

# Cumbernauld Airport Airspace Change

## Reintroduction of Instrument Approach Procedures to Runway 25



CAP1616 Stage 1 Define

Step 1B Design Principles

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Approval Level	Authority	Name
Author	Merlin Aerospace Consulting Ltd	
Reviewer		

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## Background

1. Cumbernauld Airport is a small busy General Aviation airport located on the outskirts of the town of Cumbernauld approximately halfway between the cities of Glasgow and Edinburgh. It opened in 1966 with a paved 820m runway laid in 1988.
2. From the early 1990s, the airport enjoyed the use of an NDB/DME non-precision instrument approach procedure to runway 25 until a storm destroyed the navigation equipment in 2013. Since then, Britten Norman Islander aircraft which fly to remote Scottish Islands and are maintained at Cumbernauld have been hampered in meeting the standards of continuity, regularity and capacity due to inclement weather disrupting maintenance-flight arrivals and departures.
3. There is an opportunity to reintroduce an instrument approaches to runway 25 utilising RNAV(GNSS) IAPs. Through European funding, the subject aircraft were equipped with suitable receiver equipment and it is now essential that Cumbernauld Airport satisfies the need to provide their client operators with an approach be used when, currently, delay or diversion results from poor weather. No new controlled airspace is required.

## Introduction

4. This document and attachments demonstrate that the Change Sponsor (CS) has followed CAP1616 Stage 1 Define, Step 1B Design Principles to create a list of Design Principles (DPs) with an explanation of how these were influenced through the engagement process. The final Design Principles are attached.

## Objectives

5. Cumbernauld Airport's objective in commencing an Airspace Change Proposal is detailed in the Statement of Need which can be found on the CAA website; - <https://airspacechange.caa.co.uk/PublicProposalArea?plD=210>

6. The key building block of this proposal is the development of Design Principles which can be agreed with Stakeholders. This document sets out how, as part of Stage 1 Define, the CS has followed Step 1b Design Principles and produced them as detailed below together with an explanation of how the final results were influenced through the engagement process.

### **Step 1A Assessment**

7. After the Statement of Need had been filed, an Assessment meeting was held at the offices of the CAA on 15<sup>th</sup> January 2020. Having been advised that the CAA were satisfied with the outcome of the meeting the minutes and a Timeline were published. This permitted a start be made on Step 1b with an agreed Gateway target of Friday 27<sup>th</sup> March 2020.

### **Stakeholders**

8. Using CAP1616 Appendix D Airspace Design Principles, the CS considered who would be best placed to help form such a list. Due to an historic lack of engagement with the Change Sponsor by both North Lanarkshire and Falkirk local authorities and Members of the Scottish Parliament these bodies were not included. The scale of the change is very small and throughout this process evidence will be presented showing that of the six thousand annual aircraft movements currently recorded, around 1% will actually use the approach. In other words, around 1.25 aircraft per month on average. A group consisting of Air Stakeholders together with Glasgow and Edinburgh Airports and National Air Traffic Services were identified as the target audience. See Appendix B for the full list.

### **Timeline**

9. As this change is of a very minor scale, has been in gestation since 2014, is now subject to support from the Department for Transport in terms of financial aid and facilitation from the CAA, a short window of engagement was chosen in order to meet the Stage 1 Define gateway scheduled for the 27<sup>th</sup> March 2020. Consequently, an email communication was sent to the stakeholders on Wednesday 18<sup>th</sup> February asking for a response by Friday 13<sup>th</sup> March.

10. Due initially to a sparse response, a reminder e-mail was sent out on Sunday 8<sup>th</sup> March 2020.

### **Draft Design Principles**

11. Using a combination of professional judgement and knowledge gained from similar aerodromes that had already passed through this stage nine draft Design Principles were drawn up. These were: -

1. The design must be ICAO Doc 8168 PANS OPS compliant, validated and flyable by aircraft types in speed category A and B.
2. The Design must reduce the scattering effect of aircraft arrival tracks resulting from pilot visual navigation and regularise approach paths onto a predetermined, published route to the existing final approach bringing certainty to local residents and other airspace users.
3. The new procedures should not increase the number of people overflowed by aircraft participating in the approach.

4. The design should achieve a reduction in visual intrusion.
  5. The design should respect existing noise abatement/sensitive areas.
  6. The design must accommodate PBN traffic in line with CAA's CAP1711 Airspace Modernisation Strategy.
  7. The design should benefit from collaboration with other Scottish airports and NATS to ensure it is compatible with the wider programme of lower altitude and network airspace changes being coordinated by the FASI North programme.
12. See Appendix C for the letter which accompanied these draft Design Principles.

### **Engagement and feedback**

13. In assembling the list of Stakeholders, it quickly became clear that Edinburgh and Glasgow Airports, along with their Air Traffic Service Providers, had already started major airspace change proposals promoted under the Future Airspace Strategy Implementation (North) project [FASI(N)] which meant they were very keen to engage and cognisant of the process Cumbernauld had just embarked upon. This helped greatly and resulted in good feedback.

14. The majority of Air Stakeholder contacts are drawn from the membership of a longstanding CAA group called NATMAC – the National Air Traffic Management Advisory Committee. Some forty-four organisations were written to with nine replying within a few days. As the majority needed prompting for a response a reminder was issued with one week to go to the Friday 13<sup>th</sup> March deadline. A determined effort to contact recipients of the original email garnered a further eighteen responses leaving seventeen unaccounted for.

15. Of the twenty-seven responders in total, eight made specific suggestions about the draft DPs or offered new ones to add to the list. Fourteen others either expressed positive support for the proposal or the draft DPs. Four replied that, although members of NATMAC, they didn't comment on individual ACPs.

16. By the end of the deadline seventeen organisations had made no reply.

17. See Appendix E for a log of the responses.

### **Conclusion**

16. As a result of the excellent quality of many of the suggestions a new set of Design Principles have been written and are as follows -

1. The design must maintain and, where possible, enhance current levels of safety.
2. The design must not require the introduction of new controlled airspace in order to be implemented.
3. The design must reduce the scattering effect of aircraft arrival tracks resulting from pilot visual navigation and regularise approach paths onto a predetermined, published route to the existing final approach bringing certainty to local residents and other airspace users.

4. The design shall benefit from collaboration with other Scottish airports and NATS to ensure it is compatible with the wider programme of lower altitude and network airspace changes being coordinated by the FASI North programme with adjacent aerodromes.
5. The design should minimise the impact on General Aviation including sporting and recreational aviation activity and not deny continued rights of access to existing airspace nor place restrictions on non-participating traffic.
6. The design should respect Cumbernauld Airport's existing noise abatement/sensitive areas.
7. The design shall not adversely affect designs being developed by Glasgow and Edinburgh Airports in the course of their ACPs.
8. The design must accommodate Performance Based Navigation traffic in line with CAA's CAP1711 Airspace Modernisation Strategy.
9. The design must be ICAO Doc 8168 PANS OPS compliant, validated and flyable by aircraft types in speed category A.
17. The Change Sponsor believes that Stage 1 has been completed to the best of its abilities and is content with the outcome of the engagement. The final Design Principles are acceptable and will be used to inform the design of the Approach.
18. The CS has made it clear to the stakeholders that they would remain a stakeholder throughout the ACP process, and that they will have further opportunity to comment at subsequent stages including the consultation.

## Appendix A

### Draft Design Principles

1	The design must be ICAO Doc 8168 PANS OPS compliant, validated and flyable by aircraft types in speed category A and B.
2	The design must reduce the scattering effect of aircraft arrival tracks resulting from pilot visual navigation and regularise approach paths onto a predetermined, published route to the existing final approach bringing certainty to local residents and other airspace users.
3	The new procedures should not increase the number of people overflown by aircraft participating in the approach.
4	The design should achieve a reduction in visual intrusion.
5	The design should respect existing noise abatement/sensitive areas.
6	The design must accommodate PBN traffic in line with CAA's CAP1711 Airspace Modernisation Strategy.
7	The design should benefit from collaboration with other Scottish airports and NATS to ensure it is compatible with the wider programme of lower altitude and network airspace changes being coordinated by the FASI North programme.



## Appendix B

## List of Stakeholders

Airlines UK  
Airspace4All  
Airport Operators Association (AOA)  
Airfield Operators Group (AOG)  
Aircraft Owners and Pilots Association (AOPA)  
Airspace Change Organising Group (ACOG)  
Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)  
Aviation Environment Federation (AEF)  
British Airways (BA)  
BAe Systems  
British Airline Pilots Association (BALPA)  
British Balloon and Airship Club  
British Business and General Aviation Association (BBGA)  
British Gliding Association (BGA)  
British Helicopter Association (BHA)  
British Hang Gliding and Paragliding Association (BHPA)  
British Microlight Aircraft Association (BMAA) / General Aviation Safety Council (GASCo)  
British Model Flying Association (BMFA)  
British Skydiving  
Drone Major  
Edinburgh Airport  
General Aviation Alliance (GAA)  
Glasgow Airport  
Guild of Air Traffic Control Officers (GATCO)  
Heavy Airlines  
Heliair - Cumbernauld  
Helicopter Club of Great Britain (HCGB)  
Honourable Company of Air Pilots (HCAP)  
Iprosurv  
Isle of Man CAA  
Light Aircraft Association (LAA)  
Low Fare Airlines  
Military Aviation Authority (MAA)  
Ministry of Defence - Defence Airspace and Air Traffic Management (MoD DAATM)  
NATS  
Navy Command HQ  
PDG Helicopters  
Phoenix Flight Training  
PPL/IR (Europe)  
PPL/IR (Europe)  
UK Airprox Board (UKAB)  
UK Flight Safety Committee (UKFSC)  
United States Air Force Europe  
(3rd Air Force-Directorate of Flying (USAFE (3rd AF-DOF))



## Appendix C

To all NATMAC Members

18<sup>th</sup> February 2020

Classification: Public

Dear Sirs/Ma'ams,

**Cumbernauld Airport PBN Instrument Approach Procedures: ACP-2019-42**

On behalf of Mr [REDACTED], Cumbernauld Airport's Owner and Operator, I'm writing to all NATMAC Group Members to invite you to engage in this CAP1616 Step 1b Airspace Change Proposal process and consider our Design Principles for a new instrument approach procedure. No application to establish Controlled Airspace is planned nor required; the combination of Class G and the existing ATZ will suffice.

Please refer to the CAA Airspace Change Portal for further details :-  
<https://airspacechange.caa.co.uk/PublicProposalArea?plD=210>

Our proposal is born out of the loss of the longstanding NDB/DME let down which had to be withdrawn due to gale damage affecting the transmitter equipment. Since then, the lack of an approach aid has hampered operations notably the maintenance and support of BN-2 Islander aircraft which serve the Scottish Islands. The Statement of Need explains the background in more detail. Our goal is to establish a PBN approach to runway 25 only and for it to consist of either one straight leg or a compact design using RF turns.

In order to help ensure the needs of the businesses at the Airport are met, balanced against other local aviation stakeholders' concerns, a set of draft Design Principles has been created. These will provide the framework with which we will produce design options for subsequent appraisal at Stage 2.

As I'm sure you're aware, this a very early phase of the whole process and I recognise engaging you on this narrow aspect of the ACP may well raise questions about what any final designs might be. In line with the process Cumbernauld is following, you will be afforded further opportunities to comment during development and then participate in the stakeholder consultation phase later this year.

We would like to hear your thoughts on four aspects of the attached list of draft Design Principles:

- 1) Whether you agree or disagree with any of the Principles
- 2) Any comment against each Principle
- 3) Your priority for each Principle, and
- 4) If you have any additional Principles with your rationale.

Following the Secretary of State for Transport's Direction to the CAA concerning those aerodromes which commenced their application many years ago under CAP1122, we are working with the CAA to seek an accelerated journey through the approvals process using scalability built into the latest version of CAP1616. Therefore, if you would be kind enough to reply by close of play Thursday 12<sup>th</sup> March 2020, I would be much obliged; to save reminders being sent out please send a no comment response if that's your position.

Should roles within your organisation have changed, please forward to the current NATMAC member.

Please feel free to contact me if you would like to discuss our ACP further.

[REDACTED]  
Project Manager  
Cumbernauld Airport ACP

[REDACTED]

## Appendix D

## Engagement Record

Cumbernauld Airport CAP1616 Step 1B Engagement record sheet									
<p>This document sets out details of all organisations contacted with a request to consider a list of draft Design Principles. The start date was Tuesday the 8th February 2020 with a deadline of Thursday 3rd March 2020. Due to the poor level of response this deadline was extended to Sunday 5th March 2020 and individual contacts made to try to garner a wider response. Dates of reminders and responses along with salient aspects of any reply are set out below.</p>									
Organisation	Representative	e mail contact	Date of reply	Date of remind	Date of reply	Comments			
Airlines UK		at jet2.com	NI	08/03/2020	09/03/2020	I have asked the question to the Airlines UK membership if anybody has any objections or comments to make on the proposed design principle for this airspace change			
Airspace4All		at airspace4all.org	NI	08/03/2020	3/03/2020	We have no objections to the proposal			
Airport Operators Association (AOA)		at ltn.aero	NI	08/03/2020		NI			
Airport Operators Association (AOA)		at humbarair.co.uk	NI	08/03/2020	09/03/2020	I am no longer the AOA's smaller Aerodromes member on NA MAC			
Airfield Operators Group (AOG)		at oiltuck.com	NI	08/03/2020	09/03/2020	I found nothing to criticise in your previous and hope that you achieve your aims			
Aircraft Owners and Pilots Association (AOPA)		at aopa.co.uk	NI	08/03/2020	/03/2020	NI			
Airspace Change Organising Group (ACOG)		at acog.aero	8/02/2020	Not req'd		Owing to our position as an independent and impartial organisation with regard to ACPs it would not be appropriate for ACOG to respond at this point			
Association of Remotely Piloted Aircraft Systems UK (ARPAS UK)		at arpas.uk	NI	08/03/2020		NI			
Aviation Environment Federation (AEF)		at aef.org.uk	NI	08/03/2020		NI			
British Airways (BA)		at ba.com	NI	08/03/2020		NI			
BAe Systems		at baesystems.com	NI	08/03/2020		NI			
British Airline Pilots Association (BALPA)		at balpa.org	NI	08/03/2020		NI			
British Airline Pilots Association (BALPA)		at balpa.org	NI	08/03/2020	0/03/2020	BALPA does not wish to comment specifically on this airspace change engagement but is supportive of the design principles			
British Balloon and Airship Club		at btinternet.com	NI	08/03/2020		NI			
British Business and General Aviation Association (BBGA)		at bbga.aero	NI	08/03/2020	08/03/2020	NI			
British Gliding Association (BGA)		at gliding.co.uk	04/03/2020	Not req'd		Plan GNSS approaches to minimise impact on GA including sporting and recreational aviation and to ensure their continued right of access to the airspace			
British Helicopter Association (BHA)		at britishhelicopterassociation.org	8/02/2020	08/03/2020	3/03/2020	I am not going to get back into the office prior to your deadline to access your paperwork. I passed all the details onto the Bristol SAS Manager and PDG Helicopters who are the BHA members most concerned and I expected them to give you			
British Hang Gliding and Paragliding Association (BHPA)		at bhpa.co.uk	NI	08/03/2020	3/03/2020	As a general rule we ACP sponsors should plan GNSS approaches to minimise impact on GA including sporting and recreational aviation and to ensure their continued right of access to the airspace			
British Microlight Aircraft Association (BMAA) / General Aviation Safety Council (GASCO)		at bmaa.org	9/02/2020	Not req'd		Please find attached our response which sets out the BMAA's position for ACP design Principles			
British Model Flying Association (BMFA)		at bmfa.org	NI	08/03/2020		NI			
British Skydiving		at britishskydiving.org	NI	08/03/2020		NI			
Drone Major		at dronemajorgroup.com	9/02/2020	Not req'd		NI			
Edinburgh Airport		at edinburghairport.com	NI	08/03/2020	3/03/2020	I have no comment on the design principles as they all seem relevant and straightforward. As the new approach procedure will remain outside controlled airspace and be infrequently used I have no objection. This is an appropriate solution for			
General Aviation Alliance (GAA)		at yahoo.co.uk	NI	08/03/2020	09/03/2020	As a member of NA MAC I support the comments you have from BGA			
Glasgow Airport		at glasgowairport.com	NI	08/03/2020	0/03/2020	Please see below our feedback on the Cumbernauld Design Principles			
GuId of Air Traffic Control Officers (GA CO)		at gatco.org	NI	08/03/2020	3/03/2020	Please find attached our response from Vice President Policy. No issues on our part for the time being. Generally we have been vsupportive of any PBN approach initiatives around the UK			
Heavy Airlines		at fly virgin.com	20/02/2020	Not req'd		Provided this proposed ACP has no impact on or for commercial air transport operations at Glasgow Intl Airport then on behalf of the NA MAC Heavy Airlines I have no comment			
Hellair Cumbernauld		at hellair.com	NI	08/03/2020		NI			
Helicopter Club of Great Britain (HCOGB)		at ryelands.net	NI	08/03/2020	08/03/2020	As I was just an instrument approach in Class G airspace we're happy with that			
Honourable Company of Air Pilots (HCAP)		at airpilots.org	NI	08/03/2020	/03/2020	I circulated your proposal for comment within the Air Pilots. None came back to me with comments so you should assume that we have none at this time			
Iprosurv		limited@gmail.com	NI	08/03/2020		NI			
Isle of Man CAA		at gov.im	NI	08/03/2020		NI			
Light Aircraft Association (LAA)		at laa.uk.com	8/02/2020	Not req'd		Please find attached a draft submission for the Cumbernauld ACP as requested			
Low Fare Airlines		at easyjet.com	NI	08/03/2020		NI			
Military Aviation Authority (MAA)		at @imod.gov.uk	NI	08/03/2020		NI			
Ministry of Defence - Defence Airspace and Air Traffic Management (MoD DAA M)		at mod.gov.uk	NI	08/03/2020	3/03/2020	The MOD has no comment on your design principles			
NA S		at nats.co.uk	NI	08/03/2020	3/03/2020	NA S supports and agrees with all seven draft Design Principles. Asides from DP7, covered below and do not have any comments or suggested changes to them.			
Navy Command HQ		at mod.gov.uk	NI	08/03/2020		NI			
PDG Helicopters		at pdghelicopters.com	NI	08/03/2020		NI			
Phoenix Fighting Training		at hotmail.com	NI	08/03/2020		NI			
PPL/IR (Europe)		at ppfr.org	NI	08/03/2020	5/03/2020	We welcome the initiative to establish GNSS IAPs at EGPG			
PPL/IR (Europe)		at tdn.email	NI	08/03/2020		NI			
UK Airprox Board (UKAB)		at airproxboard.org.uk	8/02/2020	09/03/2020	09/03/2020	Although a member of NA MAC my close affiliations to CAA mean it's not appropriate for me to comment on airspace changes so I won't be responding further			
UK Flight Safety Committee (UKFSC)		at ukfsc.co.uk	9/02/2020	Not req'd		Whilst I will not offer a view on priorities, the draft Design Principles appear to be a very sensible basis on which to base the PBN procedure, and I note in particular the intention to collaborate with the FAS(N) work			
United States Air Force Europe		at usaf.mil	NI	08/03/2020	0/03/2020	As such please accept this email as a USAFE UK 'No Comment' response to your CAP 6 Step b			
(3rd Air Force Directorate of Flying (USAFE (3rd AF DOF))									

## Appendix E

## Final Design Principles

1	The design must maintain and, where possible, enhance current levels of safety.
2	The design must not require the introduction of new controlled airspace in order to be implemented.
3	The design must reduce the scattering effect of aircraft arrival tracks resulting from pilot visual navigation and regularise approach paths onto a predetermined, published route to the existing final approach bringing certainty to local residents and other airspace users.
4	The design shall benefit from collaboration with other Scottish airports and NATS to ensure it is compatible with the wider programme of lower altitude and network airspace changes being coordinated by the FASI North programme with adjacent aerodromes.
5	The design should minimise the impact on General Aviation including sporting and recreational aviation activity and not deny continued rights of access to existing airspace nor place restrictions on non-participating traffic.
6	The design should respect Cumbernauld Airport's existing noise abatement/sensitive areas.
7	The design shall not adversely affect designs being developed by Glasgow and Edinburgh Airports in the course of their ACPs.
8	The design must accommodate Performance Based Navigation traffic in line with CAA's CAP1711 Airspace Modernisation Strategy.
9	The design must be ICAO Doc 8168 PANS OPS compliant, validated and flyable by aircraft types in speed category A.