Appendix B

All engagement materials issued to stakeholders during Step 1B of Aberdeen International Airport's Airspace Change Proposal

All engagement materials issued during Phase 1

Creating Airspace Design Principles that will guide the development of Aberdeen Airport's Airspace Change Proposal

Briefing to gather stakeholder feedback on airspace design principle

4th February 2020

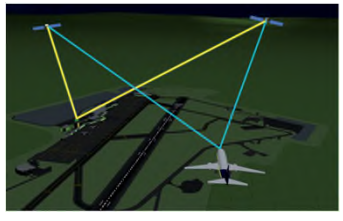
Objectives of the workshop

The objectives of today's workshop are to :

- Increase awareness and understanding among the participants about the need for airspace change and of the process for bringing it about.
- Gain an understanding of what is and is not within scope of this airspace change and what the potential impacts may be.
- Gather feedback from stakeholders on some proposed 'Design Principles' that will be used to develop our design principles.
- Establish a forum which can meet throughout the process to help inform and consider design options.

Drivers for airspace change

Airspace Modernisation is an EU and UK Government policy objective.



An airspace change is required to enable the removal of conventional ground-based navigation aids and support the widespread introduction of new routes based on satellite navigation.*

Department for Transport

The introduction of new routes based on satellite navigation is a key part of the Government's Aviation Strategy that sets out the UK's overall ambition to deliver quicker, quieter and cleaner journeys.

Civil Aviation Authority

The main initiatives that industry stakeholders including airports must deliver to achieve the objectives of the Aviation strategy are set out in a separate Airspace Modernisation Strategy (AMS).

**Also referred to as Performance-based Navigation*

Aberdeen International Airport

What is Performance Based Navigation (PBN)?

- Today pilots normally navigate by flying from point to point using fixed, ground based navigation aids.

The flight paths are constrained by the position of the ground-based navigation aids.

- In the future aircraft will navigate using satellite technology using new virtual geographical waypoints in the sky.

Flight paths are no longer constrained by the position of the ground-based navigation aids

.

FASI North

The Future Airspace Strategy Implementation North (FASI North) programme is coordinating a series of linked ACPs that will modernise the overall airspace structure and route network in Scotland and Northern England.

The FASI North airports are developing ACPs which would upgrade the arrival and departure routes that support their operations below 7000ft and connects the airports with the wider network.

Aberdeen Airport intends to align the development of this airspace change with the overall FASI North programme and will coordinate the schedule of airspace design, consultation and engagement, regulatory submission and implementation activities as appropriate with the other airports and NATS EnRoute Limited (NERL).

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Current Aberdeen Airspace Operation

Aberdeen Airport Airspace Change

- Aberdeen originally commenced Stage 1a of an Airspace Change Process (ACP) in June 2019
- As part of the ACP, in-depth analysis of the current airspace operation was undertaken to understand the opportunities and options for the future.
- This analysis showed that the unique Aberdeen Airport has a highly complex Air Traffic Management (ATM) operation which requires integration of a high number of rotary aircraft (helicopters) alongside fixed wing (planes). As a result, the Air Traffic Control (ATC) operation requires a highly flexible and adaptable environment.
- The outcome of the analysis demonstrated that the original ACP, which proposed to restructure all the arrival and departure flight paths and introduce Performance-based Navigation (PBN) could result in an overall disbenefit to the airport and its operators. These were anticipated as:
    - Decreased flexibility in the airspace operation resulting in:
        - Decreased airspace capacity
        - Decreased environmental performance
        - Potential delays and increased holding for operators and their passengers

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Aberdeen Airport Airspace Change

- In light of the outcome, Aberdeen Airport has reviewed the scope of the airspace change and, following discussion with the CAA, commenced a new airspace change.
- The new ACP has a revised scope which aims to maintain the existing flexibility within the airspace. In doing so, the new ACP aims to:
    - Minimise the impact of change for our communities and explore possible improvements to noise footprints
    - Maintain or where possible improve environmental performance
    - Ensure our airline operators and the overall capacity of the airspace are not negatively impacted by the change
    - Ensure Aberdeen meets Government and AMS requirement
    - Review existing controlled airspace boundaries, classifications and Flexible Use of Airspace (FUA) arrangements.
- Over the following slides, we will explain in detail the revised statement of need for the airspace change.

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Statement of need

UK Strategy based on Aviation Regulations

The UK's Airspace Modernisation Strategy is based on aviation Regulations that apply to all European States and require all Airports (including Aberdeen) to introduce PBN routes by January 2024.

Ground based navigation aid withdrawal

In addition, prior to this date, some existing ground-based navigation aids, that some of Aberdeen Airport's routes are attached are being withdrawn by NATS as part of the national modernisation programme. This means that any routes which rely on ground-based navigation aids must be upgraded to satellite-based PBN procedures.

Statement of need

What this ACP will involve

In order to meet the requirements of the AMS and NERL's navigation aid withdrawal programme, it is expected that this airspace change will:

- Introduce PBN arrival procedures to mirror existing procedures to Aberdeen's main runways
- Mirror the conventional holding patterns with ones based on PBN
- Remove Aberdeen's reliance on the navigation aids that are being withdrawn by NERL
- Support to the broader programme of airport initiatives to improve its environmental performance

We do not expect there to be any significant changes to tracks over the ground of aircraft arriving or departing the airport as a result of this airspace change. This will be confirmed in later stages of the airspace change process.

Not within scope

This airspace change proposal does not intend to make changes to the published helicopter route structures or departure route structures.

The regulatory airspace change process

Every organisation that sponsors an ACP must follow the regulatory process for changing the airspace design, including community engagement requirements – known as CAP1616

- CAP1616 sets out the process for developing airspace change options. This entails engaging with affected stakeholders, evaluating the impacts of options, consulting the public, regulatory approval and implementation.
- The outputs of each stage are reviewed by the CAA to ensure the engagement and analysis is robust prior to moving to the next stage.
- We have submitted our Statement of Need as part of Stage 1A of the process and have CAA approval to continue to Stage 1B: Design Principles.

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Requirements of CAP1616 stage 1b

What are design principles?

CAP1616: Defines Stage 1B as the development of design principles that will be used at a later stage of the Airspace Change process to guide how options are developed and evaluated.

How are design principles defined

- Discussions, like these today, are held with a range of stakeholders who may be affected by the Airspace change.
- They should capture all important considerations that should be a factor of the design options.
- Some principles will be based on fundamentals such as safety, traffic throughput, and environmental performance; others may be specific to local circumstances.

Timeline for design principle engagement

Workshops

- **4th February 2020** – Workshops for aviation and local government, business, community and interest group stakeholders

Round 1 Feedback Phase

- ****12th February 2020** - Distribution of evolved Design Principles, based on workshop feedback, for further review and comments from stakeholders
- ****2nd March 2020** – Round 1 Feedback deadline

Round 2 Feedback Phase

- ****6th March 2020** – Distribution of updated Draft Design Principles based on remote feedback received
- ****19th March 2020** – Round 2 Feedback deadline

Submission to CAA

- **27th March 2020** – Aberdeen Airport submit Design Principles to CAA
- **w/c 30th March 2020** – Update sent to all stakeholders advising of next steps in the process

** *These dates shown are different from those presented to attendees on the day. Please note that whilst dates have changed, the feedback window lengths remain the same*

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Design Principle Themes

There are several themes associated with the drivers for, and impacts of, an airspace change that may be considered when developing design principles. These are:

1. Safety
2. Environment
3. Airspace capacity & access
4. Use of advanced navigation technology
5. Other issues & opportunities

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1. Safety

Aviation safety is often considered as the first and overriding priority for a framework intended to guide the development of design options.

- Airspace change can be an opportunity to enhance safety by aiming to reduce or remove latent risks from the operation.
- As traffic levels grow airspace becomes more restrained and congested, continuous improvements in safety are necessary to maintain the established level of safety performance per flight.
- Airspace development may involve the deployment of new concepts or technology that may introduce new safety risks.

Key consideration for the design principles

- The airspace must be as safe or safer than today

2. Environment

- Design options should conform as far as possible to the existing flight paths to limit the impact of aircraft noise over communities who have not previously been overflown.

- Other methods to manage noise, such as the use of Slightly Steeper Approaches for arrivals, aim to reduce the impact of noise to communities under the approach. Steeper approaches are usually more fuel efficient for aircraft to fly and generate fewer emissions.

- Opportunities for flight efficiencies and the resulting reduction in CO_2 footprint can be identified when reviewing the structure and use of the airspace surrounding the airport.

Key considerations for the design principles:

- Changes to tracks over the ground
- Steeper Approaches to reduce the noise footprint.
- CO2 footprint

3. Airspace Capacity and Access

Aberdeen has a complex airspace operation. The existing capacity must be maintained and future growth safeguarded.

- Aberdeen's complex integration of fixed and rotary wing traffic requires any airspace changes to not inhibit flexibility, and in doing so, reduce the capacity of the airspace.
- NATS are developing plans to upgrade the airspace in the north to accommodate the forecast traffic growth (as part of FASI North). Changes to the airport's airspace design should integrate with the wider network.
- The requirement for airspace capacity to serve commercial air transport operations must be balanced with the provision of access to the airspace for other users like General Aviation.

Key considerations for the design principles:

- UK Airspace Modernisation Strategy and regulations regarding the use of PBN routes.
- The capacity of Aberdeen Airport and its surrounding airspace.
- Access to the airspace for General Aviation and other users.
- Controlled Airspace and the volume necessary to support the Aberdeen operation.

4. Use of Advanced Navigation Technology

The current airspace is subject to factors which are not predictable such as navigational aid outage, weather and other forms of disruption which affect all stakeholders.

- Ground-based navigation aid infrastructure can be temporarily taken out of service for maintenance.

- As part of a national modernisation programme, NATS are withdrawing some existing ground-based navigation aids, some of which support the routes at Aberdeen.

- The airspace design should aim to use advancements in navigational technology against the impact of disruptive elements.

Key design principle consideration:

- Withdrawal or failure of conventional navigation aids

5. Other issues and opportunities

Next Steps

- All Stakeholders will receive a copy of today's presentation and the list of potential design principles based on the feedback received from both workshops. You will have a further opportunity to provide your feedback on these design principles

- A further set of draft design principles will be sent out to all stakeholders in **March 2020,** based on your feedback and comments, allowing you to provide additional feedback before submission to the CAA on 27th March 2020

- Please direct all feedback, comments and enquiries to: airspace@aiairport.com or 0800 298 7040

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Airspace Design Principles Engagement

Summary of feedback and potential design principles drawn from the first round of engagement workshops

February 2020
Reference: ACP 2019-82

1. Introduction

This document summarises the feedback gathered from the engagement workshops conducted by Aberdeen International Airport Limited (AIAL) to develop design principles for our new airspace change proposal (ACP 2019-82). Two workshops were conducted in the first round of engagement with aviation organisations, local government and business representatives, and local community and interest groups. The workshops took place on the 4th February 2020 at the Station Hotel, Aberdeen. A full list of the workshop participants is set out in Appendix A. The objectives of the workshops in the first round of engagement were to:

- Increase awareness and understanding among stakeholders about the need for airspace change and of the process for bringing it about.
- Gain an understanding of what is and is not within scope of Aberdeen's airspace change and what the potential impacts may be.
- Gather feedback from stakeholders in order to assist in the creation of proposed Design Principles themes that will be used to develop design principles.
- Establish a representative group of stakeholders which can meet throughout the airspace change process to help inform and consider design options.

During the workshops, participants were given a presentation outlining the drivers for changing our airspace including an overview of the NATS (NERL) ground-based navigation aid rationalisation project and the requirements of the UK Airspace Modernisation Strategy (AMS).[1] The presentation covered the rationale behind the scope of Aberdeen's airspace change and provided an overview of the current operation at Aberdeen and how this impacts the scope.

It was explained that Aberdeen originally commenced Stage 1a of an Airspace Change Process (ACP) in June 2019 and as part of this former ACP, it was proposed to restructure all arrival and departure flights and introduce Performance-based navigation (PBN) Standard Instrument Departures (SIDs) and Standard Arrivals Routes (STARs).

An in-depth analysis of the current airspace operation, undertaken at the start of the ACP, showed that Aberdeen Airport is unique and highly complex due to the integration of a high number of rotary wing aircraft (helicopters) alongside fixed wing (aeroplanes). As a result, the Air Traffic Control (ATC) operation requires a highly flexible and adaptable environment. The outcome of the analysis demonstrated that the introduction of a full system of SIDs and STARs could result in an overall disbenefit to the airport and its operators due to a decrease in the flexibility of the airspace operation.

The presentation then moved on to the scope of this new airspace change. It was explained to participants that in light of the analysis, Aberdeen Airport, following discussion with the CAA, commenced this new airspace change (ACP 2019-82) which aims to maintain the existing flexibility within the airspace.

[1] The UK Airspace Modernisation Strategy (CAP1711) co-sponsored by the Government and Civil Aviation Authority (CAA) can be viewed here.

It is expected that this airspace change will:

- **Introduce PBN arrival procedures to mirror the existing procedures to Aberdeen's main runways.**
- **Mirror the conventional holding patterns with ones based on PBN.**
- **Remove Aberdeen's reliance on the navigation aids that are being withdrawn by NERL.**
- **Support to the broader programme of airport initiatives to improve its environmental performance.**

We do not expect there to be any significant changes to tracks over the ground of aircraft arriving or departing the airport as a result of this airspace change. This will be confirmed in later stages of the airspace change process.

It was also clarified to participants that **this airspace change proposal does not intend to make changes to the published helicopter route structures or departure route structures.**

Details were provided to participants around how the proposed changes intended to replicate the existing final approach procedures [2] with PBN approaches and overlay the conventional holds with area-navigation (RNAV) holds. In the case of the holds, nearly all operators are already operating RNAV hold overlays of the published conventional holding patterns. This detail further explained why we do not anticipate any noticeable change to aircraft tracks over the ground. However, despite this, Aberdeen must follow the CAP1616 Airspace Change process in full. An overview of the regulatory process that all airspace change sponsors must follow was then provided. [3]

Stakeholders were then presented with several themes related to airspace change to discuss in sub-groups. The aim of the sub-group discussions were to gather stakeholders' views about the main airspace design considerations associated with each theme, and to use that information in plenary to have conversations about the factors that are important for us to consider when developing an initial list of potential design principles. The themes for discussion were:

- Safety
- Environment
- Airspace capacity and access
- Use of advanced technology
- Other issues and opportunities

Section two of this document summarises the feedback gathered from the discussions about each theme and proposes an initial list of potential design principle statements that will be either be added to, discounted or refined in the second round of engagement with stakeholders.

Section three explains how stakeholders can provide additional feedback and comments on the potential design principles using the feedback form that accompanies this document.

[2] The last part of an aircraft's flight – typically a straight line into the runway from around 10 miles from touchdown.

[3] Guidance from the CAA on the regulatory process for changing airspace design, including community engagement requirements (CAP1616) can be viewed here.

2. Summary of feedback and potential design principles

Tables 1 to 5 summarise the feedback gathered from the discussions about each theme in the first round of engagement workshops. Similar points of feedback about each theme are grouped together. The initial list of potential design principles to either discount or further refine in discussion with stakeholders during this round of remote engagement are set out in table 6.

Table 1: Feedback linked to safety

Feedback	
1.a.	Aviation safety is the top priority and should be the overriding consideration when developing airspace design options for Aberdeen.
1.b.	Controlled airspace design options should be carefully considered to ensure the safety of all airspace users whilst balancing accessibility.
1.c.	Airspace design options should not increase the workload for Air Traffic Controllers and aim to reduce radio interactions with flight crew.
1.d.	Steeper Approaches should be carefully considered to ensure that there is no increased safety risk as a result of their introduction. It is recognised that the increase in angle is subject to legislative and safety constraints.
1.e.	Any introduction of new technology should have suitable resilience and alternative systems available in case of system failure.
1.f.	Risks to aviation safety should continue to be as low as practicable and there should be no degradation in safety performance for any airspace user group as a result of an airspace change.
1.g.	The introduction of discrete squawk for VFR traffic could enhance safety.
1.h.	One participant expressed that safety should not always be the number one priority and that it should be balanced with other considerations such as accessibility.

Table 2: Feedback linked to environment

Feedback	
2.a.	Airspace design options should minimise the change to tracks over the ground of aircraft arriving and departing from Aberdeen.
2.b.	Any changes to airspace design should facilitate increased continuous climb and continuous descent operations allowing optimal vertical profiles.
2.c.	The airspace design options should be developed to ensure there is not an increase in holding for fixed and rotary wing aircraft.
2.d.	Options should investigate the feasibility of steeper approaches.
2.e.	The angle of steeper approaches should be carefully considered to ensure that there is not an adverse impact on noise and the environment.
2.f.	The environmental benefits of steeper approaches should be clearly and transparently communicated with all stakeholders.

2.g. If implemented, steeper approaches should be monitored to ensure they are delivering the noise and environmental benefits calculated.
2.h. Noise from ground-based helicopter operations should be managed and reduced, although participants recognised that this is out of scope of this airspace change.
2.i. The ACP process should consider the balance between capacity, economic growth and the environment.
2.j. There should be a full environmental assessment of the benefits and impacts of the removal of ground-based navigation aids. It was highlighted to participants that this forms part of a NATS (NERL) project and is not part of this ACP.
2.k. The airspace design should consider the optimisation of controlled airspace to enable the most efficient direct routings.
2.l. Existing boundaries of airways should be reviewed given that they are no longer constrained by ground-based navigation aids and PBN technology can be introduced which could enable more efficient routings.
2.m. The Airspace Change Process should ensure a thorough cost benefit analysis is undertaken for any proposed changes.

Table 3: Feedback linked to airspace capacity and access

Feedback
3.a. Controlled Airspace should be fit for purpose.
3.b. Design options for controlled airspace should ensure that it is the minimum volume necessary to facilitate the current day and forecast growth for commercial air transport and ensure maximum accessibility for other airspace users.
3.c. Opportunities to change existing airspace should be explored and these should include reviewing boundaries and classifications.
3.d. The use and improvement of VFR corridors should be considered as part of the airspace design options.
3.e. Airspace access and integration may be improved by exploring options for other forms of electronic conspicuity/surveillance, although stakeholders recognised that this is outside the scope of the ACP.
3.f. Airspace design options should consider the advancing technology of Unmanned Aerial Systems (UAS) / drones and how these can be safely integrated with other airspace users.
3.g. Overall, controlled airspace design options should be developed with a view of integration not segregation.
3.h. Airspace design options should be cognisant of the impacts on the operations at nearby general aviation aerodromes.
3.i. Flexible use airspace concepts and procedures should be considered to optimise the benefits of additional airspace capacity for all users.
3.j. Measures to enable airspace access and integration should be as safe or safer than the current operation.

3.k.	When Controlled Airspace is required, Class E airspace is favoured over Class C or D however it is important to note that Class E is not automatically Class E + TMZ

Table 4: Feedback linked to use of advanced navigation technology

Feedback	
4.a.	The airspace design options should provide sufficient resilience and redundancy against Global Navigation Satellite System (GNSS) failure.
4.b.	The introduction of GNSS approaches should explore the possibility of achieving an enhanced minima compared to the Instrument Landing System currently in operation.
4.c.	It was suggested that the airport should consider an upgrade to the current ILS however this was clarified that it is not within the scope of this ACP.
4.d.	Participants raised issues with R/T coverage to the west and suggested this was investigated although it was acknowledged that this does not form part of this ACP.
4.e.	Design options should consider current and future equipage of aircraft operating out of Aberdeen and ensure that there are suitable procedures available for all aircraft.
4.f.	Design options should provide sufficient resilience to ground based navigation aid outage and withdrawal.
4.g.	The airspace design options should be developed using the same performance-based navigation standards as other airports and design options should align and integrate into the en-route network.

Table 5: Feedback linked to any other issues and opportunities

Feedback	
5.a.	The classification and dimensions of airway P600 should be reviewed. It was acknowledged that this is an en-route airway that does not form part of Aberdeen's ACP.

We have used all of the feedback provided during the engagement workshops, outlined in tables 1 to 5, to draft proposed design principles:

Table 6: Initial list of potential design principles.

#	***Potential design principles***	***Feedback supporting this proposed design principle***
1	**The airspace design and its operation must be as safe or safer than today for all airspace users.**	1.a. 1.b. 1.c. 1.d. 1.e. 1.f. 1.g. 3.f. 3.j.
2	**Subject to the overriding design principle of maintaining a high standard of safety, the highest priority principle of this airspace change that cannot be discounted is that it accords with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.[4]**	4.e. 4.g.
3	**Design options should minimise the change to tracks over the ground of aircraft arriving and departing from Aberdeen.**	2.a.
4	**Design options should investigate the feasibility of steeper approaches for PBN arrivals to reduce the noise footprint of Aberdeen Airport's operation.**	1.d. 2.d. 2.e. 2.f.
5	**Arrival route options should enable aircraft to descend continuously and should not inhibit departures from climbing continuously. If both cannot be achieved, there should be preference to the most environmentally beneficial option.**	2.b.
6	**Options should not increase and should aim to reduce the emissions footprint of aircraft operating at Aberdeen by reviewing existing controlled airspace boundaries and usage of flight paths in the NERL network.**	2.b. 2.c. 2.d. 2.e. 2.f. 2.i. 2.k. 2.l.
7	**Design the appropriate volume of controlled airspace (CAS) to safely support commercial air transport and release controlled airspace which is not required.**	1.a. 1.b. 3.a. 3.b. 3.c. 3.j.
8	**Controlled airspace options should ensure there is safe and efficient access for other types of operations, and should explore measures, including flexible use of airspace, where possible and appropriate, to improve access and decrease airspace segregation.**	1.a. 1.b. 3.a. 3.b. 3.c. 3.d. 3.f. 3.g. 3.h. 3.i. 3.j. 3.k.
9	**Options shall not reduce the air traffic movement capacity of Aberdeen Airport.**	1.c. 2.c. 2.i.
10	**Ensure the Aberdeen operation is resilient to the withdrawal or failure of navigation aids and systems.**	1.e. 4.a. 4.e. 4.f.

[4] This design principle is mandated by the CAA.

Table 7: Additional feedback.

Additional Feedback	
1.h. Aberdeen Airport believes that safety should always be the top priority. The vast majority of participants in both workshops also shared the same view that safety should be the priority. **4.b.** The possibility of achieving an enhanced minima for the GNSS approaches forms part of the options development work that takes place during Stage 2 – 3 of the CAP1616 process. Any proposed routes will review what minima's can be safely achieved, to maximise capacity in low visibility conditions. **2.g.** This will be covered as part of Stage 7 of the CAP1616 process. In Stage 7 Post-implementation review, the CAA reviews how the airspace change has performed, including whether anticipated impacts and benefits in the original proposal and decision have been delivered. **2.m.** This will be covered in detail at Stage 3 of the CAP1616 process. Stage 3 involves undertaking a Full Options Appraisal of the options taken forward to consultation, and as part of this process, there is a cost-benefit analysis.	1.h. 4.b. 2.g. 2.m.
Not within the scope of this ACP but feedback will be passed on to the relevant agencies	2.h. 2.j. 3.e. 4.c. 4.d. 5.a.

3. How to offer additional feedback and participate in the next round of engagement

We would like to thank stakeholders for participating in the first round of engagement to support the development of design principles for our ACP. Over the two workshops we received valuable and insightful feedback from a range of stakeholders including aviation organisations, local government, business, and community representatives and local interest groups.

We are committed to ensuring all stakeholders have the opportunity to continue feeding into the design principle development process and would like a representative from your organisation to:

- Review the feedback summary and initial list of potential design principle statements we have produced from the output of these workshops.
- Complete the draft design principle feedback form and return via airspace@aiairport.com by **Monday 2nd March 2020.**

If you have any questions, or require further information, please do not hesitate to contact us by email at airspace@aiairport.com or via our freephone information line on **0800 298 7040.**

You can find out more about the Airspace Modernisation Strategy by visiting https://www.aberdeenairport.com/airspace/ and https://www.caa.co.uk/News/New-Airspace-Modernisation-Strategy-launched-to-overhaul-UK-airspace/.

Appendix A: List of participants in the first round of engagement

Workshop 1

Date: 4th February 2020

Stakeholders: Aviation

Workshop Time: 10:00 – 13:30

Organisation
Aberdeen International Airport Consultative Committee (AIACC)
Alexander Air Flight Training
Babcock
British Gliding Association / Airspace 4 All
CHC Scotia Helicopters
Deeside Gliding Club
Eastern Airways
easyJet
Flybe
Guild of Air Traffic Control Officers
Insch Airfield / Grampian Microlight Flying Club
Longside Airfield / North East Aviators
Scottish Ambulance Service
Signature Flight Support

Workshop 2

Date: 4th February 2020

Stakeholders: Local Government, Community & Business

Workshop Time: 14:00 – 17:30

Organisation
Aberdeen City Council
Aberdeenshire Council
Bridge of Don Community Council
Bucksburn & Newhills Community Council
Environmental Protection Scotland
NHS Grampian
SEPA
University of Aberdeen

becg built environment communications group

Aberdeen International Airport

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Draft Design Principles Feedback Form – Phase 1

February 2020

Creating airspace design principles that will guide the development of Aberdeen Airport's airspace change proposal. (Stage 1B)

Stakeholder Details

Thank you for taking the time to take part in Aberdeen Airport's engagement process, regarding the development of our Airspace Change Proposal.

The following pages have been designed to capture stakeholder feedback in response to Aberdeen Airport's Stage 1b Draft Design Principle Statements.

Please can you review the Workshop Presentation and the Phase 1 Draft Design Principles Report produced by Aberdeen Airport and return any feedback you have by **Monday 2nd March 2020.** Feedback should be submitted via email to **airspace@aiairport.com**

Name	
Title	
Organisation	
Telephone	
Email Address	

Do you have any comments on the attached Draft Design Principles document?

All engagement materials issued during Phase 2

Airspace Design Principles Engagement

Summary of feedback and design principle amendments following remote feedback on initial proposed design principles.

March 6th 2020

Reference: ACP 2019-82

1. Introduction

This document summarises the feedback gathered following the distribution of our initial list of proposed design principles. The initial list of proposed design principles was developed following the workshops conducted by Aberdeen International Airport Limited (AIAL) in February 2020 to understand key considerations and develop design principles for our new airspace change proposal (ACP 2019-82).

Stakeholders who attended the workshops, and those who were invited to participate but unable to attend, were given the opportunity to provide additional feedback remotely in writing on the issues and opportunities that should be considered when developing design principles and on the initial list of potential design principles. A copy of the materials presented at the workshop was circulated to all stakeholders after the workshop, along with feedback forms and instructions on how and when to offer additional views. Copies of the workshop material, feedback forms, and instructions are included in Appendix A.

All stakeholders (whether they attended the workshop or not) were given a two-week window, between the 12th of February and the 2nd of March 2020 to provide feedback via the feedback forms provided, to ensure equal feedback opportunities where possible. Copies of the feedback forms are included in Appendix B.

Section Two summarises the feedback provided by stakeholders remotely after the circulation of the workshop report and how it has influenced the refinement of the design principles. Feedback is categorised against the applicable initial design principle and then a response or refined design principle is proposed. Some more detailed design related feedback was offered, and it was deemed more appropriate to store this feedback to be reviewed in more detail during Stage 2 – Develop and Assess of the CAP1616 process.

Section Three explains how stakeholders can provide additional feedback and comments on the refined list of design principles using the feedback form that accompanies this document.

Need for and scope of this airspace change

Aberdeen Airport is required to undertake an airspace change to enable the removal of conventional ground-based navigation aids and support the widespread introduction of new routes based on satellite navigation[1].

The UK's Airspace Modernisation Strategy is based on aviation regulations that require airports (including Aberdeen) to introduce Performance Based Navigation (PBN) routes by January 2024.

In addition, prior to this date some existing ground-based navigation aids, that several of Aberdeen Airport's routes are attached, are being withdrawn by NATS[2] En Route Limited (NERL) as part of the national modernisation programme. This means that any routes which rely on ground-based navigation aids must be upgraded to satellite-based PBN procedures.

[1] Also referred to as performance based navigation.
[2] NATS are the UK's enroute Air Navigation Service Provider

In order to meet the requirements of the Airspace Modernisation Strategy (AMS) and NERL's navigation aid withdrawal programme, it is expected that this airspace change will:

- Introduce PBN arrival procedures to mirror existing flight paths to Aberdeen's main runway
- Mirror the conventional holding patterns with ones based on PBN
- Remove Aberdeen's reliance on the navigation aids that are being withdrawn by NERL
- Support the broader programme of airport initiatives to improve its environmental performance

We do not expect there to be any significant changes to tracks over the ground of aircraft arriving or departing the airport as a result of this airspace change. This will be confirmed in later stages of the airspace change process.

This airspace change proposal does not intend to make changes to the published helicopter route structures or departure route structures.

The airspace change (ACP) will follow the regulatory process for changing airspace design including community engagement requirements, set out by the Civil Aviation Authority (CAA) in CAP1616[3].

[3]Guidance from the CAA on the regulatory process for changing airspace design, including community engagement requirements (CAP1616) can be viewed here.

2. Summary of feedback and potential design principles

Table 1 summarises the feedback provided by stakeholders after the distribution of the workshop report and the initial list of proposed design principles, and its influence on the initial list of potential design principles. This includes any feedback that was assessed to be of relevance to design principle formation. Table 2 outlines additional feedback and more detailed design related feedback that was deemed more appropriate to store to be reviewed in more detail during Stage 2 – Develop and Assess.

Table 1 Feedback provided remotely after the round 1 workshops and its influence on the initial list of potential design principles

#	***Initial potential design principle***	**Summary of feedback points provided remotely following the round 1 workshops**	**Proposed refined Design Principle**
1	**The airspace design and its operation must be as safe or safer than today for all airspace users.**	- British Gliding Association & Airspace4All raised that safety consideration should be given not only to the safety of people inside of controlled airspace, but also that of aircraft outside which are utilising areas adjacent to controlled airspace. - British Gliding Association & Airspace4All raised that the statement in the slide pack saying that the new airspace must be “as safe or safer than today” is a good design principle however the statement that safety is the overriding top priority is not the case; it was suggested that safety and functionality must be balanced using an evidence based safety assessment. - Defence Airspace and Air Traffic Management (DAATM) Ministry of Defence (MoD) agreed that the top priority should be safety, as proposed.	Proposed: **The airspace design and its operation must be as safe or safer than today for both commercial air transport and general aviation (GA) users that are affected by the airspace change.**

#	*Initial potential design principle*	Summary of feedback points provided remotely following the round 1 workshops	Proposed refined Design Principle
2	**Subject to the overriding design principle of maintaining a high standard of safety, the highest priority principle of this airspace change that cannot be discounted is that it accords with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.[4]**		No specific feedback received regarding additions or amendments to this principle.
3	**Design options should minimise the change to tracks over the ground of aircraft arriving and departing from Aberdeen.**		No specific feedback received regarding additions or amendments to this principle.
4	**Design options should investigate the feasibility of steeper approaches for PBN arrivals to reduce the noise footprint of Aberdeen Airport's operation.**		No specific feedback received regarding additions or amendments to this principle.

[4] This design principle is mandated by the CAA.

#	*Initial potential design principle*	Summary of feedback points provided remotely following the round 1 workshops	Proposed refined Design Principle
5	**Arrival route options should enable aircraft to descend continuously and should not inhibit departures from climbing continuously. If both cannot be achieved, there should be preference to the most environmentally beneficial option.**		No specific feedback received regarding additions or amendments to this principle.
6	**Options should not increase and should aim to reduce the emissions footprint of aircraft operating at Aberdeen by reviewing existing controlled airspace boundaries and usage of flight paths in the NERL network.**		No specific feedback received regarding additions or amendments to this principle.
7	**Design the appropriate volume of controlled airspace (CAS) to safely support commercial air transport and release controlled airspace which is not required.**	- Defence Airspace and Air Traffic Management (DAATM) Ministry of Defence (MoD) agreed and added that as well as volume, classification of CAS should also be a considered.	No changes proposed as the feedback regarding the consideration of the classification of airspace has been included as part of design principle 8.

#	*Initial potential design principle*	**Summary of feedback points provided remotely following the round 1 workshops**	**Proposed refined Design Principle**
8	**Controlled airspace options should ensure there is safe and efficient access for other types of operations, and should explore measures, including flexible use of airspace, where possible and appropriate, to improve access and decrease airspace segregation.**	- Defence Airspace and Air Traffic Management (DAATM) Ministry of Defence (MoD) agreed and added, as per DP7, that the classification of airspace required should be considered. The MoD would wish to ensure that any controlled airspace implemented should be minimised and there should be provision for other airspace users to transit portions of controlled airspace as required. It should also consider the impact on any adjacent uncontrolled airspace e.g. traffic funnelling, as a result of any change. It is important that provision is made to allow military airspace users access to any portions of controlled airspace when required to meet defence operational and training requirements.	A small update has been proposed as the feedback given supports the purpose of this design principle: **Controlled airspace options should ensure there is safe and efficient access for other types of operations, and should explore measures, including classification and flexible use of airspace, where possible and appropriate, to improve access and decrease airspace segregation.**
9	**Options shall not reduce the air traffic movement capacity of Aberdeen Airport.**		No specific feedback received regarding additions or amendments to this principle.
10	**Ensure the Aberdeen operation is resilient to the withdrawal or failure of navigation aids and systems.**		No specific feedback received regarding additions or amendments to this principle.

#	*Initial potential design principle*	**Summary of feedback points provided remotely following the round 1 workshops**	**Proposed refined Design Principle**
n/a	**General feedback on the Design Principles**	- Aberdeen Airport Consultative Committee Chair and Cabro Aviation owner confirmed he had no comments on the design principles report. - Bridge of Don Community Council agreed with the Design Principles laid out in the document. - Longside Airfield invited comments and suggestions from its active pilot members and confirmed that no responses were received. - A representative for Meldrum, Bourtie and Daviot CC confirmed that as the airspace around Aberdeen International Airport is not going to change significantly, I have no comment to make on this. All the main concerns seem to have been covered. - Gama Aviation Ltd and Scottish Ambulance Service confirmed all read and understood, no questions or concerns so far. - Scottish Environment Protection Agency said that the comments presented reflect the discussions had on the day. We have no further comments at this point.	No specific feedback received regarding additions or amendments to this principle.

Table 2 Additional feedback

Additional feedback points provided following the round 1 workshops	**Proposed response**
Scottish Environment Protection Agency advised that the impact of the Airspace Change Proposal on the environment in regard to these changes should be considered and addressed, possibly through the SEA process.	Stage 2 and Stage 3 of the CAP1616 process involve an Initial Options Appraisal and a Full Options Appraisal, which include a comprehensive Environmental Impact Assessment of each proposed option. More information around the technical requirements of CAP1616 can be found here. At these stages of the process, we will publish the outputs of the environmental assessment.
Deeside Gliding Club (DGC) raised feedback around the design of the Aberdeen CTA overhead Aboyne in close proximity to the airfield and suggested that the low base, 3000' asl (above sea level), on the western edge of the CTA, next to the DGC airfield, should be reviewed to determine if a relaxation of this constraint close to DGC is feasible. This would directly improve safety of operations at DGC.	We intend that design principles DP7 and DP8 will address these concerns. This specific feedback has been recorded to be used in later stages of the CAP1616 process when we will review the controlled airspace. We will ensure that this review includes the impact of the current airspace on the arrangement of Deeside Gliding Club.
Bridge of Don Community Council requested that where feedback points were deemed to not be in scope of this ACP, confirmation should be published as to which agencies the feedback has been passed on to.	We will ensure that this information is included as part of the overall submission of the Stage 1b documents and published on the CAA portal.
Meldrum, Bourtie and Daviot CC raised a slight concern around PBN systems and their vulnerability to cyber-attacks on GNSS.	We believe that DP10 'Ensure the Aberdeen operation is resilient to the withdrawal or failure of navigation aids and systems' suitably covers this concern.
The MoD recognises the importance of Airspace Modernisation and remains committed to ensuring airspace is used safely, efficiently and flexibly. Airspace modernisation and future airspace design must consider and allow for MOD access to airspace in order to meet future defence requirements.	This specific feedback has been recorded to be used in later stages of the CAP1616 process when we will review the controlled airspace.

British Gliding Association & Airspace4All raised that the ACP should take a realistic view of likely future activity and forecast growth and highlighted highly optimistic forecasts for future growth that have been used with historic ACPs.	This specific feedback has been recorded and will be considered during the later stages of the CAP1616 process when future traffic levels are used as part of options appraisal.

Refined list of Design Principles following remote feedback

Following the outcome of the engagement workshops and the remote feedback, the below refined design principles are proposed to be submitted as part of Aberdeen's Stage 1b CAP1616 submission:

#	***Refined list of design principles***
1	**The airspace design and its operation must be as safe or safer than today for both commercial air transport and general aviation (GA) users that are affected by the airspace change.**
2	**Subject to the overriding design principle of maintaining a high standard of safety, the highest priority principle of this airspace change that cannot be discounted is that it accords with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.[5]**
3	**Design options should minimise the change to tracks over the ground of aircraft arriving and departing from Aberdeen.**
4	**Design options should investigate the feasibility of steeper approaches for PBN arrivals to reduce the noise footprint of Aberdeen Airport's operation.**
5	**Arrival route options should enable aircraft to descend continuously and should not inhibit departures from climbing continuously. If both cannot be achieved, there should be preference to the most environmentally beneficial option.**
6	**Options should not increase and should aim to reduce the emissions footprint of aircraft operating at Aberdeen by reviewing existing controlled airspace boundaries and usage of flight paths in the NERL network.**
7	**Design the appropriate volume of controlled airspace (CAS) to safely support commercial air transport and release controlled airspace which is not required.**
8	**Controlled airspace options should ensure there is safe and efficient access for other types of operations, and should explore measures, including classification and flexible use of airspace, where possible and appropriate, to improve access and decrease airspace segregation.**
9	**Options shall not reduce the air traffic movement capacity of Aberdeen Airport.**
10	**Ensure the Aberdeen operation is resilient to the withdrawal or failure of navigation aids and systems.**

[5] This design principle is mandated by the CAA.

3. How to offer additional feedback and participate in the next round of engagement

We would like to thank stakeholders for participating in the first round of engagement to support the development of design principles for our ACP. The feedback we received was valuable and insightful from a range of stakeholders, including aviation organisations, local government, business, and community representatives and local interest groups.

Following consideration of all feedback received, we have refined our list of design principles for our airspace change. We are committed to ensuring that all stakeholders have the opportunity to continue feeding into the design principle development process and would like a representative from your organisation to:

- Review the feedback summary and the refined list of design principles statements we have produced as an outcome of the first round of engagement.
- Provide any further feedback or comments using the feedback form and return via airspace@aiairport.com by **19th March 2020.**
- You will also find enclosed a feedback form so you can provide us with your thoughts on how you have found the engagement process to date. Should you have any comments please return the form via email to airspace@aiairport.com.

Following the completion of the round 2 engagement on the 19th March, we will collate all feedback received and make any further refinements to our design principles. Our final list of design principles will be included, alongside details of the round 2 engagement, in our overall Stage 1b Design Principle engagement report which is planned to be submitted to the CAA on the 27th March 2020 and published on the CAA Airspace Change Portal.

If you have any questions, or require further information, please do not hesitate to contact us by email at airspace@aiairport.com or via our freephone information line on **0800 298 7040.**

You can find out more about the Airspace Modernisation Strategy by visiting https://www.aberdeenairport.com/airspace/ and https://www.caa.co.uk/News/New-Airspace-Modernisation-Strategy-launched-to-overhaul-UK-airspace/

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Aberdeen International Airport

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Draft Design Principles Feedback Form – Phase 2

March 2020

Creating airspace design principles that will guide the development of Aberdeen Airport's airspace change proposal. (Stage 1B)

Stakeholder Details

Thank you for taking the time to take part in Aberdeen Airport's engagement process, regarding the development of our Airspace Change Proposal.

The following pages have been designed to capture stakeholder feedback in response to Aberdeen Airport's Stage 1B Draft Design Principle Statements.

Please can you review the updated Draft Design Principles Report produced by Aberdeen Airport and return any feedback you have by **Thursday 19th March 2020.** Feedback should be submitted via email to **airspace@aiairport.com**

Name	
Title	
Organisation	
Telephone	
Email Address	

Do you have any comments on the attached refined list of design principles statements? **In providing your feedback please consider:** • ***Are you comfortable with the final wording within the proposed design principles? If not, please indicate what you would like to see amended.*** • ***Are there any additional design principles you would like to see included? Please note, this airspace change proposal does not intend to make changes to the lateral tracks over the ground of aircraft arriving or departing the airport.*** • ***Which of the design principles would you categorise as a high, moderate or low priority in the context of the overall list of principles and why? You may choose not to provide priority to any of the listed design principles, if you so wish.***

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Stage 1B – Engagement Review Feedback Form

Aberdeen Airport – Airspace change

Thank you for taking the time to take part in Aberdeen Airport's engagement process, regarding the development of our airspace change proposal.

We would be grateful if you, or a relevant person within your organisation, can answer the following questions regarding our engagement process to date. Your feedback is valuable to us and will help us in any future engagement we undertake.

Please return the form by **Thursday 19th March 2020** via email to **airspace@aiairport.com**

Contact details:

Name	
Title	
Organisation	
Telephone	
Email Address	

Question 1

I agree that the engagement process so far has increased my awareness and understanding about the need for airspace change, both for Aberdeen and the wider UK.

[ ] Strongly Agree
[ ] Agree
[ ] Disagree
[ ] Strongly Disagree

Comments:

Question 2

I agree that the engagement process so far has allowed me to demonstrate my views about the use of airspace, and any proposed changes to airspace use.

[ ] Strongly Agree
[ ] Agree
[ ] Disagree
[ ] Strongly Disagree

Comments:

Question 3

I agree that Aberdeen Airport's approach of seeking feedback on airspace change prior to any design principles being formulated is important.

[ ] Strongly Agree
[ ] Agree
[ ] Disagree
[ ] Strongly Disagree

Comments:

Question 4

Please outline what worked well in the engagement process as well as how Aberdeen Airport can improve their engagement in the future.

Question 5

Do you have any other comments regarding this process?