



31 August 2010

Policy Statement

THE FUTURE APPLICATION OF CLASS F AIRSPACE IN UK FLIGHT INFORMATION REGIONS

1 The Application of ICAO Airspace Classes in the UK FIRs

- 1.1 ICAO requires that airspace is classified and designated according to the ICAO Air Traffic Service (ATS) Airspace Classifications as detailed in References A to C. The UK currently applies the Airspace Classification System subject to such Differences that may be detailed at Reference D, the European Commission's Airspace Classification Regulation (Reference E) and the Policy Statement at Reference F.
- 1.2 The application of each of the ICAO Air Traffic Service (ATS) Airspace Classifications and of the services within each of those in use in the UK FIRs shall be in accordance with the harmonisation principles of the ECAC Airspace Strategy.
- 1.3 The airspace classification to be applied to a particular volume of airspace will depend principally upon the number of Air Transport Movements (ATMs) operating within it, the complexity of IFR operations within it and also upon the safety hazards posed to IFR passenger air transport traffic by other airspace activities.

2 Class F Airspace

- 2.1 Within the UK FIRs Class F is specified for UK Advisory Routes (ADRs) as detailed in References G-I and the map at Reference J. Reference C states that, where an Air Traffic Advisory Service is implemented, this is considered normally as a temporary measure only until such time as it can be replaced by an air traffic control service, i.e. through the application of Classes A-E.
- 2.2 Although a study into the future of UK ADRs (first established in the 1960s) had been undertaken in 2006 (Reference K), the ICAO Universal Safety Oversight Audit Programme (USOAP) inspection of the UK conducted during February 2009 found that there are no timelines for replacing air traffic advisory service within Class F within the UK and that, in ICAO terms, this was inappropriate use of this airspace classification (Reference L). It is therefore the intention of the CAA for UK ADRs to be progressively replaced by airspace classes better suited to the operational conditions associated with each of these routes, and in accordance with principles outlined above. The CAA seeks to identify how this action will be taken forward by the end of 2011, and the purpose of this paper is to identify options in order to achieve that goal.

3 Service Provision Within UK Class F Airspace

- 3.1 The ATS arrangements and procedures to be followed by aircraft operating along UK ADRs are described at Reference G. The ICAO requirements for an Air Traffic Advisory Service to be provided within Class F airspace are met in the UK through the provision of a Deconfliction Service or Procedural Service (as detailed at Reference M) to IFR aircraft that have flight planned to fly along ADRs.

4 Options for Change

- 4.1 Alternative airspace arrangements must be considered in advance of the removal of Class F airspace within the UK FIRs. Three such alternatives exist, thus:
- a. **Option 1** - Replacement of all existing Class F airspace by controlled airspace, i.e. Classes A-E.
 - b. **Option 2** - Replacement of all existing Class F airspace by Class G airspace.
 - c. **Option 3** - Replacement of all existing Class F airspace by Classes A-E and G on a case-by-case basis.
- 4.2 In each case, the application of a particular airspace classification shall be determined by the need to establish a known traffic environment in either, or both, Visual Meteorological Conditions (VMC) and Instrument Meteorological Conditions (IMC) in specific areas subject to the availability of the requisite navigational infrastructure and ATS within each particular volume of airspace. Route utilisation and underlying safety concerns will determine the most appropriate solution.
- 4.3 Option 1 is considered inappropriate (in particular where the utilisation of the existing ADRs is historically very low) as it is likely to lead to the application (wholly or in part) of unnecessarily restrictive airspace Classifications. In addition, any increase in ATS infrastructure deemed necessary to support service provision is likely to be extremely expensive. Conversely, Option 2 is likely to be appropriate in the case of most ADRs but would lead to the application of an inadequate airspace Classification in those areas where ADR utilisation is relatively high, even if only at certain times of the day. Option 3 is considered to be the most appropriate as it will lead to the identification and application of the most appropriate airspace Classifications best suited to the needs of all airspace users.

5 Application of Airspace Classes

- 5.1 The purpose of CAS in the UK is to enhance the protection of ATMs operating under Instrument Flight Rules (IFR) during en-route flight and the critical stages of an Instrument Arrival or Departure, and to permit the safe and effective integration of such traffic with other IFR flights and flights operating under Visual Flight Rules (VFR). Such protection is principally established by means of a known traffic environment.

5.2 Classes A and B

- 5.2.1 Class A will normally only be applied to airspace where the complexity of the ATM task justifies a permanent IFR-only environment. Its application is strictly limited and

as such is considered to be too restrictive a Class and therefore an inappropriate alternative to Class F. Class B is not currently applied within UK airspace.

5.3 **Class C**

- 5.3.1 Class C applies in the UK FIRs between FL 195 and FL 660 in accordance with the European Commission's Airspace Classification Regulation. Within the UK FIRs below FL195, Class C may be specified for airways (or portions thereof) and Terminal Control Areas (TMAs) (or portions thereof). Class C airspace permits access by other airspace users under conditions that will enable the safe and expeditious flow of traffic and preserve the known environment that is important to Commercial Air Transport (CAT) where the volume of traffic is at a level that requires the provision of a known environment.
- 5.3.2 It is the intention of the CAA for current Class D airways to be progressively specified as Class C to be better suited to the operational conditions associated with each of the airways in question. Whilst it is likely to be an appropriate alternative for a limited number of ADRs, Class C is (on the basis of utility and safety considerations, service provision and the potential access requirements of other airspace users) considered to be a generally inappropriate alternative for the greater part of current UK Class F airspace.

5.4 **Class D**

- 5.4.1 Class D is to be specified for locations where a known traffic environment is necessary in both VMC and IMC. Within the UK FIRs below FL195, Class D may also be specified for TMAs (or portions thereof) and exceptionally for certain airways (or portions thereof). Class D airspace permits access by other airspace users under conditions that will enable the safe and expeditious flow of traffic and preserve the known environment that is important to IFR traffic where the volume of traffic is such that it requires the provision of a known environment.
- 5.4.2 However, within Class D airspace VFR traffic is not separated from IFR traffic, and unlike Class C there are no restrictions applicable to VFR flight along a Class D airway. This may be unacceptable in certain environments. Therefore, whilst initially it may appear to be an appropriate alternative to Class F in certain cases, Class D may in fact be a less appropriate alternative to Class F than Class C.

5.5 **Class E**

- 5.5.1 Class E airspace is intended by ICAO to be specified exceptionally at locations where a known traffic environment is necessary only in IMC. VFR flight in Class E airspace is not subject to a clearance to operate within it and, unlike Class D, the airspace does not constitute a known traffic environment. Whilst separation between IFR traffic is provided, separation between IFR and VFR traffic is not provided with traffic information on VFR traffic being provided when practicable. Class E airspace as defined in ICAO Annex 11, is considered to be insufficiently different in nature from Class F and G airspace, especially when the provision of the UK Air Traffic Services Outside Controlled Airspace (ATSOCAS) is taken into consideration (specifically, where a Deconfliction Service can be guaranteed). As such, it does not confer operational and safety benefits over either Class F or G airspace.
- 5.5.2 Were Class E to be enhanced by the addition of additional conspicuity and/or communications requirements (in line with emerging, internationally developed

airspace classification tools), it would represent the minimum acceptable change from Class F to controlled airspace. In this enhanced form, Class E is considered an appropriate alternative to the greater part of current UK Class F airspace, i.e where the application of Class D or higher is not considered appropriate, and where reclassification to Class G is insufficient.

5.6 **Class G.**

- 5.6.1 Class G as applied to the remainder of the UK FIRs would appear to be an appropriate alternative to Class F where the application of higher classifications is not considered appropriate (or necessary) on the basis of utilisation levels and safety considerations. However, this will be subject to the continued provision of properly resourced ATSOCAS within the limits of radio and radar cover in the areas where it is provided today.

6 **Issues For Consideration**

- 6.1 **General** - A number of factors will need to be taken into account in determining where it is appropriate to upgrade the existing route to a higher classification airway and where an appropriate ATSOCAS service will be adequate. The issues introduced in subsequent paragraphs appear in no particular order, neither do they represent a definitive list.
- 6.2 **ADR Utilisation Levels** - It will be necessary for a detailed study of ADR utilisation to be undertaken in order to support proposals to reclassify or declassify Class F as appropriate, and to determine the degree to which Flexible Use of Airspace arrangements can be applied. Such studies will need to consider utilisation within all ADR segments and at all available levels.
- 6.3 **Safety Occurrences** - It will be necessary for a detailed study of safety occurrences to be undertaken as a means of identifying the need to replace Class F airspace by a higher classification, rather than Class G.
- 6.4 **Flight Planning** - It is assumed that no flight planning issues will arise if routes are reclassified as airways. If routes are disestablished and the airspace reclassified as Class G it would continue to be possible to file IFR or VFR Flight Plans based upon established waypoints where these remain in place as part of an established and published structure. It would also be possible to file 'DCT', with associated routeing advice appearing in individual aerodrome Aeronautical Information Publication (AIP) AD2 entries.
- 6.5 **Conditional Routes (CDRs)** - Consideration will be given to the replacement of ADRs by CDRs where the establishment of airways on an H24 basis cannot be justified.
- 6.6 **Class G Routes** - It may be necessary to consider the feasibility for some form of flight-plannable route in order to enable the ATS system to respond appropriately to demand and to identify the limitations of radio and radar infrastructure availability; Helicopter Main Routes (HMRs) may provide a precedent of sorts in this regard in both service provision and planning terms. Alternatively, route descriptions as presented in the United Kingdom and Ireland Standard Route Document (Reference N) and/or individual AIP AD2 entries may be sufficient. The viability of such routes in terms of flight planning and navigability (eg, navaid coverage and Area Navigation (RNAV) considerations) will need to be determined. It will also be necessary to

determine whether proscribed Class G routes will lead to the funnelling of traffic in Class G and the operational and environmental impacts this may incur.

- 6.7 **Service Provision** - Where ADRs are replaced by a higher airspace classification it will be necessary to assess the consequences to service provision and controller licensing. Provision of an acceptable level of service within Class G airspace where this replaces Class F will also need to be determined.
- 6.8 **Impacts On/Relationships With Adjacent Airspace Structures** - It will be necessary to consider the impacts of any change to ADRs, not least those associated with extant airspace structures including Standard Instrument Departures (SIDs), Standard Instrument Arrivals (STARs), airspace restrictions and interfaces with adjacent FIRs. The DAP Buffer Policy requirements must also be satisfied.
- 6.9 **CNS and Other Resource Impacts** - Although it is assumed there will be no changes to current CNS coverage, it will be necessary to determine whether this will remain adequate for the revised airspace structures arising from the removal of Class F ADRs. Any resultant changes to Communications, Navigation and Surveillance (CNS) infrastructure requirements may have further non-CNS implications that will have to be identified.
- 6.10 **Costs/Route Charges** - Service provision, NERL Licence and cost recovery issues will need to be identified and addressed where necessary.
- 6.11 **Charting** - Charting issues may emerge, especially if a requirement to depict current ADR centrelines as Class G routes (as described above) emerges.
- 6.12 **Review of Scottish TMA** - Most ADRs lie wholly or partly within the Scottish FIR. Changes to these are likely to influence (or be influenced by) any future review by NATS of the structure of the Scottish TMA.

7 Changes to Airspace Classifications

- 7.1 **General** - Changes to the dimensions or classification of UK airspace are to be undertaken in accordance with References O and P. In considering alternative airspace classifications, the following principles will be applied:
 - a. Airspace classifications shall be selected to permit safe access to as many classes of user as possible.
 - b. The volume of controlled airspace (i.e. Class D and above) shall be the minimum necessary for the effective protection of the whole ATC operation as defined by the ATS provider within a particular airspace, subject to the need to avoid over complication of airspace structures and any environmental considerations.
 - c. The Flexible Use of Airspace (FUA) concept will be considered at every opportunity to allow maximum integrated usage of UK airspace by all users. Every effort will be made to ensure that airspace sharing arrangements are not overly complex and that such arrangements do not reduce flight safety or render the affected airspace (or sharing arrangements) unusable.
- 7.2 **ACP Responsibilities and Consultation** - In all cases the ATS provider currently providing ATS along ADRs today will act as change sponsor. Consultation will include

NATMAC members, service providers affected by the changes and airspace users. An assessment of the impacts upon aviation stakeholders of the replacement of ADRs by Class G airspace will be required. Where airspace upgrades are considered appropriate, environmental consultation will not be required provided it can be demonstrated that there will be no change to the pattern of flying within the route.

- 7.3 **Notification of Airspace Changes** - Industry will be notified of the outcomes of such consultation and of decisions to implement the resultant airspace changes, which will be introduced on specified AIRAC dates. The necessary AIP and VFR chart amendments will be prenotified by means of timely Aeronautical Information Circulars.

8 Milestones

- 8.1 The following milestones have been agreed with ICAO:
- a. Planning to implement the removal of Class F airspace in the UK FIRs to be completed by the end of December 2009.
 - b. Consultation on the proposals to remove Class F airspace to be completed by December 2010.
 - c. Publish AICs notifying the arrangements and timeline for the replacement of Class F airspace by the end of October 2011.
- 8.2 Work is now in hand to develop definitive timescales for the removal of Class F airspace in accordance with the above.

9 DAP Point of Contact

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References

- A. ICAO Annex 2 - Rules of the Air.
- B. ICAO Annex 11 - Air Traffic Services.
- C. ICAO Doc 4444 PANS-ATM.
- D. UK AIP GEN 1.7 - Differences from ICAO Standards, Recommended Practices and Procedures.
- E. European Commission Airspace Classification Regulation 730/2006 dated 11 May 2006.
- F. Application of ICAO Airspace Classification in UK Flight Information Regions (Directorate of Airspace Policy, 31 August 2010).
- G. UK AIP ENR 1.1.1 - ATS Routes and Upper Control Areas (UTA)
- H. UK AIP ENR 1.4 - ATS Airspace Classification.
- I. UK AIP ENR 3.1 - Lower ATS Routes.
- J. UK AIP ENR 6-3-1-3 Air Traffic Advisory Routes in the United Kingdom FIR.
- K. Study Into the Future of UK Advisory Routes (8AP/66/01/05/03 dated 20 January 2006)
- L. ICAO Safety Oversight Audit of the UK CAA (February 2009) - Audit Finding ANS/02.
- M. UK AIP ENR 1.1.2 - Air Traffic Services Outside Controlled Airspace.
- N. United Kingdom and Ireland Standard Route Document (<http://www.nats-uk.ead-it.com/aip/current/srd/SRDDOC.pdf>)
- O. CAP724 - The Airspace Charter.
- P. CAP725 - CAA Guidance on the Application of the Airspace Change Process.