected by noise   | A qualitative assessment of whether the option is expected to improve ve<br>therefore lead to a reduction in population numbers affected by noise. That changes to Heatrow and Gadwick does enable improved profiles<br>options other than Option 1 (Do Nothing). Note this assessment as not<br>analysis hower the IOA will provide som quantative assessment of   | tical profiles which would<br>his assessment assumes<br>for Famborough for all<br>been informed by noise<br>potential noise impacts.  | Expected to improve vertical<br>profiles to/from Farnborough   | No Change expected   | Expected to degrade vertical<br>profiles to/from Farnborough  |  |  |
| 4        |  | b) a reduction in CO2 emissions per<br>flight from Farnborough aircraft   | A qualitative SME assessment of whether the option can be expected to<br>change CO2 emissions compared to Option 1 (Do No   | reduce, increase or not thing).   | Option expected to reduce<br>emissions   | No Change  | Option expected to increase<br>emissions  |  |  |
|          |  | c) a reduction in the volume and<br>where possible, complexity of<br>Farnborough Airport's CAS                        | A qualitative SME assessment of whether the option is expected to reduce volume and complexity of Controlled Airspace.  | e, maintain or increase the   | Has potential to reduce the<br>total volume of CAS   | No Change  | Has potential to increase the<br>total volume of CAS  |  |  |
|          |  | d) a reduction in the reliance on<br>tactical intervention  | A qualitative SME assessment of whether the option is expected to reduce<br>level of tactical intervention comapred to Option 1 (Do N   | e, maintain or increase the<br>Nothing)   | Expected to decrease the<br>level of tactical intervenion  | No Change  | Expected to increase the level of<br>tactical intervenion   |  |  |
|          |  |   | Overall DP4 Evaluation  |   |  |  |   |  |  |
|          | Aim to remove depend   | dencies with adjacent ATC units and   | A qualitative SME assessment of whether the option is expected to reduce<br>level of dependencies with adjacent ATC units compared to Option  | e, maintain or increase the<br>on 1 (Do Nothing)  | Expected to reduces dependencies   | No Change  | Increases dependencies  |  |  |
| 5        | minimise impa  | acts on other airspace users  | A qualitative SME assessment of whether the option is expected to minin<br>airspace users   | nise the impact on other  | Minimises impact   | No Change  | Expected to worsen the impact   |  |  |
|          |  |   | Overall DP5 Evaluation  |   |  |  |   |  |  |
|          |  | a) deliver an overall reduction in flight   | This is the same assessment as DP4b   |   | Overall reduction in miles   | No Change  | Overall increase in miles   |  |  |
|          | Where lateral changes to<br>exisiting tracks are<br>required to achieve<br>improved environmental<br>and operational<br>performace, options<br>should: | b) minimise population numbers<br>newly overflown   | A visual assesssment of the scale of change between the Average Overfli<br>and the existing area overflown (the full swathe) by Option 1  | Average overflight cones<br>wholly contained within<br>existiing Do Nothing Swathe  | Some excursion of the Average<br>overflight cones from the Do<br>Nothing Swathe  | Significant change excursion of<br>the Average overflight cones<br>from the Do Nothing Swathe  |   |  |  |
|          |  | c) avoid overflying the same<br>communities with multiple routes to &<br>from Famborough Airport                      | Qualitative SME assessment of whether multiple routes to/from Famborou<br>to overfly or not change overflight of the same communities compared to   | igh would avoid, continue<br>o Option 1 (Do Nothing)  | Option avoids overflight of<br>the same communities with<br>multiple routes to/from<br>Famborough                                | No Change  | Option still overflies<br>communities with multiple routes<br>to/from Famborough  |  |  |
| <u>_</u> |  |   |   | Heathrow Airport  | No overflight of same<br>communities below 7000ft by<br>both airports identified   | N/A  | Overflight of same communities<br>below 7000ft by both airports<br>has been identified  |  |  |
| 0        |  | d) avoid overflying the same  | Qualitative SME assessment of whether the average overflight cones<br>would overfly the same communities below 7000fb by Famborough and<br>loadness. Control Bailois Mill as Continented soutes.  | Gatwick Airport   | No overflight of same<br>communities below 7000ft by<br>both airports identified   | N/A  | Overflight of same communities<br>below 7000ft by both airports<br>has been identified  |  |  |
|          |  | communities with Partiborough s<br>routes and those to & from other<br>airports below 7000ft                          | relation, Gawick, biggin Hi of Southampon's routes. Init assessment<br>considers the interactions with the FASI sirspace design shortlisted<br>options of those airports compared to the overflight cones of each of<br>Famborough's options.   | Southampton Airport   | No overflight of same<br>communities below 7000ft by<br>both airports identified   | N/A  | Overflight of same communities<br>below 7000ft by both airports<br>has been identified  |  |  |
|          |  |   |   | Biggin Hill Airport   | No overflight of same<br>communities below 7000ft by<br>both airports identified   | N/A  | Overflight of same communities<br>below 7000ft by both airports<br>has been identified  |  |  |
|          |  |   | Overall DP6 Evaluation  |   |  |  |   |  |  |
| 7        | Make best use of Fa  | amborough's modern aircraft fleet<br>capabilities   | A qualitative SME assessment of whether the option makes use of the<br>specification (RNP-AR) and also whether the option is expected to end<br>Operations (CCO) on departure to a level higher than today or improved<br>than today (3000ft)   | e highest level PBN<br>able Continuous Climb<br>CDO from a higher level   | Uses RNP-AR for arrivals<br>and enables improved<br>CCO/CDO  | Uses either RNP-AR for arrivals OR<br>enables improved CCO/CDO   | Does not use RNP-AR for<br>arrivals and does not enable<br>improved improved CCO/CDO  |  |  |
| 8        | Ensure that Farnborou<br>accommodate<br>(*Now kn   | gh Clutch* airways traffic can still be<br>d, as a result of the changes<br>own as Wessex Group)                      | A qualitative SME assessment of whether the option gives rise to any co<br>handle airways traffic to/from the Wessex Group airports of Odiham, Lash<br>or Dunsfold.   | ncern of being unable to<br>am, Fairoaks, Blackbushe  | Wessex Group airways<br>joiners/leavers can continue<br>to be accomodated  | Some Wessex Group airways<br>joiners/leavers may not be able to<br>be accomodated  | No Wessex group Wessex<br>Group ainways joiners/leavers<br>can continue to be accomodated   |  |  |

### Classification: Public

|                                   |                               |                               | 1                                       | 2   | 2   | 3   | 4   | 5  | 6  | 7   | 8  |  |
|-----------------------------------|-------------------------------|-------------------------------|---|---|---|---|---|--|--|---|--|--|
| Option Name                       | Option Image<br>Runway 06 Ops | Option Image<br>Runway 24 Ops | Option Image<br>Runway 24 & 06 Combined | Must be as safe or<br>safer than today for<br>all stakeholders that<br>are affected by the<br>airspace change | Accord<br>a) the CAA's pub<br>modernisation stra<br>and any current<br>associate<br>b) Air Navigation 0<br>other relevant polic;<br>Overall AMS<br>Objectives | I with:<br>lished airspace<br>stegy (CAP1711)<br>or future plans<br>ad with it<br>Suidance 2017 &<br>y and legislations | Shall not constrain the<br>ability to meet forecast<br>demand for<br>Famborough Airport | Improve vertical profiles<br>compared to the baseline<br>published SIDBTAR levels, to<br>anable:<br>a) a reduction in population<br>numbers affected by noise<br>b) a reduction in CO2 emissions<br>per flight from Fanborough<br>aircraft<br>c) a reduction in the volume and<br>where possible, complexity of<br>Farmborough Altropris CAS<br>d) a reduction in the reliance on<br>tactical intervention | Aim to remove<br>dependencies with<br>adjacent ATC units<br>and minimise impacts<br>on other airspace<br>users | Where iteral changes to existing tracks<br>are required to schieve improved<br>environmental and operational<br>performance, options should:<br>a) deliver an overall reduction in flight<br>planable track miles<br>b) minimise population numbers newly<br>overflown<br>c) avoid overflying the same communities<br>with multipe routes to & from<br>Fantborough Arport<br>d) avoid overflying the same communities<br>with Fantborough Strotts and those<br>& from other anjorts blow 7000ft | Make best use of<br>Famborough's<br>modem aircraft<br>fleet capabilities | Ensure that<br>Famborough Clutch*<br>aiways traffic can still<br>be accommodated, as<br>a result of the<br>changes<br>(Now known as<br>Wessex Group) |
| Option 1 Baseline<br>"Do Nothing" |                               |                               |   | MEETS   | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | MEETS   | PARTIALLY MEETS  | PARTIALLY<br>MEETS   | PARTIALLY MEETS   | DOES NOT<br>MEET   | MEETS  |
| Option 2A                         |                               |                               |   | MEETS   | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | MEETS   | PARTIALLY MEETS  | PARTIALLY<br>MEETS   | PARTIALLY MEETS   | PARTIALLY<br>MEETS   | MEETS  |
| Option 2B                         |                               |                               |   | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | MEETS   | PARTIALLY MEETS  | PARTIALLY<br>MEETS   | PARTIALLY MEETS   | PARTIALLY<br>MEETS   | MEETS  |
| Option 3A                         |                               |                               |   | MEETS   | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | MEETS   | PARTIALLY MEETS  | MEETS  | PARTIALLY MEETS   | MEETS  | MEETS  |
| Option 3B                         |                               |                               |   | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | MEETS   | PARTIALLY MEETS  | PARTIALLY<br>MEETS   | PARTIALLY MEETS   | MEETS  | MEETS  |
| Option 4A                         |                               |                               |   | MEETS   | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | MEETS   | MEETS  | MEETS  | PARTIALLY MEETS   | MEETS  | MEETS  |
| Option 4B                         |                               |                               |   | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | MEETS   | MEETS  | PARTIALLY<br>MEETS   | PARTIALLY MEETS   | MEETS  | MEETS  |
| Option 5A                         |                               | - Frank                       | FILLER                                  | MEETS   | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | MEETS   | MEETS  | MEETS  | PARTIALLY MEETS   | MEETS  | MEETS  |
| Option 5B                         | Ladra (MT A)                  |                               |   | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | PARTIALLY<br>MEETS  | MEETS   | MEETS  | PARTIALLY<br>MEETS   | PARTIALLY MEETS   | MEETS  | MEETS  |

|                                       |       |                            |                                       | OP Number   | r. 1   |   | 2  |   | 3   | ingrove ve  | 4<br>vrical profiles compared to the                                      | a baseline published  |   | 6  |   | and the second second second second second second  | 4   |   | 2   |  |
|---------------------------------------|-------|----------------------------|---------------------------------------|---|--|---|--|---|---|---|---|---|---|--|---|--|---|---|---|--|
|                                       |       |                            |                                       |   |  | a) the CANs published anguate modernication strangy<br>and any current or forum plane associated with   | Acceld with:<br>(CAP-1711) b) Air Navigation Guis<br>it<br>Noise   | dance 2017 & other relevant policy and<br>Air Quality Tranquility   | Ecology and/or<br>Biodivenity<br>Shall not on   | within the  | SEDISTAR levels, to era   | iden in   | Aim to remove dependencies<br>minimise impacts on   | with adjacent ATC units and<br>other airspace users  | Where lateral changes to r<br>a) deliver an<br>in flight<br>plannable stack<br>milles   | disting tacks are inquired to achieve<br>wateron<br>communities with multiple<br>to & form Famborough A  | In a construction of the second secon  | al performance, options should:<br>communities with Familionnugh's nou<br>other aligonis below 70001  | Make best use of Famborough's modern alroat feet capabilities   | Ensue that Famboosuph Cluth<br>always totific can still be<br>accommodated, as a result of the<br>changes  |
| Option Name                           |       | Option Image Runway St Opt | Ciption Image Runway 24 & 69 Combined | Option Description  | pine determine the set of the set   | salany brtegarion of congelication,<br>Salany divense salam<br>eticleany  | viconnectal<br>Minimized and where<br>possible reduce, the total<br>of quality of life from<br>an coality of life from   | Civerlight of Surrey<br>Hits Not? Weaks<br>burge to Eght<br>to below 1000t<br>National Park<br>compand to Option 1<br>(Do Nothing)  | Genado for Fi<br>Kipp<br>Criviconnenzal sites<br>overficen below<br>2000t                   | in vertical<br>profiles leads to<br>reduce in addition<br>reduce        | CO2 emissions<br>per fight from<br>Famborough<br>aircraft<br>Aisport      | me and d) a solucion in<br>peciale, the selance on<br>only of sectical<br>intervention<br>a CAS                 | Expected to reduce, maintain<br>or increase the level of<br>dependencies with adjacent<br>ATC units compared to Option<br>1 (Do Nothing)  | Expected to minimise the impact on other aimpace users   | This is the same<br>basesement as<br>DPeb<br>DPeb<br>Assessible of the<br>control | Ament of<br>ange<br>weage<br>weage<br>an of the<br>solution<br>optimized for the second<br>optimized for the s | same communities below 7<br>Canadox, Ragin Hi or Sou<br>considers the immediations with<br>form<br>ciptions of those alignets com<br>lange<br>bpton<br>Heathrow Consider Alie   | 100 by Famborough and Heathrow<br>hamptork souther. This assessment<br>the FAGI anguage seeign induities<br>and to the overlight cones of each<br>sought options.   | <sup>4</sup> Option makes use of the highest level<br>PRN spocfscation (RMP-NR) and star<br>selection the option is expected to<br>address the option is expected as<br>a selection of the option of the hyperbolic<br>(SCC) on departure to the hyperbolic<br>that today (2000h) | A qualitative SME assessment of<br>whether the cption gives rise to any<br>concern of being shatter of handle<br>access to the concern and the<br>Access to the concern and<br>Feinceite, Etackbushe or Duration |
|                                       |       |                            |                                       | Ainpacementains as it is.<br>Manzains a high level accord is an appace.   |  | Evaluated in Evaluated in Evaluated in Evaluated in Evaluated in DPAC. CoVD DPR, CPA. DPD DP   | valuand in<br>14 and DPA<br>14 and PPA   |   |   |   |   |   |   |  | Average overfits  | Rf cones   | Overlight of Overlight  | d Overlight of Nooverlight  | el  |  |
| Option 1<br>Baseline "Do-<br>Nothing" |       |                            |                                       | ATC immunition required to decorfict anivairs and departure<br>Lack of alregades for configurery holding classes to the address<br>Does solitigeneous holdin Approach Provider Markette<br>Bott here and of the STARA to Frank Approach. The second part<br>Approach Proposation have been alreaded on a hereporcely back<br>(RNAV Substantiation bitmany Bin removal of DOX VDR. | Maamaine existing level of safety, or improves on it   | service and a se            | bei deign<br>brincipies<br>LOACE 11  | No Change<br>possible to accessin<br>at this stage  | No change to alter<br>currently overflowt<br>dema   | net forecast<br>and   | No Change No Ch   | ange No Change  | No Change   | No Change  | No Change wholy contain<br>existing Don<br>Swath  | extenin<br>shing No Change   | communities<br>balva PODIt by balva<br>both alignost has both alignost<br>beer identified<br>beer identified  | <ul> <li>communities communities<br/>to bake Profits to bake and<br/>bake point alignets has<br/>been identified</li> <li>been identified</li> </ul>  | Does not use RNP-AR for antives and<br>does not enable improved improved<br>CCO/CDO   | Weeser Group airways<br>joinent/leavers can continue to be<br>accomodated  |
|                                       |       |                            | Color Statement Pro-                  |   |  |   | Overal DP2 evaluation  |   |   |   | Overall DPH evaluation  | an l  | Overall DP1   | S evaluation   |   | Owait 1  | Pérvaluation  |   |   |  |
| Option 2A                             | -3-   | P                          | P                                     | <u>Othersons to Dr Nothinor</u><br>PRN anival rockes all the way to final approach (L-S only)<br>New contribution hold added<br>Onanges at adjustert adhelids may enable some, but not signifi  | PRM transitions to final approach would enhance sating inside CAD<br>a significant reaction in RY, metace the risk of CAD econstants and<br>provide more worklash for ATC to hand a VTR respective.<br>Subject to a safety case to inservante the PMM annuals to each remain<br>and do in the final insule CAD, there are expected to be in in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final insule CAD, there are expected to be in inservant and<br>and do in the final inservant and the final inservant and<br>and do in the final inservant and the final inservant and<br>and do in the final inservant and<br>and the final inservant and<br>and the final inservant and<br>and do in the final inservant and<br>and do in the final inservant and<br>and do in the final inservant and<br>and<br>and<br>and<br>and<br>and<br>and<br>and                             | Evaluated in<br>DPAC, DPAD,         | relixanted in<br>14 and DPA<br>pandry met<br>cans designs<br>have any effect on the<br>LOAGL III<br>IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII  | change below<br>d0t expected<br>nibre option is<br>likely to affect<br>cal air quality  | No change to shee<br>currently overflown Expected to m<br>dema                              | Expected to<br>improve vertical<br>polities to from<br>Famborough       | No Change No Ch   | Ange Expected to<br>decease the<br>level of tactical<br>intervention  | No Change   | No Change (sessuming safety<br>can be assured with PBN<br>transitions lies that from<br>from-edge of CAS in same<br>place as today's vectored<br>swatte).                    | No Change Australia overfit<br>wholy contain<br>existing Do 5<br>Swath  | ht cones<br>d'eithin<br>shìng No Change  | Overflight of<br>same<br>communities<br>below 7000th by<br>both aligosts has<br>been identified   | D Overlight of No overlight<br>same<br>communities communities<br>to below 70000 by below 70000<br>below 70000 by below 7000<br>below 70000 by below 7000<br>below for the below for the below<br>below for the below for the below<br>below for the below for the below<br>below for the below for the below for the below<br>below for the below for the below for the below<br>below for the below for the below for the below for the below<br>below for the below for  | of<br>Expected to enable improved<br>profiles tortion Heatmow and Galaci  | Wessex Group airways<br>joinest leaves can continue to be<br>accomodated   |
|                                       |       |                            |                                       |   |  | Cvenit AMS evaluation   | Overal CP2 evaluation  |   |   |   | Overall DP4 evaluation  | an  | Overal DPI  | 5 evaluation   |   | Overall  | Pli evaluation  |   | _   |  |
|                                       | -3-   | -22                        | - 62                                  | <u>Coference to 24:</u><br>PEN anival totes all the way to final approach (LS and PKP A<br>) maans alighty wider baar-leg to each and   | There are no encoded of 5122 taxing base active up to 5500°. There is<br>the sense fing up to 1012 taxing the transmission of the sense that the transmission of the<br>first subground is constitutible to encode departments are about the.<br>If 0132 we activated up to 5500°, alread can depart clinicity are<br>alread to 5000° via tracical can depart clinicity are<br>alread to 5000° via tracical can depart clinicity are<br>the clinicity of the sense tracities of the tracities of the<br>The clinicity clinicity of the tracities of the tracities of the<br>tracities of the tracities of the tracities of the tracities of the tracities of the<br>tracities of the tracities of the tracities of the tracities of the tracities of the<br>tracities of the tracities of the tracities of the tracities of the<br>tracities of the tracities of the tracities of the tracities of the<br>tracities of the tracities of the tracities of the tracities of the<br>tracities of the tracities of the tracities of the tracities of the<br>tracities of the tracities of the tracities of the tracities of the<br>tracities o | Sustained in Contracting in Contract            | reliaanse in<br>te and Dok<br>a party met<br>e design<br>be design<br>te design<br>t | change below<br>No change or not<br>mother option is<br>possible to accertain   | A change of<br>overlight of existing<br>sites coals docum                                   | Expected to<br>improve vertical   | No Change Has pos   | And the Expected to decrease the sector   | No Change   | Expected to worsen the impactax more CAS would be required near RAF  | Average overfit<br>who/p contain<br>profession  | ht cones<br>d'wittin Nis Change  | Overlight of Same Same Communities Communities  | of Overlight of No overlight<br>same same<br>s communities communities  | of Expected to enable improved  | Weeker Group always  |
| CURAN SM                              |       |                            |                                       | BWV06 departue turne south earlier than today<br>Orangee at Adjacent adelide, may exaite some, but not eigend<br>improvement to Fambonagi's annual anato departue politi<br>3.2' SNP APCH (LS remains at 3.5')  | etc. The second seco  | Cventi AMS evaluation   | incoming in  | anary to affect at the stage  | to 66 SID   | ed Fantorough   | volume :  | intervention  |   | Fainaks.   | Saath   |  | both aligosts has both aligosts<br>been identified been identif   | nae both airports han both airport<br>no been identified identified   | <ul> <li>COCICIO Gased of inprovements to<br/>profiles tortion Heatmov and Galaccie</li> </ul>  | ponencesses can community to be<br>accomodated   |
|                                       |       |                            |                                       | Polymous to Air   |  | Entrant in Secure 1   | Overal DP2 evaluation  |   |   |   | Overalt DPH evaluation  | on la constante de la constante | Overal DPI  | S evaluation   |   | Ownet  | Plevaluation  |   |   |  |
| Option 3A                             | R     | 37                         |                                       | RWY06 departue bands to halp ATC manage collicition wit<br>annual from the scale.<br>Law level mutata between Familyange and Biggin Hill<br>Additional high end FBM water band britter for the saved R<br><u>Collans</u><br>Changes at heating wat of datacks enables rows between<br>Familyange at a Biggin Hill bads and save significant improve                               | PBN transitions to Snal approach would enhance safety inside CAS to<br>a significant relaction in R7, micro-the risk of CAS excansions and<br>provide reservatical Br Art CD is taken VFT suggistion.<br>Subject to a safety case to demonstrate the PBN enhances to each name<br>and do not need more CAS, there are expected to be no impacts to de<br>net do not need more CAS.   | Evolutioned in<br>DPT-act me to<br>provide the second second second second second second<br>provide the second second second second second second second<br>provide the second | Na and DAN<br>I party mail<br>a barging mail<br>a barging<br>have any effect on the<br>LOAGS   | change ballow<br>00t expected<br>wither option is<br>sinking to affect<br>cal air quality   | No change to sites<br>currently overflown Expected to m<br>dema                             | eet brecast<br>and Famborough   | Option expected<br>to reduce<br>emissions No Ch                           | ange Expected to<br>decrease the<br>level of tactical<br>intervention   | The RNP-AR annual to RNP<br>08 avoids RAF Opham,<br>therefore expected to induce<br>dependencies  | Minimises impact by keeping<br>baseling example as closed<br>Famborough as possible,<br>motucing likihood of<br>increases to CAS near RAF<br>Odham, Lashare and<br>Fairtaks. | Sption expected<br>to reduce<br>emissions<br>Average overfit<br>wholy contain<br>existing Do 5<br>Swath   | tr cores<br>diatrin<br>string<br>thing<br>Fairborough  | nides<br>communides<br>below 7000th bas<br>both alignon has<br>been identified  | of Nooverlight of Lamb<br>anno communicies<br>below 70005 by<br>below 70005 by<br>both algors<br>identified ben identifi  | Expected to enable improved<br>CCICEDD based on improvements to<br>actilise toftion Heathow and Cateloc<br>Use of RNP-AR to RWY 06  | Wessex Group airways<br>joinensteaswer, can continue to be<br>accomodated  |
|                                       |       |                            | ANY 24.4 Contained                    |   |  | Overall AMS evaluation  | Overal CP2 evaluation  |   |   |   | Overall DPH evaluation  |   | Overal DP1  | s evaluation   |   | Overall  | Pilevaluation   |   |   |  |
| Option 3R                             | 100   | P                          | - A                                   | <u>Półsanos to št.</u><br>FRN artvel rostne slove sky 15 fast opotach (Lú and PKP A<br>) meant slojsky wich stanie sig to sach and  | There are no noncode of 0112 banking been active up to 35000. There is no an an arm (up up to 1568 and up to the bank of the there 15000 metal there is a second section as the first avagotist is controlled in the second section active data of the second section active the section activ   | s<br>Sustained in<br>DP-Land Party<br>Art Fast Centry<br>principle<br>principle   | valuated in<br>14 and DPH<br>2 party met<br>2 party met<br>binopies<br>LCMAC 10 the<br>10 and 10 party affect of t  | change below<br>001 expected<br>infore option is<br>have a mduction is<br>owefigen pick size<br>aucids Survey Hillis)   | No change to sites<br>currently overfloars<br>dema  | Expected to<br>improve vertical<br>polities sufficient<br>of Famborough | Cysion expected<br>to reduce<br>emissions                                 | ntial to Expected to<br>decrease the<br>level of tacical<br>development   | The RNP-AR astival to RMV<br>06 avoids RAF Odham,<br>Elementar expected to induce<br>objected.co.   | Expected to worsen the<br>impact as more OVE would<br>be required near RAF<br>Odham, Landar and<br>Collaum Landar and  | Done expected Average overflig<br>to reduce entities overflig<br>emissions Stanth   | ht cores<br>d within<br>with multiple souths tolt<br>Famborough  | overligts of Overligts<br>anno communities<br>communities<br>bottow 7000000 bellow 70000<br>botto alignosts has both alignost   | of Nio-overflight of Overflight of Same<br>same<br>sommunities<br>by below 70005 by<br>below 7005 by<br>b | Supected to enable improved<br>CCOCDD based on improvements to<br>profiles tofrom Heathrow and Gateck   | Wesser Group silvarys<br>joinenstessens can continue to be   |
|                                       | 1     |                            |                                       | 3.5' RNP APCH (LS meains at 3.5')   | unsatistative during fore firsting.<br>It is expected that is small increases to the size of CEVA16 is the week<br>of the state of CEVA16 is a thread of CEVA16 is and<br>concentence state which is CEVA16 is a concentration of the size of CEVA16 is and<br>have an impact, it is not possible to another at this time whether it<br>would be destinential to safely.   | Cheral Alts evaluation  |  | an an ipang   |   |   |   |   | 0.000   |  |   |  | been identified been identifi   | ed identified beet identifi   | N Lise of RNP-AR to RAY 06  |  |
|                                       |       |                            |                                       |   |  | Evaluated in Evaluated in Evaluated in DP4C CP4D DP4C DP4C  | ofunted in   |   |   |   | Overal DM evaluate  | an  | Contail Dir   | Minimizes imaget by keeping  |   | Over 1   |   |   |   |  |
| Option 6A                             | R     | 1 C                        |                                       | More direct and epidentia to late<br>More direct and epidentia southis franko the south<br>Southerly SD tocks eightly different between runkeys<br>improvement to datakid's synthesis exable drange to Famboou<br>artical and/or departure roades fromto the south  | PRV transitions to feal approach vocal enhances safely inside ACM of<br>a significant social on RPT, more the rise of CAE accurations and<br>provide incre working for ATC to hand an VFR respection.<br>Subject to a safely case to demonstrate the PRN anivals to each surve<br>and donot need more CAE, there are expected to be no impacts to G  | p DP3 and met<br>That design<br>principles design<br>principles design<br>principles principles principles  | and party me<br>party me<br>bas design<br>have any effect of the<br>LOAGE<br>lib   | change below<br>(Option can be seen to<br>nebre option is<br>shariy to athic,<br>cal air quality  | No change to siles<br>currently overflown<br>dema   | Expected to<br>improve vertical<br>profiles trafficent<br>Famborough    | Cprion expected Has pote<br>to reduce the reduce the ensistions wolume is | Antial to<br>decrease the<br>level of tactical<br>intervention  | The RNP-AR antival to RMY<br>08 avoids RAF Odition,<br>Banklaw specific to induce<br>dependencies   | baseling exactle as possible,<br>Famborough as possible,<br>inducing likithood of<br>increases to CAS near RAF<br>Odham, Lanbar and<br>Fairtaeks.                            | 2ption expected<br>to reduce<br>emissions   | d within<br>d within with multiple sources to the<br>Familion source to the  | anties communities communities communities communities communities communities communities to the second se  | a motoringer to comparison<br>autorication commanises<br>secondariante commanises<br>peleveryooth to been room<br>has both alignors<br>ad identified been identifi  | Expected to enable improved<br>COCIDED based on improvements<br>patilies tortion Heathrow and Gateck<br>Use of RNP-AR to RWY 06   | Wesser Group airways<br>joinent/leaves: can continue to be<br>accomodated  |
|                                       |       |                            |                                       |   | These was an another of Pri 13 basics have article units 15000 These   | Constit AMS invaluation   | Cueral OP2 evaluation  |   |   |   | Overall DP4 evaluation  | an  | Overal DPI  | 5 evaluation   |   | Owait I  | Pérvaluation  |   |   |  |
| Option 48                             | -07-  | -P                         | A                                     | <u>Polyamous to 44:</u><br>Pélih anival notes all the way to final approach (LSI and PRIP A<br>means elighty vider/bas-leg to each and  | In all arms fing up to 1708 and a first below 1500° exercision and<br>first anglocities contributed to serve departer and another this.<br>(2015) was activated up to 2500°, alroad can depart clinicing straight<br>already to 2000° is toolical instruction.<br>The primery performance and the SPA APCH to Shorway 24 would<br>utility the server contense of 0128 meaning the approach could be<br>unsailable during the approach could be<br>unsailable during the server.  | Svaluans in<br>DD-trace Park, DPAC, DPAD<br>DD-trace Park, DPAC, DPAD<br>DD-trace Park, DPAC, DPAD<br>and DPA and DPA and<br>principle<br>principle   | valuated in<br>H and DPA<br>gastry met<br>biologies<br>LCASE<br>Nove any effect on the<br>LCASE  | change below<br>00t expected<br>netwo spoto is<br>lowelight po affect<br>call air quality<br>avoids Surrey Hills)   | No change to siles<br>currently overflows<br>dema   | Expected to<br>ingrove vertical<br>polities to/from<br>Famborough       | Option expected Has pote<br>to reduce to<br>entisations volume r          | ential to<br>be total<br>of CAS   | The RNP-AR annual to RMY<br>08 avoids RAF Opham,<br>Benefate expected to reduce<br>dependencies   | Expected to worsen the<br>impact as more CAS would<br>be required near RAF<br>Oddhar, Lashar and<br>Fairnaks.  | 2ption expected<br>to reduce<br>emissions   | tr cones<br>d with multiple sources to the<br>francourse of the source sources to the source source sources to the source sources to the source sources to the sourcest to the source to the sourcest to  | oridise<br>antides<br>communities<br>below 7000thy below 7000<br>both singcosts has both aligosts<br>been identified  | A No-overflight of Overflight of Salme Salme Salme Salme Salme Salme Salme Salme Soft Salports Soft Salports Soft Salports Soft Salports Soft Salports  | Expected to enable improved<br>COCCDD based on improvements to<br>profiles tohom Heathow and Gatecia<br>Use (FDND-4D to DAY 16  | Wessex Group airways<br>joinens/assues can continue to be<br>accomodated   |
|                                       | =     |                            |                                       | 3.2' SNP APCH (6.5 means at 3.5')   | It is expected but a small increase to the size of CTASE to the west<br>would be required to protect the PRH transition to RRM this at the sour-<br>concentees and white it. Gain with the size of CASE, White theil<br>have an impact to any possible to societation that the share whether it<br>would be detrimented to solely.   | o Cverall ABS evaluation  | Overal CP2 evaluation  |   |   |   | Overall DP4 evaluation  | an  | Custal DP   | 5 evaluation   |   | Overall  | Pilevaluation   |   |   |  |
|                                       |       |                            | Entrant do Comment                    | <u>Difference to De Nothino:</u><br>All actuals eccer Bootde GW<br>Departures and anival deconfricted by decig with improved pe<br>PRA relievance all the sure to Trait accorded (LS only)  | Fee standoors to final approach and deconfliction of anively and<br>departures enclude by guaranteed clinic but departures encode encour-  | Svaluand in<br>Svaluand in<br>DP1 and mail of P1 and mail DP1 a      | oluated in<br>14 and DPG No.   | No change or not possible to accetain   |   |   |   |   | The RNP-AR actual to RWY<br>04 audiot RAF Odham,<br>bendure searched to reduce  | Minimises impact by keeping<br>baseling search as close to   | Some varience   | cathe  | Overlight of Overlight  | t Overlight of Overlights   |   |  |
| Option SA                             | T     | · J                        | - M                                   | Low level issels between Samborrough and Bigshell<br>New confingency hold added<br>Additional high-and PRN arrival roats to RNY 66 to avoid R#<br>Goldan  | abley inside CAB by a significant relacion in RT, makars the rate of<br>CAB acculates and provide movement and ErAT RD<br>angulates.<br>Subject to a safety case to demonstrate the PRN actuals to each new<br>and using the sages of the same expected to be no impacts to get<br>with the sages of the same interaction of the same to the<br>With of Familianus in the TRM. TI  | principies met house design principies princ            | I party met<br>a design<br>finave any effect of the<br>couples   | at this stage (option<br>indexed overlight of<br>North Heases Coarts<br>ACMS but increases<br>overlight of South<br>Downs NP).  | No change to sites<br>currently overflown Expected to m<br>dema                             | est forecast<br>nd  | Epition expected Has pote<br>El reduce reduce f<br>entistions volume a    | ential to<br>decrease the<br>level of tractical<br>intervention   | dependencies.<br>Gauxanteed, higher climb on<br>organitums removes<br>dependency with Salent<br>Approach  | Famborough as possible,<br>inclusing likithood of<br>increases to CAS near RAF<br>Odham, Lasham and<br>Fairtaeks.  | Spilon expected<br>to reduce<br>emissions<br>Swathe sugge<br>could be needy<br>communities in t   | ht cones<br>athing<br>a there<br>verticers<br>is option  | nities<br>communities<br>below 7000th by<br>both aligout has both aligout<br>both aligout has both aligout<br>been identified   | e Earne<br>communités Communités<br>(by balow 7000t by balow 7000t<br>hat both argonts hat both argonts<br>of beer identified beer identifi   | Supported to anable improved<br>CCOCDD based on improvements to<br>profiles tofrom Heathrow and Gateck<br>Use of RNP-AR to RWY 06   | Wesser Group airways<br>joinens/assurer can continue to be<br>accomodated  |
|                                       |       |                            |                                       | improved annual and to departure profiles for Pantocicups   | Whild the benefits described in Cypton SA still evict, this cypton has<br>subtle differences on baseling on departure from RWY GE  | Contal ANE evaluation   | Cueral CP2 evaluation  |   |   |   | Overall DP-t evaluation   | an  | Cweat DP  | 5 evaluation   |   | Owad I   | Pérvaluation  |   |   |  |
| Option 58                             | . 432 |                            | THE                                   | Pfenenae to SA:<br>P6N antwinders at the way to Sala approach (LS and RNP A<br>means slightly widerstate-lag to each and<br>3.2 SNP APCH (LS means at 3.5)  | <ul> <li>The primary particular shared and particular days and an official shared and the primary shared and particular shared approximation of the first support to control table to the primary shared approximation of the primary particular shared to partic</li></ul>   | Contacted in<br>Contacted Perior<br>Mart Part Carlos<br>principies<br>principies  | valuated in<br>H and DPA<br>J party me<br>party me<br>possible to ascentian<br>possible to ascentian<br>without detailed noise<br>modelling<br>lice  | change below<br>oth expected<br>at mis requestions<br>at mis requestion<br>at | A change of<br>swerfight of existing<br>thes could scour<br>below 2000t caving<br>to 06 StD | Expected to<br>improve verticate<br>profiles tofficer<br>Famborough     | Option expected Has pote<br>to reduce f<br>emissions volume i             | ential to<br>decrease the<br>level of tactical<br>intervention  | The RNP-AR actival to RRM<br>06 avoids RAF Ostnam,<br>Bentlow expected to induce<br>dependencies.<br>Gaussteed, higher climb on<br>departures removes<br>dependency with Salent | Expected to worsen the<br>impact as more OKS would<br>be required near RAF<br>Odtham, Lasham and<br>Fairtails.   | 2ption expected<br>to reduce<br>emissions   | softhe<br>fr come<br>bring<br>c there<br>with matiger sources toth<br>Famborough   | entides<br>consummittee<br>consummittee<br>bottow 7000ftte<br>bottow 7000ftte<br>bottow 1000fte<br>bottow 1000fte | 2 Overlight of Overlights<br>antie communities communities<br>below 70000 by below 70000<br>has both algosts has<br>been identified been identifi   | Expected to enable improved<br>CC/CDD based on improvements to<br>profiles tortion Heathrow and Gateck<br>Use of RNP-AR to RNY 06   | Wessex Group alreage<br>joinem/assess can continue to be<br>accomodated  |
|                                       | -21-  | - X -                      | -Th                                   | Romote departure turns acuth earlier than today   | this expected that a small increase to the scalar of CTASIs to the week<br>would be expected to prace the PAP transition to RWY 60 as this would<br>concernate arrivate whith c.0 does the edge of CASI. While the<br>have an impact, it's not possible to acarchian this frame whether it<br>would be detioned to acarbian this frame whether it<br>would be detioned to acarbian.  | Cverail AME evaluation  |  |   |   |   |   |   | Approach  |  |   |  |   |   |   |  |

#### Classification: Public