Airspace Consultation

Part F: Appendices

Contents

Appendix A: References

This appendix lists the documents that make up the guidance framework within which airspace change sponsors have to pay regard in order to progress airspace changes. Web addresses[1] were correct at time of consultation launch.

    1.1.   Transport Act 2000 - Part 1 Air Traffic

www.legislation.gov.uk/ukpga/2000/38/pdfs/ukpga_20000038_en.pdf?timeline=true

    1.2.   The Civil Aviation Authority (Air Navigation) Directions 2001 (incorporating Variation Direction 2004)

www.caa.co.uk/docs/7/DfT%20CAA%20Directions.pdf

    1.3.   Department for Transport Guidance to the Civil Aviation Authority on Environmental Objectives relating to the exercise of its Air Navigation Functions (Jan 2014)

www.gov.uk/government/uploads/system/uploads/attachment_data/file/269527/air-navigation-guidance.pdf

    1.4.   CAP724 Airspace Charter (30 Jan 2009)

www.caa.co.uk/docs/33/CAP724.PDF

    1.5.   CAP725 CAA Guidance on the Application of the Airspace Change Process (30 March 2007)

www.caa.co.uk/docs/33/CAP725.PDF

    1.6.   Radio Mandatory Zone (RMZ) Policy Statement, CAA

www.caa.co.uk/docs/33/20130809RMZPolicyDocumentFinal.pdf

    1.7.   Future Airspace Strategy (FAS)

www.caa.co.uk/default.aspx?catid=2408 and www.caa.co.uk/docs/2408/FAS%20brief.pdf

    1.8.   Rushmoor Borough Council, airport monitoring (including reports on noise, movements and air quality)

www.rushmoor.gov.uk/article/3287/Airport-monitoring

    1.9.   Rushmoor Borough Council, airport planning history including reports and decisions

www.rushmoor.gov.uk/article/2564/Farnborough-Airports-planning-history

    1.10.   Farnborough Airport Master Plan

www.tagfarnborough.com/wp-content/uploads/2012/07/TAGFarnboroughMP.pdf

---

1 TAG Farnborough is not responsible for the content of websites not under our direct control.

1.11. US Army Public Health Command, Operational Noise for aircraft including CH-47 Chinook helicopters

www.energy.gov/sites/prod/files/EA-1606-DEA-AppendixC-2011_1.pdf

Appendix B: Glossary

This glossary is for terms used within the consultation, and for additional background information stakeholders may find useful.

Airports Commission	A commission set up by the Government to look into options for the development of runway infrastructure in the South East
Altitude	The distance measured in feet, above mean sea level. Due to variations in terrain, air traffic control measures altitude as above mean sea level rather than above the ground. If you are interested in the height of aircraft above a particular location to assess potential noise impact, then local elevation should be taken into account when considering aircraft heights; for example an aircraft at 6,000ft above mean sea level would be 5,500ft above ground level if the ground elevation is 500ft. All altitudes in the consultation document are defined as above mean sea level
AMSL	Above mean sea level
AONB	Area of Outstanding Natural Beauty
ATC	Air traffic control
ATC intervention	This is when ATC instruct aircraft off their planned route, for example, in order to provide a short cut, they may be instructed to fly directly to a point rather than following the path of the published route
ATS Licence	The Air Traffic Services licence to provide air traffic control services for UK 'en route' airspace issued by the Government
CAA	Civil Aviation Authority, the UK Regulator for aviation matters
Capacity	A term used to describe how many aircraft can be accommodated within an airspace area without compromising safety or generating excessive delay
CAS	See Controlled Airspace
Centreline	The nominal track for a published route (see Route)
CO_2	Carbon dioxide

Concentration	Refers to a density of aircraft flight paths over a given location; generally refers to high density where tracks are not spread out; this is the opposite of Dispersal
Consultation swathe	This is the broad area within which we will need to position a route
Continuous climb or continuous descent	A climb or descent that is constant, without periods of level flight – the latter is referred to as step climb or step descent
Controlled airspace (CAS)	Generic term for the airspace in which an air traffic control service is provided as standard; note that there are different sub classifications of airspace that define the particular air traffic services available in defined classes of controlled airspace. Abbreviated to CAS
Conventional navigation	The historic navigation standard where aircraft fly with reference to ground based navigation aids
Conventional routes	Routes defined to the conventional navigation standard
Davies Commission	See Airports Commission
Dispersal	Refers to the density of aircraft flight paths over a given location; generally refers to low density – tracks that are spread out; this is the opposite of Concentration
Easterly operation	When an runway is operating such that aircraft are taking off and landing in an easterly direction; see Runway 06 for Farnborough operations
FAS	See Future Airspace Strategy
Final approach path	The final part of a flight path that is lined up with the runway; Farnborough aircraft usually join final approach between 6nm and 10nm from the runway
Flight plan	The flight path that an aircraft has to carry fuel for, which covers the whole route, not including any changes to the flight-path made tactically by air traffic control – which may be either to shorten the flight-path when it is not busy or lengthen the flight-path when there is a queue to land
Flight-path	The track flown by aircraft when following a route, or when being directed by air traffic control (see also Vector)

ft, feet	The standard measure for vertical distances used in air traffic control
Fuel uplift	The amount of fuel that aircraft have to carry on a journey, this includes the fuel for the flight plan, contingency fuel for airborne delay and contingency for emergencies
Future Airspace Strategy	The CAA's blueprint for modernising the UK's airspace.
GA	See General Aviation
GAL	Gatwick Airport Limited
General Aviation (GA)	All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire. Farnborough airport is predominantly used by commercial corporate jet flights. These are not considered general aviation flights in this consultation. The most common type of GA activity is recreational flying by private light aircraft and gliders, but it can range from paragliders and parachutists to microlights and private corporate jet flights.
Holds/Holding Stacks	An airspace structure where aircraft circle above one another at 1,000ft intervals when queuing to land. At Farnborough these are only used for contingency circumstances
Intermediate airspace	Airspace with routes at altitudes between 4,000ft and 7,000ft
	Airports and the national 'en route' ATC agency both have requirements to use this airspace.
LAMP	London Airspace Management Programme
Low altitude airspace	Airspace in the vicinity of the airport containing arrival and departure routes below 4,000ft. Airports have the primary accountability for this airspace, as its design and operation is largely dictated by local noise requirements, airport capacity and efficiency
MOD	Ministry of Defence
NATS	The UK's licenced air traffic service provider for the en route airspace that connects our airports with each other, and with the airspace of neighbouring states
Nautical Mile	Aviation measures distances in nautical miles. One nautical mile (nm) is 1,852 metres. One road mile ('statute mile') is 1,609 metres, making a nautical mile about 15% longer than a statute mile.

Network airspace	En route airspace above 7,000ft in which NATS has accountability for safe and efficient air traffic services for aircraft travelling between the UK airports and the airspace of neighbouring states
nm	See Nautical Mile
OCAS	Outside Controlled Airspace (see Uncontrolled Airspace).
p/a	Per annum (per year)
PBN	See Performance Based Navigation
Performance Based Navigation (PBN)	Referred to as PBN; a generic term for modern standards for aircraft navigation capabilities (as opposed to 'conventional' navigation standards).
Radar, radar blip, radar target, radar return	Generic terms covering how ATC 'sees' the air traffic in the vicinity. One type of radar (Primary) sends out radio pulses that are reflected back to the receiver (the 'return'), defining the target's position accurately and displaying a marker on the controller's screen ('blip' or 'target').
	The other type (Secondary, often attached to the Primary and rotating at the same speed) sends out a request for information and receives coded numbers by return (see Transponder). These numbers are decoded and displayed on top of the Primary return, showing an accurate target with callsign identity and altitude.
	Many airports (such as Farnborough) have their own radars, and also receive feeds from other local radars in order to reduce the impact of any one failure.
Radio Mandatory Zone (RMZ)	A region where all airspace users are required to communicate with ATC even if outside CAS, maintaining their operational freedom.
	This is an airspace structure that is being considered as one element of this proposal.
RNAV	Short for aRea NAVigation. This is a generic term for a particular specification of Performance Based Navigation
RNAV1	See RNAV. The suffix '1' denotes a requirement that aircraft can navigate to with 1nm of the centreline of the route 95% or more of the time

RNAV1 Transition	The part of an arrival route, defined to the RNAV1 standard, between the last part of the hold and the final approach path to the runway
RNP1	Required Navigation Performance 1. An advanced navigation specification under the PBN umbrella. The suffix '1' denotes a requirement that aircraft can navigate to with 1nm of the centreline 95% or more of the time, with additional self-monitoring criteria
Route	Published routes that aircraft plan to follow. These have a nominal centreline that give an indication of where aircraft on the route would be expected to fly; however, aircraft will fly routes and route segments with varying degrees of accuracy based on a range of operational factors such as the weather, ATC intervention, and technical factors such as the PBN specification
Route system or route structure	The network of routes linking airports to one another and to the airspace of neighbouring states.
Runway 06 (Farnborough)	The name given to the runway at Farnborough when operating in an 'easterly' direction (i.e. taking off and landing on the easterly heading of 060º)
Runway 24 (Farnborough)	The name given to the runway at Farnborough when operating in a 'westerly' direction (i.e. taking off and landing on the westerly heading of 240º)
Separation	Aircraft under Air Traffic Control are kept apart by standard separation distances, as agreed by international safety standards. Participating aircraft are kept apart by at least 3nm lateral separation or 1,000ft vertical separation. These distances are different in certain airspace environments, however the ones stated here are used at Farnborough.
Sequence	The order of arrivals in a queue of airborne aircraft waiting to land
SID	See Standard Instrument Departure
Simulation modelling	Computer based analysis where the air traffic is 'flown' through a virtual airspace system; used to assess the effects of changing airspace and routes on the efficiency of air traffic flows

Standard Arrival Route	The published routes for arriving traffic. In today's system these bring aircraft from the route network to the holds (some distance from the airport), from where they follow ATC instructions (see Vector) rather than a published route. Under PBN the published arrival route would go most of the way to the runway, reducing controller workload.
Standard Instrument Departure	Usually abbreviated to SID; this is a route for departures to follow straight after take-off
STAR	See Standard Arrival Route
Statute mile	A standard mile as used in normal day to day situations (e.g. road signs) but not for air traffic where nautical miles are used
Stepped climb	A climb that is interrupted by periods of level flight required to keep the aircraft separated from another route in the airspace above
Stepped descent	A descent that is interrupted by periods of level flight required to keep the aircraft separated from another route in the airspace below
Systemisation	The process of reducing the need for human intervention in the air traffic control system, primarily by utilising improved navigation capabilities to develop a network of routes that are safely separated from one another so that aircraft are guaranteed to be kept apart without the need for air traffic control to intervene so often
Tactical methods	Air traffic control methods that involve controllers directing aircraft for specific reasons at that particular moment (see Vector)
Terminal airspace	An aviation term to describe a designated area of controlled airspace surrounding a major airport or cluster of airports where there is a high volume of traffic; a large part of the airspace above London and the South East is defined as terminal airspace (or Terminal Manoeuvring Area – TMA). This is the airspace that contains all the arrival and departure routes for Heathrow, Gatwick, Stansted, Luton and London City from around 2,000ft-3,000ft up to approximately 20,000ft. Farnborough is below the London TMA.
Tonne, t	Metric Tonne (1,000kg)

Transponder	An electronic device on board aircraft which sends out coded information which is picked up by radar and other systems. Most importantly the aircraft altitude, and identity code, by which the aircraft can be identified on the radar screen.
Transponder Mandatory Zone (TMZ)	A region where all airspace users are required to use a functioning transponder even if outside CAS, maintaining their operational freedom. This is an airspace structure that has currently been discounted from this proposal.
Uncontrolled Airspace	Generic term for the airspace in which no air traffic control service is provided as standard. The airspace surrounding Farnborough airport is currently uncontrolled airspace. Any aircraft can fly in this airspace without having to contact Farnborough ATC. This means that Farnborough ATC do not have control over all aircraft in the airspace, and do not have information on many of the aircraft that may be present in the airspace. Aircraft that are not participating in ATC services are referred to as 'unknown traffic'.
Unknown traffic	Aircraft not participating in ATC services. They may show on radar with altitude information (if they are operating with a Transponder) or in the worst case they will only show as a blip on the radar screen (a radar primary return) with no other information. If ATC sees a primary return on radar, they have to assume that it could be at the same altitude as any flight they are controlling, and hence the flight has to be tactically vectored to safely avoid it.
Vector, Vectoring, Vectored	An air traffic control method that involves directing aircraft off the established route structure or off their own navigation – ATC instruct the pilot to fly on a compass heading and at a specific altitude. In a busy tactical environment, these can change quickly. This is done for safety and for efficiency.
Westerly operation	When a runway is operating such that aircraft are taking off and landing in a westerly direction; e.g. when Runway 24 is in use at Farnborough, the airport is said to be on westerly operations.

Appendix C: Stakeholder List

This appendix lists the stakeholders who have been identified for inclusion in the initial distribution of consultation material.

Whilst we have tried to predict all relevant stakeholders, it is impossible to identify everyone who may have an interest.

Anyone who considers themselves a stakeholder may respond to this consultation.

Parliamentary Constituencies

Aldershot

Arundel and South Downs

Basingstoke

Bognor Regis and Littlehampton

Bournemouth East

Bournemouth West

Bracknell

Brighton, Kemptown

Brighton, Pavilion

Chichester

Christchurch

Dorset County

East Hampshire

East Worthing and Shoreham

Eastleigh

Esher and Walton

Fareham

Gosport

Guildford

Hampshire County

Havant

Horsham

Hove

Isle of Wight

Meon Valley

Mid Dorset and North Poole

Mole Valley

New Forest East

Parliamentary Constituencies (continued)

New Forest West

Newbury

North Dorset

North East Hampshire

North West Hampshire

Poole

Portsmouth North

Portsmouth South

Reading West

Romsey and Southampton North

Runnymede and Weybridge

South Dorset

South West Surrey

Southampton, Itchen

Southampton, Test

Surrey County

Surrey Heath

West Sussex County

Winchester

Windsor

Woking

Wokingham

Worthing West

County Councils

Dorset

Hampshire

County Councils (continued)

Surrey

West Sussex

Borough Councils & Unitary Authorities

Adur

Arun

Basingstoke and Deane

Bournemouth

Bracknell Forest

Chichester

City of Brighton and Hove

City of Portsmouth

City of Southampton

East Dorset

East Hampshire

Eastleigh

Elmbridge

Fareham

Gosport

Guildford

Hart

Havant

Horsham

Isle of Wight

Mid Sussex

Mole Valley

New Forest

Borough Councils & Unitary Authorities (continued)

Poole

Reading

Runnymede

Rushmoor

Surrey Heath

Test Valley

Waverley

West Berkshire

Winchester

Windsor and Maidenhead

Woking

Wokingham

Worthing

National Air Traffic Management Advisory Committee (NATMAC)

Aircraft Owners and Pilots Association (AOPA)

Aviation Environment Federation

BAE Systems

British Air Transport Association (BATA)

British Airline Pilots' Association (BALPA)

British Airways

British Balloon & Airship Club (BBAC)

British Business & General Aviation Association (BBGA)

British Gliding Association (BGA)

British Hang Gliding & Paragliding Association (BHPA)

NATMAC (continued)

British Helicopter Association (BHA)

British Microlight Aircraft Association (BMAA)

British Model Flying Association (BMFA)

British Parachute Association (BPA)

European UAV Systems Centre Ltd

General Aviation Safety Council (GASCo)

Guild of Air Pilots & Air Navigators (GAPAN)

Guild of Air Traffic Control Officers (GATCO)

Helicopter Club of Great Britain (HCGB)

Light Aircraft Association (LAA)

National Air Traffic Services (NATS)

PPL/IR Europe

Aviation Stakeholders

51 North

Acropolis Aviation

Adventure Balloons

Air Ambulance (Hants & IOW)

Air Ambulance (Surrey)

Air Engiadina

ASP

Avijet

BAE Corporate Travel

BAE Systems Marine

Blackbushe Airport

Blink

Aviation Stakeholders (continued)

BMI Regional

Bookajet

Bournemouth Flying Club

Bournemouth International Airport

Brimpton Airfield

British School of Ballooning

Cessna

Corporate Jet Management

Denham Airfield

Direct Aviation

Dubai Air Wing

Dunsfold Aerodrome

Eastern Airways

Easyjet

Econet Wireless

Embraer

Euro Flight Services

European Skytime

Excellence Aviation

Execujet UK

Executive Jet Charter

Fairoaks Airport

Farnborough Aero Club

Farnborough Airport Consultative Committee

Farnborough International Ltd

Flybe

Gamma Aviation

Aviation Stakeholders (continued)

Gatwick Airport

Gexair

Global Jet

Goodwood Airport

Grantex

Greyscape

GX Holdings

Harrods Aviation

Head Start Aviation

Heathrow Airport

Heathrow Weekend Freight

Homestead Farm

International Air Transport Association (IATA)

International Jet Club

J&P

Jet Aviation

Lasham ATC

Lasham Gliding Club

LEA

Liberty Global

LOWA

Manhattan

Microlight Sport Aviation Ltd

Ministry of Defence (MoD)

Mike Smith Enterprises

Netjets TA

Oxford Air Training (CAE)

Aviation Stakeholders (continued)

Popham Airfield

Premiair Aviation

Qatar Amiri Flight

RAF Odiham

Reach4thesky

Royal Aero Club

Satcom Direct

Scotland Farm

Solent School of Flying/ Bournemouth Helicopters

Southampton Airport

TAK Aviation

TGC Aviation

Thames Valley Hang Gliding & Paragliding Club

Thunder Air

Titan Airways

Tongham Airfield

Triar

Unmanned Aerial Vehicle Systems Association (UAVSA)

Virgin Balloon

Vistajet

White Waltham Airfield

Wycombe Air Park (Booker Airfield)

ZC Aviation

Local Stakeholders, Local and National Environmental Groups

Campaign to Protect Rural England

Chichester Harbour AONB

Colemore Common

Cranborne Chase and West Wiltshire Downs AONB

Dorset AONB

English Heritage

Environment Agency

Frimley Park Hospital

Isle Of Wight AONB

National Trust

Natural England

New Forest National Park

South Downs National Park

Surrey Hills AONB

Twesledown Racecourse

Valentine Farm

This page is intentionally blank