



Ministry
of Defence



**ROYAL
AIR FORCE**

RAF AEROBATIC TEAM AIRSPACE CHANGE PROPOSAL

Gateway documentation:

Stage 1 Define

Step 1B

Design Principles and Stakeholder Engagement

V1.0

Roles

Action	Role	Date
Produce	Airspace Change Team RAF 22 Group	7 May 19
Review	DAATM	8 May 19
Approve	Change Sponsor RAF 22 Gp	15 May 19

Drafting and Publication History

Issue	Date	Change Summary
1.0	May 19	Published to CAA Portal

Contents

Introduction	1
Executive summary	1
How this document is laid out	2
Section 1	
Stakeholder identification	3
Engagement methods	4
Engagement chronology	6
Section 2	
Draft Design Principles	7
Design Principles Evolution	8
Design Principles Prioritisation	13
Section 3	
Next Steps	14

Introduction

The Ministry of Defence, and specifically 22 Group Royal Air Force, is the change sponsor for this proposal. The proposal seeks to secure airspace for the Royal Air Force Aerobatic Team (RAFAT), commonly known as the Red Arrows, to train within.

The purpose of this document is to demonstrate that the Change Sponsor has followed CAP1616 airspace change process. It forms part of the overall requirements for the Stage 1 Define Gateway, Step 1B - Design Principles.

As described in Annex D to CAP 1616, the Change Sponsor has engaged with a range of potential stakeholders to seek their views on the change proposal and collect feedback as to what is important to them regarding the proposal in terms of Design Principles.

It is important to assure stakeholders that they are included in the change process and that they have influenced the design. The stakeholder feedback has been analysed and summarised in this document to describe how the feedback has been incorporated into finalised Design Principles. The finalised Design Principles will be employed in the development of airspace design options.

Executive Summary

The Change Sponsor conducted detailed stakeholder analysis to ensure they effectively engaged with all potential stakeholders over the Design Principles.

Stakeholders were engaged in writing and included:

- County and District councils

- Local communities

- Local General Aviation (including aerodrome operators and air system operators)

- Commercial aerodrome operators

- National Air Traffic Management Advisory Committee members

Three drop-in roadshows were also organised, one near each of the 3 potential bases that have been identified for the Red Arrows. Due to the high-profile nature of the Red Arrows, engagement attracted a high volume of feedback. Much of the feedback received surrounded where the Red Arrows should be based. The feedback that focused on the airspace change proposal came nearly exclusively from the General Aviation community. No feedback was received from the commercial sector.

Major themes were safety, concern that the change proposal would restrict freedom of manoeuvre and concern about the environmental impact of the change.

Full details of engagement can be found later in this document.

As a result of the engagement, some of the Design Principles have been adjusted. All changes have been commented on and all queries that have not resulted in a Design Principle change have been discussed below.

How this document is laid out

Section 1

We engaged a representative group of aviation and local community stakeholders.

This section summarises:

- how we identified stakeholders
- how we engaged with stakeholders
- the engagement chronology

Section 2

We developed the design principles based on stakeholder feedback.

This section describes:

- the initial set of design principles offered by the sponsor
- a summary of the feedback and how the design principles were adapted
- how the design principles were prioritised

Section 3

Next steps in the airspace change proposal

Section 1

How we identified Stakeholders.

Detailed stakeholder analysis was undertaken.

The airspace options development will be linked to the 3 RAF Stations identified as potential future bases for the Red Arrows. These are RAF Leeming, RAF Waddington and RAF Wittering. This is an unusual situation since most airspace change proposals are based on a single known site.

To determine stakeholders, the potential areas which could be affected by an airspace solution were identified. These are displayed on the map in the Airspace Change Portal.

Research was undertaken in the defined areas to identify local authorities, General Aviation aerodromes, General Aviation operators, commercial airports and businesses potentially affected.

The assumption was made that NATMAC and local authorities, as over-arching bodies, would pass the information down through their communication chains, to inform their representatives to an appropriate level.

Local authority engagement was conducted at county and district level but did not include parishes. This was because there would have been more than 500 parish councils and it was considered that feedback at this level would be more appropriately targeted once the design options were known.

Notwithstanding the expectation that NATMAC members would cascade engagement literature to an appropriate level, it was important to attempt to identify General Aviation organisations local to, and just beyond, the specified area. Best efforts were made to reach out directly at this level.

The following stakeholders were identified:

Drop-In Stakeholders (incl local GA)		
General public at RAF Leeming (x 30 attended)	General public at RAF Waddington (x 15 attended)	General public at RAF Wittering (x 49 attended)
General public email discussions x 37	Questions via MPs (x 8)	Facebook (see Social Media below)
Aviation Stakeholders		
All NATMAC members	Leeds East (ex RAF Church Fenton)	Sywell
Bagby airfield	Leicester Airport	Wickenby
Bourn – rural flying club	Little Gransden	Buckminster Gliding Club
Chatteris	Melbourne	Cambridge Gliding Club
Deenethorpe	North Luffenham	Cranwell Gliding Club
Doncaster Sheffield Airport	Nottingham	Darlington Gliding Club
Durham Tees Valley	Peterborough Conington	Lincolnshire Gliding Club
East Midlands Airport	Pocklington	Nene Valley Gliding Club
Elvington	Sandtoft	Peterborough & Spalding GC
Fenland	Shacklewell Farm	Trent Valley Gliding Club
Full Sutton	Sherburn in Elmet	Welland Gliding Club
Gamston	Strubby	Wolds Gliding Club
Kirkbymoorside	Sturgate	Yorkshire Gliding Club
Leeds Bradford Airport	Syerston	York Gliding Centre

Local Authority Stakeholders		
Nottinghamshire County Council	North Kesteven District Council	Newark and Sherwood District Council
Cambridgeshire County Council	South Kesteven District Council	Rushcliffe Borough Council
Huntingdonshire County Council	West Lindsey District Council	Melton District Council
Lincolnshire County Council	South Holland District Council	Ryedale District Council
North Lincolnshire Council	Boston Borough Council	Richmondshire District Council
Rutland County Council	East Lindsey District Council	Leeds City Council
Northamptonshire County Council	East Northamptonshire District Council	Hambleton District Council
Leicestershire County Council	Peterborough City Council	Harrogate District Council
North Yorkshire County Council	Bassetlaw District Council	York City Council
East Riding of Yorkshire Council	Fenland District Council	Selby District Council

Engagement methods.

A varied and proactive approach was used to engage with potential stakeholders. To ensure wide awareness of the proposed ACP we engaged through a variety of means, from traditional face-to-face drop-in sessions held in local community venues, written communication to organisations we believed would be interested, TV/radio coverage and social media posts.

a. **Written communication.** An initial email introducing the ACP was sent, along with a letter with details of our draft design principles and an explanation about how we would like to engage with them for feedback on our proposal. The letter included details on how to leave feedback on the CAA portal, our direct email address for any questions or feedback and dates, and times/locations of a drop-in roadshow in their area to facilitate face-to-face discussion on the design principles. Details are available on the portal. Once engaged, it was emphasised in subsequent correspondence that stakeholder views as to 'what design considerations are important to stakeholders' was requested.

b. **Media engagement.** At the drop-in events there was local media interest. To exploit this opportunity and to ensure the ACP was known about, and information reached as many potential stakeholders as possible, the following media activity was undertaken:

1) Waddington. BBC Look North (TV article 11 Apr in the breakfast news). The broadcast included a range of people and perspectives:

Interviewed a County Councillor (support for Lincolnshire base)

Interviewed a gliding club representative

General scene of us talking to the public.

- 2) Waddington. We spoke with a journalist from the Lincolnite newspaper and talked him through the ACP and how it would play out.
- 3) Waddington and Wittering. Lincs FM. a Q&A interview was given to explain the purpose of the engagement.

c. **Social media.** Details of the ACP and the drop-in roadshow were advertised on FaceBook pages for all 3 potential bases along with a post on the Red Arrows page. The Red Arrows FaceBook page has a following of 360,000 people, RAF Leeming 7,700, RAF Waddington 9,400 and RAF Wittering 10,000. Posting on such high-profile pages should have increased the likelihood of stakeholder awareness opportunity to engage. There were approx. 700 posts across these sites.

d. **Roadshows.** Three roadshow events were run, one in the locality of each potential base. The events were run in a drop-in style, to make them as flexible and easy to attend as possible. The venues were selected because they were outside of the military perimeter, to ensure ease of access for the public. Events were run from 2:30pm until 6:45pm to ensure people wishing to attend within both a professional and personal capacity were able to. The events were advertised in letters to all NATMAC members, County Councils, District Councils, local aerodromes and glider sites. E-mails received from the public regarding the ACP were replied to and details of the roadshows were mentioned.

These events proved valuable to explain to the spectrum of stakeholders and media the purpose of engagement and the CAA's airspace change process. In addition, it provided an opportunity to describe how the dual tracks of the MOD's basing selection and the CAA's airspace decision would converge. This was important to provide a differentiation between the two activities. However, concerns were still raised about the potential introduction of noise nuisance around the base location.

A leaflet was provided at these events explaining the statement of need, describing the initial design principles, illustrating the current airspace, providing contact details and signposting the portal.

- i) **RAF Leeming.** Total number of attendees: 30. Most attendees were airspace users, particularly the glider community who hold the greatest concerns about the impact on their operations. Friends of Leeming Airfield Group chairman and other locals were there to express support for the move of the base to Leeming.
- ii) **RAF Waddington.** Total number of attendees: 15, only 1 airspace user (glider again). The rest were expressing support for the Red Arrows remaining in Lincolnshire. There were media representatives from BBC Look North, Lincs FM and the Lincolnite newspaper.
- iii) **RAF Wittering.** Total number of attendees: 49. The largest attendance of the 3 events by far – about 50, divided evenly between airspace users (flying clubs, gliding clubs, skydivers, balloonists) and the public. The General Aviation community firmly expressed concerns about the potential

impact of an airspace change. The public were overwhelmingly supportive of a potential move to Wittering and wondered how they could support. There was media representation from Lincs FM.

Surveys.

The use of a survey was considered as an engagement method. However, review of other surveys identified that they are more suited to discovering stakeholders' views for environmental impact; the provisional M1 categorisation requires a different obligation for the MoD. Surveys are efficient in seeking views when in possession of a well-defined list of stakeholders. As this proposal has been initiated with 3 potential bases for the Red Arrows and the proposed location of the ACPs at each base is reasonably large, there was greater likelihood of missing important stakeholders. Therefore, it was decided that a physical presence, in addition to the option of electronic communication would deliver more robust and effective engagement.

Members of Parliament. MPs for the constituencies in which basing options were announced were informed in writing by the Minister for Defence Personnel and Veterans (DPV). Following media announcement of the basing decision, several members of the public wrote to their MPs/Min DPV. Some signalled support or opposition (for example, environmental impact) to the potential basing. Others raised general concerns about noise and road safety and have been included in the analysis.

Engagement chronology. The table below details the design principles engagement activity undertaken.

Date	Contacted	Notes
22 Nov 2018	RAFAT ACP email address published on ACP portal so people could contact us.	
19 March 2019	All NATMAC members.	
25 March 2019	Local authority stakeholders and all NATMAC members.	Letter RAFAT/ACP/3
27 March 2019	All aerodrome and gliding club stakeholders.	Letter RAFAT/ACP/1 Draft design principles Letter RAFAT/ACP/3 – roadshow details
1 April 2019	Post on RAF Wittering Facebook advertising the drop-in session on 11 th April.	
2 April 2019	Post on RAF Waddington Facebook advertising the drop-in session on 10 th April.	
8 April 2019	Post on RAF Leeming Facebook advertising the drop-in session on 9 th April.	
9 April 2019	Post on RAF Red Arrows Facebook advertising all 3 drop in sessions.	
9 April 2019. 14:30-18:45hrs	Drop in session Northallerton Town Hall.	
10 April 2019. 14:30-18:45hrs	Drop in session Waddington Community Hub.	
11 April 2019. 14:30-18:45hrs	Drop in session Wittering Learning Community Centre.	
22 Nov 18 – 7 May 19	Responding to general public individual enquiries, email and telephone calls.	Contact received from 37 people regarding airspace, 7 emails received expressing their preference for the basing location.

Section 2

Draft Design Principles.

To provide a start point and initiate a discussion on design principles, a list of draft design principles was offered during engagement.

The concept of a 'long list' was rejected; a review of this approach found that these majored on Environmental Impact principles for commercial traffic. Given the provisional M1¹ categorisation of this proposal and the assumption that commercial air traffic would not be affected by the proposal (since the identified area did not include controlled airspace), it was assessed that environmental impacts could be accounted for under a single design principle, appropriate to this stage in the process and developed in detail at later stages.

The draft design principles initially offered are in the table below:

Draft Design principle. The design must:		Initial Rationale
1	Be no less safe than the current parameters provided by EGR313.	Airspace is required to ensure safety during display training: <ol style="list-style-type: none"> a. To avoid the chance of mid-air collision with a 3rd party aircraft or controlled flight into terrain. b. To allow the pilots to concentrate on flying safely.
2	Ensure that the risk to life associated with the solution is Tolerable and ALARP.	The MoD is mandated to ensure that usage of the chosen site minimises risk to the pilots, MOD employees and the public.
3	Consider sensitive areas.	Airspace applications are to consider impact on sensitive areas, where possible.
4	Consider ATC workload.	The MoD should consider whether the proposed airspace is manageable within Air Traffic Control resources.
5	Provide sufficient area for training.	The area required for display training purposes must be sufficiently large to allow the safe practice of complex manoeuvres. Currently, display practices start using the whole of the airspace and patterns tighten over time, as the team become more experienced with the formation manoeuvring. The manoeuvres are undertaken at considerable speed, so the airspace must be large enough to contain the distances covered.
6	Be within usable flying range to RAF basing for transit.	The Red Arrows has a budget of flying hours allocated. The number of hours required to train the team to flying display standard is broadly fixed. So, the greater the time (and distance) between the base and airspace locations, the fewer hours will be available for public displays i.e. there is a risk of a reduction in the number of public displays.
7	Use FUA principles to manage the airspace as far as is practicable (Efficiency + Airspace Sharing).	UK airspace is congested and has many users. It is important to make airspace available to the greatest extent possible and minimise restrictions.
8	Use standard airspace structure where possible (Conformity, Simplicity and Safety).	Airspace structures and associated usage rules vary and can be difficult to understand. Standard and simple airspace structures are preferred.

¹ For a Level M1 change, a military proposal anticipated to affect civil operations must take the environmental impact of those effects into account. Therefore, in this scenario, the Ministry of Defence must discuss options with local communities.

Design Principles Evolution

Relevant comments from all stakeholders were collated and arranged under the related draft design principle. Where it was assessed that a new design principle had been proposed, these were listed separately. All comments were reviewed and responded to. Where a change to the draft design principle was accepted, this was annotated and a revised design principle was proposed. Regarding the social media responses, of the 700 comments made, 18 related to airspace feedback and the remainder expressed their preference for basing locations.

DP 1. The design must be no less safe than the current parameters provided by EGR313.

General Aviation (GA) highlighted that there was a need to achieve appropriate levels of flight safety for all airspace users both in and around the airspace; creating airspace large enough to ensure the safety of the Red Arrows was not the only factor. There was concern about creating choke points where GA would be forced to concentrate due to funnelling, for example against terrain or other airspace. The safety of those living below the airspace was also raised.

Our response is to accept the need to consider the safety of all users more specifically within the design principle and to amplify the reasons for concern. This design principle is focussed on the flight safety in and around the airspace. The concerns about the safety of those underneath the display area will be addressed more specifically by DP2.

Revised DP1: The design should be such that the MAC & CFIT risk for the RAFAT and airspace users in the region is no greater than that provided by EGR313

DP2. The design must ensure that the risk to life associated with the solution is Tolerable and As Low As Reasonably Practicable (ALARP).

A few members of the public, some who live under EGR313 or near to fast-jet RAF stations, expressed concerns about the dangers of low flying aircraft and urged that the new airspace location should not be over a populated area. Others were concerned that the operation of the Red Arrows close to the A1 trunk road could distract drivers and cause an accident. This was mirrored on Facebook where there were several comments about road safety.

GA were concerned that the safety assessment should take account of the population below the airspace and that contemporary display regulation/lessons learned from the Shoreham accident should be carried forward into this assessment.

Our response is to differentiate this design principle from DP1. DP1 is focussed on the flight safety in and around the airspace whereas this DP is about the risk to life inside the airspace as a result of the display activity. It is not the airspace that creates a risk to life for those living below it, rather how it is used. Potential hazards will be considered, including the risk of road traffic accidents. It will also capture display requirements eg. Military Aviation Authority Regulatory Article 2335, to 'sanitise' the ground for non-Red Arrows personnel within certain intense manoeuvre areas and to ensure that overflight height rules etc. are applied. Therefore, this DP is to ensure that RAFAT operations within the airspace are safe.

Revised DP2: The design must ensure that the risk to life associated with RAFAT operations within the airspace is Tolerable and ALARP

Note. For both DP1 and DP2 it is stressed that the Change Sponsor must develop a Safety Assessment as prescribed in CAP1616.

DP3. The design must consider sensitive areas.

Members of the public were concerned about the noise generated by the Red Arrows, either at the base location or the airspace location. On Facebook, concerns were raised about pollution and disturbance of wildlife. In responses by email and at the drop-in events they were signposted to the Environmental Impact requirements of an M1 categorised change proposal.

Local Authorities highlighted important ecological sites and industrial sites such as windfarms and mineral/waste management facilities. The affects of noise and air quality were also a concern.

GA users commented on the need to be more specific in terms of defining the sensitive areas to be considered.

The environmental impact of changes to civil traffic as a result of the proposal is a CAP 1616 requirement. Our response is to acknowledge, through amplifying text, that any sensitive areas specific to potential designs will be considered. The MOD, through close engagement with relevant authorities, will manage appropriate solutions with respect to any locally sensitive areas. The design principle should also be amended to reflect how sensitive areas will be addressed; this will be done through focussed consultation as the design options are developed.

Revised DP3: The design must consider sensitive areas.

Specific sensitive areas for military aircraft will be determined through consultation. Examples may include, but not be limited to: hospitals, industrial hazards and equestrian facilities.

DP4. The design must consider ATC workload.

GA highlighted the general concerns over the capacity of all air traffic control organisations to provide an air traffic service. The shortfalls in military manpower and the reluctance of commercial service providers to cater for non-commercial traffic were cited as reasons. The consequence could be increased congestion of GA traffic, the unavailability of portions of uncontrolled airspace for transit as a result of being excluded from Red Arrows and controlled airspace, through the funnelling of class G airspace between controlled airspace and/or restricted/danger areas.

Our response is as follows. Within the airspace, the Red Arrows require a surveillance based ATS which will alert the team to aircraft that may result in a conflict. In the area around the airspace, other airspace users require notification of whether the airspace is active or inactive. Although airspace status is available through NOTAM, it may be gained by radio call to the coordinating unit or using the London Flight Information Service. The provision of an Air Traffic Service is always subject to controller capacity. This is no different to current operations and is therefore considered as business as usual. Any letter of agreement with adjacent providers will be derived through consultation resulting from the design options. This is part of the airspace design and consultation process and as such a change to the DP should not be needed. Whilst the MOD can sympathise that the introduction of suitable airspace in a new location may be disadvantageous to some (for example the potential funnelling effect when considered with increased controlled airspace), we believe that Flexible Use of Airspace principles (and the relevant DP) will ensure that the impact is minimised where possible. The MOD can't comment on whether access to

controlled airspace for GA should be looked at, and we believe that it is outside of the remit of this ACP.

Overall it is considered that the DP as presented is acceptable to capture the need to consider ATC work load and this consideration of ATC workload is part of the CAP 1616 process.

No revision proposed.

DP5. The design must provide sufficient area for training.

GA suggested that the DP should refer to volume instead of area. Moreover, the design must provide only the minimum safe area and be activated for only the minimum amount of time necessary to meet the training requirement.

Our response is to note these proposals but argue that they are already requirements of the CAP 1616 process or should be directed at DP7.

For conformity with other airspace terminology e.g. Terminal Manoeuvring Area, Control Area, which also relate to volumes of airspace, the term 'area' should remain unchanged.

It is acknowledged that the imperative is to provide 'only' sufficient airspace to meet the need safely, but that this is central to the CAP 1616 process. Therefore, it should not be required in the DP.

The principle of activation times is better placed within DP 7 - Flexible use of Airspace and has been addressed there.

No revision proposed.

DP6. The design must be within usable flying range to RAF basing for transit.

GA commented that specifying time rather than range would be more useful. Specific detail would be required in the consultation phase, including transit routes, in order to evaluate the impact of this principle.

Our response is to agree that the DP could be expressed in terms of transit time as this can be related to the aircraft flying hours budget. The reasoning for further detail on transit time is acknowledged but it is considered that the Design Principles phase is too early in the process to provide specifics. An airspace option is possible for each of the basing options, so transit timing may be variable and it is not desirable to introduce such a constraint at this time. Transit times will become evident once specific design options have been developed and there will be opportunity for feedback during the consultation phase.

Revised DP6: The design must be within usable flying time to RAF basing for transit.

DP7. The design must use FUA principles to manage the airspace as far as is practicable (Efficiency & Airspace Sharing).

The GA community provided significant input on this point from all forms of engagement, related to freedom of operation, which can be divided as follows:

- a. Concern about continuation of operations from an existing aerodrome site close to either a potential base location or affected by the Red Arrows airspace.
- b. Improved notification of when the airspace was active.

- c. Minimising the duration of active periods.
- d. Concern that operating methodology and agreements must be specified prior to consultation and recognise existing agreements.
- e. Concern that existing and proposed airspace, both laterally and vertically adjacent to this proposal, is considered in conjunction with this proposal.

Our response to the individual points is as follows:

- a. The effect on individual operations cannot be confirmed until the specific airspace design(s) have been made. If there is a potential conflict, then the MOD would seek to establish the management of the airspace such that all parties' operations were accommodated. This is normal CAP1616 activity as part of the airspace design and consultation stages.
- b. Promulgation of the airspace status to facilitate maximum opportunity for sharing should be considered in the airspace design and consultation phases. It is proposed to capture the need for this through amplifying text.
- c. The Red Arrows have a limited flying hours budget and have a mature training model to achieve the required standards in a safe manner, in the minimum time.
- d. The airspace design phase should provide a proposal that includes the management of the airspace. The CAA will judge whether the detail is satisfactory to proceed beyond the Develop & Assess Gateway. Some local, required, agreements may have already been identified. However, the consultation phase should identify any further specific Letters Of Agreement (LOA). Following the consultation, and as part of the final submission, any LOA will be identified. The CAA may mandate that relevant LOA are presented in draft form (and/or signed off) prior to implementation. Therefore, no change to the DP is proposed.
- e. As integration with existing and planned airspace is specified within the CAP1616 process, it is considered that this proposal is not required as a DP.

Overall, the acknowledged change can be achieved using amplifying text.

Revised DP7: The design must use FUA principles to manage the airspace as far as is practicable (Efficiency & Airspace Sharing).

Use of the full range of systems available to provide notification of airspace status will be considered.

DP8. The design must use standard airspace structure where possible (Conformity, Simplicity and Safety)

This design principle was not challenged.

No revision proposed.

Additional Design Principles Proposed

There were a number of additional design principles proposed. Some of these were focussed at change proposals involving controlled airspace and were included by national organisations promoting a suite of generic principles. Those that are not relevant to this proposal have been omitted from the analysis.

The relevant new proposals are:

Proposed additional DP	Our Response
Involve a thorough analysis of overall airspace safety changes, ie be based on modelling and evidence rather than purely subjective opinion. It should use robust data to forecast traffic levels affected by the proposed changes eg if traffic is obliged to route around the airspace, what volume of traffic flow can be expected at bottlenecks that may be created?	As the need to assess the impact on GA operations as a result of the planned airspace is specified within the CAP1616 process, it is considered that this proposal is not required as a DP. The acceptability of how this is done will be considered by the CAA in determining gateway progression.
Be cognizant of all stakeholder comments, explaining how they have been integrated into the design or why they have been set aside.	As the need for stakeholder inclusivity and transparency is central to the CAP1616 process, it is considered that this proposal is not required as a DP.
Optimisation of the development work above and below the 8,000ft NATS en-route split.	It is unlikely that any proposed training areas will interact with the national ATS en-route network. Therefore, as a separate DP, this is not considered relevant. However, this will may be considered as part of the CAP 1616 process when specific design options are understood.
Flexible use of airspace including interoperability with existing e-conspicuity, eg FLARM and PilotAware	FUA is specified in DP 7. Interoperable electronic conspicuity is being considered by the CAA, who have recently sent out a call for evidence. Any findings published by the CAA will be fully considered by the MOD. It is hoping a mutually acceptable interoperable electronic conspicuity solution is offered which in time will become mandatory. The MOD consider that electronic conspicuity should be both assured and interoperable. Whilst FLARM may, in some cases, offer additional situational awareness, the surveillance based ATS will be the primary tool for traffic information.
The design must demonstrate how it would be integrated into the future UK airspace modernisation proposals	Integration with existing and planned airspace is specified within the CAP1616 process, it is considered that this proposal is not required as a DP.
An assumption that GA including sporting and recreational aviation is entitled to continued safe use of airspace and that commercial aviation does not have a right to limit airspace access	Acknowledgement of access rights is demonstrated through proactive engagement with NATMAC and local GA communities. However, as entitlement to access and safe use of airspace is specified within the CAP1616 process, it is considered that this proposal is not required as a DP.

We did not find that any new DPs, or amendments to existing DPs were required from the above.

Design Principles Prioritisation

Safety is the highest priority and so DPs 1 and 2 are automatically assigned Priority 1.

The method of determining priority of stakeholders is based upon the volume of responses. The ranking of DPs thereafter based on responses would be as follows:

- DP7 – Flexible Usage of Airspace
- DP3 – Consider Sensitive Areas
- DP4 – Consider ATC workload
- DP5 – Sufficient area for training
- DP6 – Usable flying time to base
- DP8 – Standard airspace structures

From an RAF perspective there is an imperative for the airspace and basing arrangement to be operationally viable. Otherwise the military task cannot be completed. From an operational perspective the ranked priorities are:

- DP5 – Sufficient area for training
- DP6 – Usable flying time to base
- DP3 – Consider Sensitive Areas
- DP4 – Consider ATC workload

It is anticipated in CAP1616 that design principles may conflict or that some would be more important to one organisation than another. Therefore, blending of the priorities is required and, recognising all the arguments, has been assessed as below:

Priority	Design Principle
1	DP1. The design should be such that the MAC & CFIT risk for the RAFAT and airspace users in the region is no greater than that provided by EGR313 DP2. The design must ensure that the risk to life associated with RAFAT operations within the airspace is Tolerable and ALARP
2	DP5. The design must provide sufficient area for training. DP6. The design must be within usable flying time to RAF basing for transit
3	DP7. The design must use FUA principles to manage the airspace as far as is practicable (Efficiency & Airspace Sharing). Use of the full range of systems available to provide notification of airspace status will be considered.
4	DP3. The design must consider sensitive areas. Specific sensitive areas for military aircraft will be determined through consultation. Examples may include, but not be limited to: hospitals, industrial hazards and equestrian facilities.
5	DP4. The design must consider ATC workload.
6	DP8. The design must use standard airspace structure where possible (Conformity, Simplicity and Safety)

Stage 3

Next Steps

This document will be submitted to the CAA as evidence to support Step 1B of the CAP1616 airspace change process.

This will complete the documentary evidence for the Stage 1 Assessment Gateway (document deadline 17 May 19, for the CAA's Assessment Gateway scheduled for 31 May).

The planned CAP1616 timeline is as follows:

CAP 1616 Gateway	Planned Date
Stage 1 – Define	31 May 19
Stage 2 – Develop & Assess	27 Sep 19
Stage 3 – Consult	29 Nov 19
Stage 4 – Update and Submit ACP	12 Jun 20
Stage 5 – Decide	18 Dec 20
Stage 6 - Implement	Mar 21 AIRAC