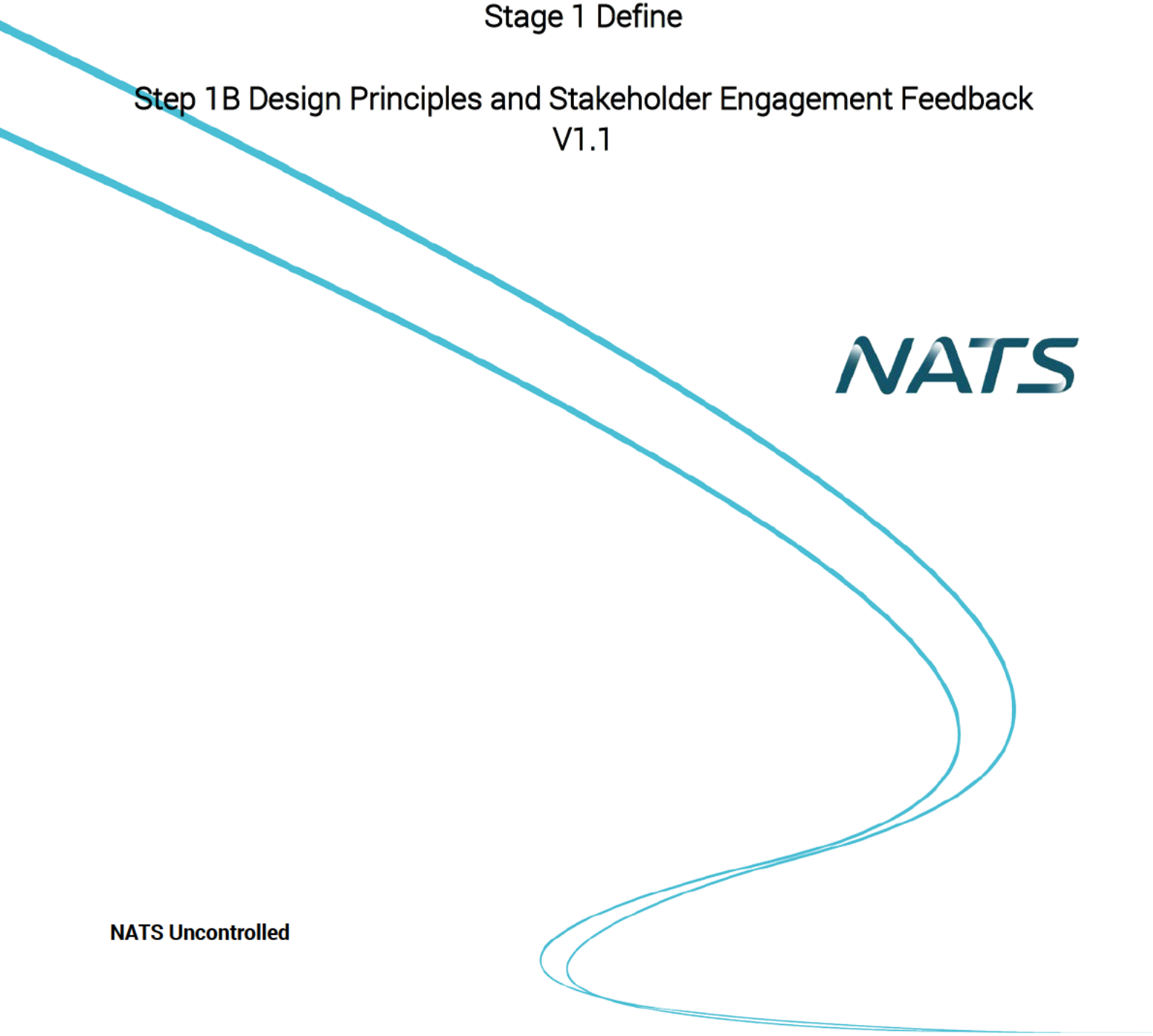
Future Airspace Strategy Implementation North (FASI-N)
Scottish Terminal Manoeuvring Area (ScTMA)
Edinburgh Airport (EGPH)

Gateway documentation:
Stage 1 Define

Step 1B Design Principles and Stakeholder Engagement Feedback
V1.1



NATS Uncontrolled

Publication history

Issue	Month/Year	Change Requests in this issue
Issue 0.1	April/ 2020	First draft for internal NATS review.
Issue 0.2	May/ 2020	Distributed to stakeholders
Issue 1.0	May/ 2020	Submitted to the CAA
Issue 1.1	June/ 2020	Revised draft responding to CAA feedback including: Amendment to DP4

Contents

1. Introduction

This document forms part of the document set required in accordance with the Civil Aviation Authority's (CAA) CAP1616 Airspace Change Process. This document aims to provide adequate evidence to satisfy: *Stage 1 Define Gateway, Step 1B Design Principles.*

NATS formally commenced an Airspace Change Proposal in October 2019 through the submission of a Statement of Need to the CAA (link). This outlined the requirement for an airspace change in order to interface with Edinburgh Airport's proposed low-level changes. An Assessment Meeting was held with the CAA in February 2020, where NATS expanded upon their Statement of Need and submitted a proposed timeline – as outlined in the Assessment Meeting minutes (link).

This document describes the stakeholder engagement NATS completed on a set of draft Design Principles and how feedback influenced the evolution of the final Design Principles, as listed in the Executive Summary.

2. Executive Summary and Final Design Principles

The following list summarises the final Design Principles which have resulted from the stakeholder engagement described in Section 4.

The Design Principles have been split into general themes which align to the general objectives of this Airspace Change Proposal, including safety and environmental.

This document describes how stakeholder feedback has influenced the evolution of the final Design Principles – as listed below – from the stakeholder engagement. NATS have submitted these Design Principles to the CAA, to complete the Define Gateway. The submission of this document targeted the CAA's June 2020 Gateway Assessment Meeting (26/06/20) and was submitted four weeks prior (29/05/20). Subject to approval of Stage 1, NATS will formally adopt these Design Principles for the ScTMA Edinburgh Airspace Change Proposal.

No	Design Principle	Category	Notes
1	The airspace will maintain or enhance current levels of Safety **(High)**	Safety	
2	The proposed airspace will maintain or enhance operational resilience of the ATC network **(High)**	Operational	
3	The proposed airspace design will yield the greatest capacity benefits from systemisation **(High)**	Operational	
4	The ScTMA airspace design will provide a compatible and optimised interface between the lower level terminal airspace; the upper Free Route Airspace (FRA) and the ATS network **(High)**	Technical	

5	The proposed ScTMA airspace will facilitate optimised network economic performance of the entire route (Medium)	Economic	This includes track mileage/ fuel-burn/ route charges
6	The proposed ScTMA airspace will facilitate the reduction of CO_2 emissions along the entire route (Medium)	Environmental	
7	Minimise environmental impacts to stakeholders on the ground (note: network changes are >7,000ft, the position of the interface with the airport's lower level routes will be determined by the airport, hence impacts below 7,000ft will be addressed in the separate airport sponsored ACP) (Low)	Environmental	
8	The ScTMA airspace should be compatible with the requirements of the MoD (Medium)	Operational	
9	The impacts on GA and other civilian airspace users due to ScTMA should be minimised (Medium)	Operational	This includes a wide variety of other airspace users such as emergency, recreational, training and sporting aviation. Consider where impacts might be greatest by considering known VFR significant areas and Military-use areas against placement of airspace structures
10	The classification and volume of controlled airspace required for the ScTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users (Medium)	Technical	This may include releasing CAS as appropriate
11	The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety and efficiency benefits by using an appropriate standard of PBN. (High)	Technical	Where appropriate, the use of RNP should be considered if the fleet mix can support it.
12	Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it. (High)	Policy	The CAA have stated that this DP is required by all change sponsors. CAP1711 describes what airspace modernisation must deliver including: - the need to increase aviation capacity; - growth to be sustainable; - the need to maximise the utilisation of existing runway capacity.

13	The airspace should introduce improved Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) for all aircraft **(Medium)**	Environmental	Feedback from Airlines

3. Engagement Activities and Stakeholders

3.1 Stakeholders

NATS identified relevant and representative stakeholders to engage on a set of draft Design Principles. This was based on the following criteria:

- Who is directly impacted by the proposed change?
- Who is indirectly impacted?
- Who is potentially impacted?
- Who's help may be required?
- Who knows about the proposed airspace change?
- Who has an interest in the proposed airspace change?

Using these measures – alongside a known set of stakeholders - the following aviation and local stakeholders were identified:

- 5 Airports/ Airfields within a potentially affected area – Edinburgh, Glasgow, Glasgow Prestwick, Cumbernauld and Strathaven
- The top 16 airlines who operate from Edinburgh Airport (accounting for over 70% of departures in 2019) – EasyJet, Logan Air, BA Cityflyer, Jet2, RyanAir, KLM, TUI, Gamma Aviation, Emirates, Lufthansa, Air France, United Airlines, Qatar Airways, SAS, Delta Airways, and Turkish Airlines
- The MoD via the DAATM (Defence and Air Traffic Management) function

NATS also engaged with 31 relevant stakeholders from the NATMAC (National Air Traffic Management Advisory Committee) group including representative GA (General Aviation) and recreational aviation organisations.

As the proposed changes will not make changes to airspace structures or procedures below 7,000 ft, local community stakeholders were not included in this engagement. (Changes to the airspace structure below 7000 ft will be addressed by the FASI-N changes sponsored by individual airports).

A full list of all 53 stakeholders can be found in Appendix A: All Stakeholders.

3.2 Engagement

NATS created a set of draft Design Principles – listed in Section 3.3 below – which were based on the submitted Statement of Need (link) and objectives achieve through an Airspace Change Proposal. The draft Design Principles were based on how to achieve an optimal high-level network design alongside the consideration of factors such as environmental impact and the potential effect on other airspace users.

The draft Design Principles include mandatory statements - such as ensuring safety and accordance with the Airspace Modernisation Strategy - alongside aspirational objectives which could potentially be compromised. The draft principles have also been assigned a category, such as environmental or operational, which align to the general objectives of this Airspace Change Proposal.

After identifying a representative group of stakeholders (listed Appendix A), NATS provided them with a set of draft Design Principles for feedback on. Stakeholders were sent the draft Design Principles via email on Tuesday 10th March and were asked to provide feedback by Monday 20th April, a period of just under 6 weeks.

Stakeholders who had not responded were sent a follow-up email on Friday 17th April (Annex B) reminding them to respond. In this email we extended the response deadline to the 24th April, an additional 4 days.
Following the engagement period, stakeholders were sent a copy of this document by email on 1st May 2020 detailing how their feedback had influenced the final design principles and the priorities assigned to each principle.

Email correspondence was used for engagement on the draft Design Principles as this allowed NATS to easily contact all stakeholders who could potentially be impacted by this proposal. Face to face engagement was not deemed necessary as the draft Design Principles are a set of high-level objectives based on the rationale covered in the Statement of Need alongside the Airspace Modernisation Strategy; both of which can be accessed remotely.

The draft Design Principles for this ACP are also purposely similar to those used for three other ACPs, MTMA (Liverpool, Manchester/ East Midlands) and ScTMA (Glasgow), currently in progress. Therefore – as some stakeholders will be asked to comment on more than one set of draft principles – email correspondence was less intrusive and time-consuming than face to face engagement.

3.2.1 Engagement with Community Stakeholders

At the Assessment Meeting for this ACP – the minutes of which can be found here on the portal – NATS presented this as a scalable Level 1 ACP.

Under the FASI-N partnership structure, NATS is responsible for changes to the route structure above 7,000 ft – including STARS and Holds – which this ACP covers. Airports including Glasgow Airport, will be responsible for ACPs and associated changes below 7,000 ft; such as SIDs and arrival transitions. As such, consultation and engagement with community/ local stakeholders throughout the CAP1616 process is the responsibility of the airports.

NATS have proposed that this ACP be treated as a scalable Level 1 ACP in acknowledgement that proposed designs could potentially impact traffic or proposed designs just below 7000 ft. NATS will continue to engage closely with neighbourhood change sponsors – such as low-level airports – and will ensure that all potential impacts are fully communicated through engagement and supporting analysis. However, community and local stakeholders are not an appropriate type of stakeholder under this ACP; impacts to these groups will be covered by the airport ACPs.

NATS acknowledges that it is the responsibility of the airports to engage with community stakeholders in association with their ACPs. NATS will work closely with these airports as key stakeholders and ensure that any potential impacts to their designs, traffic or procedures below 7000 ft are identified and engaged on.

The CAA will confirm the level of this ACP at stage 2B.

3.3 Draft Design Principles

No	Draft Design Principle	Category	Notes
1	The airspace will maintain or enhance current levels of Safety	Safety	
2	The proposed airspace will maintain or enhance operational resilience of the ATC network	Operational	
3	The proposed airspace design will yield the greatest capacity benefits from systemisation	Operational	
4	The ScTMA airspace design will provide a compatible and optimised interface between the Free Route Airspace (FRA) and ATS network	Technical	
5	The proposed ScTMA airspace will facilitate optimised network economic performance	Economic	This includes track mileage/ fuel-burn/ route charges
6	The proposed ScTMA airspace will facilitate the reduction of CO_2 emissions per flight	Environmental	
7	Minimise environmental impacts to stakeholders on the ground (note: network changes are >7,000ft, the position of the interface with the airport's lower level routes will be determined by the airport, hence impacts below 7,000ft will be addressed in the separate airport sponsored ACP)	Environmental	
8	The ScTMA airspace should be compatible with the requirements of the MoD	Operational	
9	The impacts on GA and other civilian airspace users due to ScTMA should be minimised	Operational	Consider where impacts might be greatest by considering known VFR significant areas and Military-use areas against placement of airspace structures
10	The volume of controlled airspace required for the ScTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users	Technical	This may include releasing CAS as appropriate
11	The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety and efficiency benefits by using an appropriate standard of PBN.	Technical	Where appropriate, the use of RNP should be considered if the fleet mix can support it.

12	Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.	Policy	The CAA have stated that this DP is required by all change sponsors. CAP1711 describes what airspace modernisation must deliver including: - the need to increase aviation capacity; - growth to be sustainable; - the need to maximise the utilisation of existing runway capacity.
13	The airspace should introduce improved Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) for all aircraft	Environmental	Feedback from Airlines

4. Draft Design Principles Feedback

From the 53 individual stakeholders contacted and engaged with by NATS, responses were received from 8 stakeholders. The feedback has been summarised in the following sub-sections corresponding to the draft Design Principle the feedback was responding to, alongside a response by NATS and how this has impacted the final Design Principle wording.

NATS has also assigned a priority to each Design Principal based on the feedback received and whether NATS is required to comply with the principal, as in the case of Safety (DP1) or Policy (DP12). The priorities used are *High, Medium* and *Low*.

NATS acknowledges that Design Principles which have been assigned a "medium" or "low" priority may have to be compromised against the mandatory principles with a "high" priority. However, NATS is committed to meet all the design principles as best as possible during the upcoming Stage 2 design work.

Alongside the feedback specific to the draft Design Principals covered in the following sections, a number of stakeholders submitted general comments which have been summarised below:

- NATS received feedback from the MoD which expressed approval for all 13 of the draft Design Principles.
- All 13 design principles were approved by Edinburgh airport, Glasgow Prestwick airport, BBAC, ARPAS and AOG.
- All 13 design principles were approved by Cumbernauld airport although commented that they wanted to ensure existing arrangements covered by Letters of Agreement (LoA) would be maintained.

4.1 Draft Design Principle 1 - The airspace will maintain or enhance current levels of Safety.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. NATS have assigned a "high" priority to this principle as the maintenance or, where possible improvement, of safety is at the forefront of any airspace change NATS proposes.

4.2 Draft Design Principle 2 - The proposed airspace will maintain or enhance operational resilience of the ATC network.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This principle has been assigned a **"high"** priority as operational resilience is a key driver behind this proposal and any deterioration to this would not be accepted.

4.3 Draft Design Principle 3 - The proposed airspace design will yield the greatest capacity benefits from systemisation.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This principle has been assigned a **"high"** priority as a key driver behind this airspace change and a requirement of the Airspace Modernisation Strategy (DP12), which this proposal is supporting.

4.4 Draft Design Principle 4 - The ScTMA airspace design will provide a compatible and optimised interface between the Free Route Airspace (FRA) and ATS network.

Stakeholder	Feedback	NATS' Response
British Microlight Aircraft Association (BMAA)	Sponsors must show how they are integrating their proposal within the overall UK airspace modernisation context, for example proposals which do not connect efficiently between upper and lower airspace (potentially under different airspace "management") would only inhibit overall airspace efficiency and therefore not receive our support. Optimisation of the development work above and below the 7,000ft NATS en-route split.	NATS agrees that any proposed changes must be shown to integrate with both lower and upper airspace. The wording of this Design Principle will therefore be updated to include "*the lower level terminal airspace"* alongside upper FRA. NATS will have to show that proposed designs effectively integrate within the UK airspace network – both current airspace and proposed changes during the Stage 2 Design work. This will involve close engagement with relevant stakeholders from airports and representatives from other airspace change projects.

Summary and priority: In response to the above feedback, the wording of this Design Principle will be changed to include a reference to lower level airspace around airports. *The ScTMA airspace design will provide a compatible and optimised interface between the lower level terminal airspace; the upper Free Route Airspace (FRA) and the ATS network*. This principle has been assigned a **"high"** priority because any design which is not able to fully integrate with the neighbouring FRA and ATS networks would not be progressed. NATS recognises that any proposed airspace change must work alongside current airspace and any known future changes.

4.5 Draft Design Principle 5 - The proposed ScTMA airspace will facilitate optimised network economic performance.

Stakeholder	Feedback	NATS' Response
Edinburgh Airport	Will take due consideration of environmental performance below 7000ft, not just in en-route airspace, by considering the descent profile and track from top of descent to ground, not	We will change the DP to read "The proposed ScTMA airspace will facilitate optimised network

	just to end of STAR	economic performance of the entire route"

Summary and priority: In response to feedback received, the wording of this Design Principle will be updated to include "of the entire route". NATS have assigned this principle a **"medium"** priority as NATS is committed to facilitating economic benefits through improved airspace and procedure designs. A proposed change should seek to drive economic growth through improvements such as reduced fuel burn or route charges.

4.6 Draft Design Principle 6 - The proposed ScTMA airspace will facilitate the reduction of CO_2 emissions per flight.

Stakeholder	Feedback	NATS' Response
Edinburgh Airport	Will take due consideration of environmental performance below 7000ft, not just in en-route airspace, by considering the descent profile and track from top of descent to ground, not just to end of STAR	We will change the DP to read "The proposed ScTMA airspace will facilitate the reduction of CO_2 emissions along the entire route"

Summary and priority: ; In response to feedback received, the wording of this Design Principle will be updated to include "of the entire route". NATS have assigned this principle a **"medium"** priority in recognition of the importance in mitigating environmental impacts, where possible. It has not been assigned the highest priority as there is a possibility that it may need to be compromised against a mandatory principle such safety.

4.7 Draft Design Principle 7 - Minimise environmental impacts to stakeholders on the ground (note: network changes are >7,000ft, the position of the interface with the airport's lower level routes will be determined by the airport, hence impacts below 7,000ft will be addressed in the separate airport sponsored ACP).

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This principle has been assigned a **"low"** priority as the proposed network changes covered by this submission will not make airspace or procedure changes below 7000 ft. However, this should be included as a separate principle because NATS is committed to work alongside other change sponsors – such as airports – in order to mitigate noise impacts to local stakeholders on the ground, where possible.

4.8 Draft Design Principle 8 - The ScTMA airspace should be compatible with the requirements of the MoD.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This principle has been assigned a **"medium"** priority in recognition of military users and their requirements/ use of airspace. This is the same priority as DP9 which relates to minimising impacts on the GA community.

4.9 Draft Design Principle 9 - The impacts on GA and other civilian airspace users due to ScTMA should be minimised.

Stakeholder	Feedback	NATS' Response
British Microlight Aircraft Association (BMAA)	Sponsors must accept the assumption that GA including sporting and recreational aviation is entitled to continued safe use of airspace and that commercial aviation does not have the right to limit airspace access.	NATS cannot guarantee that there will be no impact (including access) to other airspace users however, this principal highlights the pledge to minimise this. Other airspace user's requirements and locality will be taken into consideration through continued engagement. Although it is too early to pre-empt potential changes to airspace classification/ volume, NATS will fully articulate justification for proposed changes alongside any anticipated impacts for stakeholders. NATS will also ensure adherence to the CAA policy of keeping the volume of controlled airspace to the minimum necessary to meet the needs of UK airspace users. The notes of this Design Principle will be updated to include examples of GA and other civilian users for clarity: "*This includes a wide variety of other airspace users such as emergency, recreational, training and sporting aviation*".
BMAA	Sponsors should ensure that there will be measures to allow flexible use of airspace and prepare for the wider use of electronic conspicuity devices and interoperability with existing e-conspicuity, e.g. FLARM and Pilot Aware etc…	As mentioned above, NATS has not begun work on the design stage of this ACP. If appropriate, NATS will consider the use of flexible operations to assist with the expedition of traffic. Stakeholders, such as GA communities, will be fully engaged with as part of Stage 2 to gather feedback on proposed designs. However, it should be noted that technology changes associated with GA/ outside of CAS are out of scope, as this proposal solely relates to airspace change.

Cumbernauld Airport	existing arrangements with Edinburgh Air Traffic Control covered by Letter of Agreement are not affected.	As mentioned above, NATS cannot guarantee there will be no impact to other airspace users. NATS will look to minimise this impact and maintain any current Letters of Agreement.

Summary and priority: In response to feedback received NATS will update the descriptor note of this principle to state specific airspace users. This principle has been assigned **"medium"** priority in recognition of other airspace users and their requirements/ use of the airspace. This is the same priority as DP8 which relates to minimising the impact on the MOD.

4.10 Draft Design Principle 10 - The volume of controlled airspace required for the ScTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users.

Stakeholder	Feedback	NATS' Response
BMAA	The BMAA considers that the UK airspace's default classification is G and that sponsors must establish a safety case for proposing to change this class or add any further restrictions or requirements by their ACP.	Any proposed changes to CAS volume or classification by NATS will require submission of a comprehensive safety case. The proposed CAS will be the minimum required to deliver a safe and efficient operation. The wording of this Design Principle will be updated to include "*classification"* alongside "*volume"*.
BMAA	All sponsors must demonstrate that alternatives have been considered such as RMZ and TMZ before considering controlled airspace.	As part of the later Step 2A (Options Development), NATS is required to develop a comprehensive long-list of options that address the Statement of Need. Although it is not possible to pre-determine design options – such as the suggestions made – NATS will provide rationale for all options, before evaluating against the Design Principles.

BMAA	Where Class E is proposed, without a TMZ or RMZ should be considered as the default option	Before passing Stage 1, it is not possible to start work on the Stage 2 design work nor to predetermine the design options. It is therefore too early to ascertain whether this specific comment from the BMAA will be relevant. NATS will re-engage with stakeholders as part of Stage 2 to seek feedback on developed options.

Summary and priority: In response to feedback received, the wording of this Design Principle will be updated to include "classification", alongside "volume". NATS have assigned this principle a **"medium"** priority in line with DPs 8 and 9 which relate to impact on other airspace users.

4.11 Draft Design Principle 11 - The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety and efficiency benefits by using an appropriate standard of PBN.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This principle has been assigned a **"high"** priority because the use of PBN is required to achieve the safety, environmental and operational objectives of this airspace change. The use of modern technology is an enabler for ensuring an efficient airspace design and is in support of the wider Airspace Modernisation Strategy (covered under DP 12)

4.12 Draft Design Principle 12 - Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.

Stakeholder	Feedback	NATS' Response
BMAA	In line with the principles of the Airspace Modernisation (was FAS) principles the ACP must respect the requirement for minimum airspace volumes design for efficiency and reduced environmental impact. These principles will include: - Minimum size of controlled airspace; - Minimum number of departure/ arrival routes; - Steeper and continuous climbs and descents for cost and environmental benefits as well as minimisation of CAS footprint	NATS is committed to adhere to CAP1711 which describes what airspace modernisation must deliver, including the principles – such as those mentioned – which are fundamental to airspace change.

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. This principle has been assigned a **"high"** priority as the airspace change proposal and all associated changes as part of it, are required to comply with the Airspace Modernisation Strategy.

4.13 Draft Design Principle 13 - The airspace should introduce improved Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) for all aircraft,

Summary and priority: NATS did not receive any feedback which suggested any changes to this Design Principle. NATS have assigned this principle a **"medium"** priority as it is not a mandatory objective for this airspace change and may need to be compromised. Designs should seek to achieve this where possible.

5. References

Reference	Title and Link
Ref 1 Statement of Need	FASIN ScTMA Edinburgh SoN V1.1
Ref 2 Assessment Meeting Minutes	FASIN Edinburgh Assessment Meeting Minutes V1.0
Ref 3 CAA Airspace Change Portal for FASIN Edinburgh	Future Airspace Strategy Implementation (North) – ScTMA Edinburgh

6. Appendices

Appendix A: All Stakeholders

Organisation	Notes
Edinburgh Airport	
Glasgow Airport	
Glasgow Prestwick Airport	
Cumbernauld Airport	
Strathaven Airfield	
EasyJet	Accounted for 22.1% of departures from Edinburgh Airport in 2019
RyanAir	Accounted for 18.3% of departures from Edinburgh Airport in 2019
Logan Air	Accounted for 8.7% of departures from Edinburgh Airport in 2019
BA Cityflyer	Accounted for 5.2% of departures from Edinburgh Airport in 2019
Jet2	Accounted for 5% of departures from Edinburgh Airport in 2019
KLM	Accounted for 2.7% of departures from Edinburgh Airport in 2019
Lufthansa	Accounted for 1.5% of departures from Edinburgh Airport in 2019
Air France	Accounted for 1.4% of departures from Edinburgh Airport in 2019
United Airlines	Accounted for 1.2% of departures from Edinburgh Airport in 2019
TUI	Accounted for 1.0% of departures from Edinburgh Airport in 2019
Qatar Airways	Accounted for 0.8% of departures from Edinburgh Airport in 2019
SAS	Accounted for 0.8% of departures from Edinburgh Airport in 2019
Delta Airways	Accounted for 0.7% of departures from Edinburgh Airport in 2019
Turkish Airlines	Accounted for 0.6% of departures from Edinburgh Airport in 2019
Emirates	Accounted for 0.6% of departures from Edinburgh Airport in 2019
Gama Aviation	Accounted for 0.1% of departures from Edinburgh Airport in 2019
Airlines UK	Relevant organisation from the NATMAC distribution list
Airspace4All	Relevant organisation from the NATMAC distribution list
Airport Operators Association (AOA)	Relevant organisation from the NATMAC distribution list
Airfield Operators Group (AOG)	Relevant organisation from the NATMAC distribution list

Aircraft Owners and Pilot Association (AOPA)	Relevant organisation from the NATMAC distribution list
Airspace Change Organising Group (ACOG)	Relevant organisation from the NATMAC distribution list
Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)	Relevant organisation from the NATMAC distribution list
Aviation Environment Federation (AEF)	Relevant organisation from the NATMAC distribution list
British Airways (BA)	Relevant organisation from the NATMAC distribution list
British Airline Pilots Association (BALPA)	Relevant organisation from the NATMAC distribution list
British Balloon and Airship Club	Relevant organisation from the NATMAC distribution list
British Business and General Aviation Association (BBGA)	Relevant organisation from the NATMAC distribution list
British Gliding Association (BGA)	Relevant organisation from the NATMAC distribution list
British Helicopter Association (BHA)	Relevant organisation from the NATMAC distribution list
British Hang Gliding and Paragliding Association (BHPA)	Relevant organisation from the NATMAC distribution list
British Microlight Aircraft Association (BMAA) / General Aviation Safety Council (GASCo)	Relevant organisation from the NATMAC distribution list
British Model Flying Association (BMFA)	Relevant organisation from the NATMAC distribution list
British Skydiving	Relevant organisation from the NATMAC distribution list
Drone Major	Relevant organisation from the NATMAC distribution list
General Aviation Alliance (GAA)	Relevant organisation from the NATMAC distribution list
Guild of Air Traffic Control Officers (GATCO)	Relevant organisation from the NATMAC distribution list
Honourable Company of Air Pilots (HCAP)	Relevant organisation from the NATMAC distribution list
Helicopter Club of Great Britain (HCGB)	Relevant organisation from the NATMAC distribution list
Heavy Airlines	Relevant organisation from the NATMAC distribution list
Iprosurv	Relevant organisation from the NATMAC distribution list
Isle of Man CAA	Relevant organisation from the NATMAC distribution list
Light Aircraft Association (LAA)	Relevant organisation from the NATMAC distribution list
Low Fare Airlines	Relevant organisation from the NATMAC distribution list
MoD – DAATM	Relevant organisation from the NATMAC distribution list
PPL/ IR (Europe)	Relevant organisation from the NATMAC distribution list
UK Airprox Board (UKAB)	Relevant organisation from the NATMAC distribution list
UK Flight Safety Committee (UKFSC)	Relevant organisation from the NATMAC distribution list

Appendix B: Engagement Evidence

B.1 Original email sent to Stakeholders

From: Airspace Consultation
Sent: 10 March 2020 16:41
Subject: NATS FASI-N ScTMA Edinburgh Airspace Change Proposal

Dear Colleague,

NATS are currently commencing an Airspace Change Proposal (ACP) to make changes to the ATC route network for routes to/from Edinburgh Airport in and around the Scottish Terminal Manoeuvring Area (ScTMA). This ACP is being progressed under the Future Airspace Strategy Implementation – North (FASI-N) programme.
As part of this process we would like to involve you in the formulation of the design principles which will be used by the project. This is a required part of the UK CAP1616 airspace change process.
Further details on this ACP can be found on the CAA portal by following this link.

We would like to clarify that we are currently asking for feedback on Design Principles for several ACPs:

- *FASI-N Edinburgh (this one)*
- *FASI-N Glasgow*
- *FASI-N Liverpool*
- *FASI-N Manchester + East Midlands*

Hence many of you (i.e. NATMAC & Airline Colleagues) may find that you have received several emails very similar to this one. If you are on the list for several, please be assured that these are separate ACP's and hence they each require separate feedback (though the DPs are similar). Please respond to each.

Below are the draft set of design principles for the FASI-N ScTMA changes. Please can you review these and give us your comments.
If you have suggestions for additional design principles we would welcome your input.

If you are content with the proposed design principles please press the "Approve" voting button, or reply "Approve".

If you have comments please reply to this email and annotate the table below.

No	Design Principle	Category	Notes	Stakeholder Comments
1	The airspace will maintain or enhance current levels of Safety.	Safety		
2	The proposed airspace will maintain or enhance operational resilience of the ATC network	Operational		
3	The proposed airspace design will yield the greatest capacity benefits from systemisation	Operational		
4	The ScTMA airspace design will provide a compatible and optimised interface between the Free Route Airspace (FRA) and ATS network.	Technical		

5	*The proposed ScTMA airspace will facilitate optimised network economic performance.*	*Economic*	*this includes track mileage/ fuel-burn/ route charges*	
6	*The proposed ScTMA airspace will facilitate the reduction of CO_2 emissions per flight*	*Environmental*		
7	*Minimise environmental impacts to stakeholders on the ground (note: network changes are >7,000ft, the position of the interface with the airport's lower level routes will be determined by the airport, hence impacts below 7000ft will be addressed in the separate airport sponsored ACP)*	*Environmental*		
8	*The ScTMA airspace should be compatible with the requirements of the MoD.*	*Operational*		
9	*The impacts on GA and other civilian airspace users due to ScTMA should be minimised.*	*Operational*	*Consider where impacts might be greatest by considering known VFR significant areas and Military-use areas against placement of airspace structures*	
10	*The volume of controlled airspace required for the ScTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users*	*Technical*	*This may include releasing CAS as appropriate*	
11	*The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety and efficiency benefits by using an appropriate standard of PBN.*	*Technical*	*Where appropriate, the use of RNP should be considered if the fleet mix can support it.*	
12	*Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.*	*Policy*	*The CAA have stated that this DP is required by all change sponsors.* *CAP1711 describes what airspace modernisation must deliver including:* *- the need to increase aviation capacity;* *- growth to be sustainable;* *- the need to maximise the utilisation of existing runway capacity.*	
13	*The airspace should introduce improved Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) for all aircraft*	*Environmental*	*Feedback from Airlines*	
	Add further suggested Design Principles HERE.			

We would appreciate your feedback by 20th April. Many thanks for your time.

Best regards

NATS Airspace Change Team

B.2 Follow-up email sent to stakeholders who had not submitted a response.

From: *Airspace Consultation*
Sent: *4 April 2020 11:49*
Subject: *NATS FASI-N ScTMA Edinburgh Airspace Change Proposal*

Dear Colleague,

We recently wrote to you regarding an Airspace Change proposal, NATS FASI-N ScTMA Edinburgh Airspace Change Proposal, which may affect you (see below). In light of the ongoing Covid-19 situation we understand that not everyone will be able to respond, however if you are still working and are available to respond we would appreciate your input by 24th April.

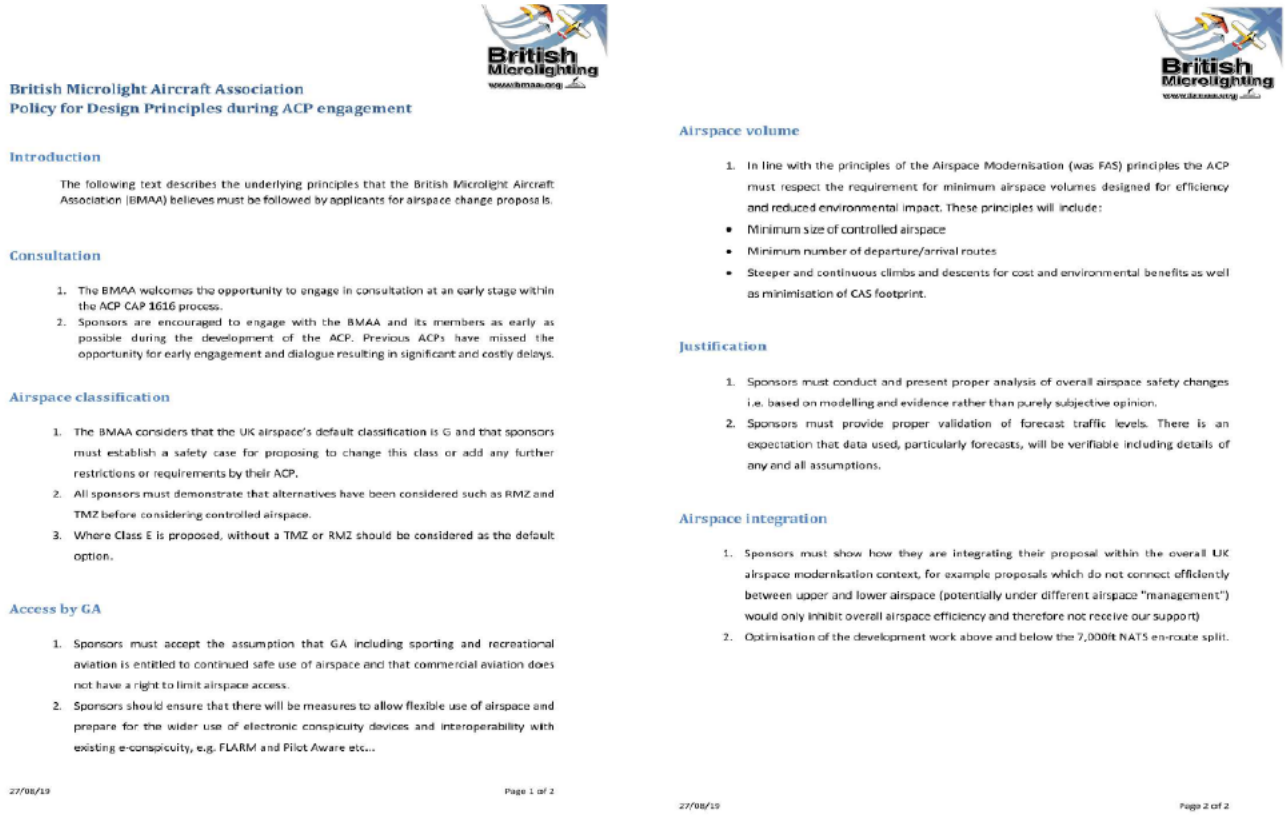
Kind regards

NATS Airspace Change Team

B.3 Response of BMAA to Draft Design Principles email.

Thank you for the opportunity to respond to this stage of your ACP.
Please find attached our response to requests for input to design principles.

[redacted]
CE
British Microlight Aircraft Association



British Microlight Aircraft Association
Policy for Design Principles during ACP engagement

Introduction

The following text describes the underlying principles that the British Microlight Aircraft Association (BMAA) believes must be followed by applicants for airspace change proposals.

Consultation

1. The BMAA welcomes the opportunity to engage in consultation at an early stage within the ACP CAP 1616 process.
2. Sponsors are encouraged to engage with the BMAA and its members as early as possible during the development of the ACP. Previous ACPs have missed the opportunity for early engagement and dialogue resulting in significant and costly delays.

Airspace classification

1. The BMAA considers that the UK airspace's default classification is G and that sponsors must establish a safety case for proposing to change this class or add any further restrictions or requirements by their ACP.
2. All sponsors must demonstrate that alternatives have been considered such as RMZ and TMZ before considering controlled airspace.
3. Where Class E is proposed, without a TMZ or RMZ should be considered as the default option.

Access by GA

1. Sponsors must accept the 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.
2. Sponsors should ensure that there will be measures to allow flexible use of airspace and prepare for the wider use of electronic conspicuity devices and interoperability with existing e-conspicuity, e.g. FLARM and Pilot Aware etc...

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Airspace volume

1. In line with the principles of the Airspace Modernisation (was FAS) principles the ACP must respect the requirement for minimum airspace volumes designed for efficiency and reduced environmental impact. These principles will include:

- Minimum size of controlled airspace
- Minimum number of departure/arrival routes
- Steeper and continuous climbs and descents for cost and environmental benefits as well as minimisation of CAS footprint.

Justification

1. Sponsors must conduct and present proper analysis of overall airspace safety changes i.e. based on modelling and evidence rather than purely subjective opinion.
2. Sponsors must provide proper validation of forecast traffic levels. There is an expectation that data used, particularly forecasts, will be verifiable including details of any and all assumptions.

Airspace integration

1. Sponsors must show how they are integrating their proposal within the overall UK airspace modernisation context, for example proposals which do not connect efficiently between upper and lower airspace (potentially under different airspace "management") would only inhibit overall airspace efficiency and therefore not receive our support)
2. Optimisation of the development work above and below the 7,000ft NATS en-route split.

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B.4 Response of Edinburgh Airport to Draft Design Principles email.

Approve – see comments below

[redacted]
Tower Operations Manager
Edinburgh

Mobile: [redacted]
Direct: [redacted]
Switchboard: [redacted]
Email: [redacted]

AIR NAVIGATION SOLUTIONS

Control Tower, [redacted]
www.ans-atc.com

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Registered office: Old Control Tower, Old Control Tower Road, Gatwick Airport, West Sussex, RH6 0LD

This information has been shared with you in line with our Company Privacy Notice. Please ensure you treat this information securely and

From: Airspace Consultation <[redacted]>
Sent: 12 March 2020 13:12
Subject: NATS FASI-N ScTMA EDINBURGH Airspace Change Proposal

Dear Colleague,

NATS are currently commencing an Airspace Change Proposal (ACP) to make changes to the ATC route network for routes to/from Edinburgh Airport in and around the Scottish Terminal Manoeuvring Area (ScTMA). This ACP is being progressed under the Future Airspace Strategy Implementation – North (FASI-N) programme.
As part of this process we would like to involve you in the formulation of the design principles which will be used by the project. This is a required part of the UK CAP1616 airspace change process.
Further details on this ACP can be found on the CAA portal by following this link.

We would like to clarify that we are currently asking for feedback on Design Principles for several ACPs:

- FASI-N Edinburgh (this one)
- FASI-N Glasgow
- FASI-N Liverpool
- FASI-N Manchester + East Midlands

Hence many of you (i.e. NATMAC & Airline Colleagues) may find that you have received several emails very similar to this one. If you are on the list for several, please be assured that these are separate ACP's and hence they each require separate feedback (though the DPs are similar). Please respond to each.

Below are the draft set of design principles for the FASI-N ScTMA changes. Please can you review these and give us your comments.
If you have suggestions for additional design principles we would welcome your input.

If you are content with the proposed design principles please press the "Approve" voting button, or reply "Approve".

If you have comments please reply to this email and annotate the table below.

No	Design Principle	Category	Notes	Stakeholder Comments
1	The airspace will maintain or enhance current levels of Safety.	Safety		No comment

2	The proposed airspace will maintain or enhance operational resilience of the ATC network	Operational		No comment
3	The proposed airspace design will yield the greatest capacity benefits from systemisation	Operational		No comment
4	The ScTMA airspace design will provide a compatible and optimised interface between the Free Route Airspace (FRA) and ATS network.	Technical		No comment
5	The proposed ScTMA airspace will facilitate optimised network economic performance.	Economic	this includes track mileage/ fuel-burn/ route charges	Will take due consideration of environmental performance below 7000ft, not just in en-route airspace, by considering the descent profile and track from top of descent to ground, not just to end of STAR
6	The proposed ScTMA airspace will facilitate the reduction of CO_2 emissions per flight	Environmental		Will take due consideration of environmental performance below 7000ft, not just in en-route airspace, by considering the descent profile and track from top of descent to ground, not just to end of STAR
7	Minimise environmental impacts to stakeholders on the ground (note: network changes are >7,000ft, the position of the interface with the airport's lower level routes will be determined by the airport, hence impacts below 7000ft will be addressed in the separate airport sponsored ACP)	Environmental		No comment
8	The ScTMA airspace should be compatible with the requirements of the MoD.	Operational		No comment
9	The impacts on GA and other civilian airspace users due to ScTMA should be minimised.	Operational	Consider where impacts might be greatest by considering known VFR significant areas and Military-use areas against placement of airspace structures	No comment

10	The volume of controlled airspace required for the ScTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users	Technical	This may include releasing CAS as appropriate	No comment
11	The route network linking Airport procedures with the enroute phase of flight will be spaced to yield maximum safety and efficiency benefits by using an appropriate standard of PBN.	Technical	Where appropriate, the use of RNP should be considered if the fleet mix can support it.	No comment
12	Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.	Policy	The CAA have stated that this DP is required by all change sponsors. CAP1711 describes what airspace modernisation must deliver including: - the need to increase aviation capacity; - growth to be sustainable; - the need to maximise the utilisation of existing runway capacity.	No comment
13	The airspace should introduce improved Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) for all aircraft	Environmental	Feedback from Airlines	No comment
	Add further suggested Design Principles HERE.			No additional comments

We would appreciate your feedback by 20th April. Many thanks for your time.

Best regards

NATS Airspace Change Team

B.5 Response of BBAC to Draft Design Principles email.

I cannot find an 'approve' button.

I approve

[redacted] (BBAC)

B.6 Response of MOD to Draft Design Principles email.

Good Afternoon,

Thank for the information below; MOD Approve of the list in terms of content however we would seek clarity how or what priority will be afforded to the list of proposed DPs for this ACP, and for the series of other ACPs as highlighted below - grateful for confirmation.

As per previous, going forward, please can you use me as your POC for the MOD and remove [redacted] from your distro list for this ACP?

Thanks,

Regards

[redacted]

[redacted] | Sqn Ldr | SO2 Airspace Plans | Defence Airspace and Air Traffic Management | [redacted] | [redacted] | Civilian Telephone: [redacted] | MOD Net: [redacted] | E-Mail: [redacted]

B.7 Response of ARPAS to Draft Design Principles email.

Dear NATS Airspace change team,

I approve of and support this ACP.

kind regards

[redacted]

[redacted]
Regulation Director

ARPAS-UK
[redacted]
www.arpas.uk
Twitter: @ARPASUK

LinkedIn: ARPAS-UK

[redacted]

B.8 Response of Cumbernauld Airport to Draft Design Principles email.

Dear NATS Airspace Change Team,

Many thanks for your timely reminder about the ScTMA ACPs sent to [redacted] at Cumbernauld Airport recently. I'm project managing the Cumbernauld ACP and [redacted] has asked me to reply on his behalf.

Please accept this email reply as our response to your CAP1616 Stage 1B Design Principles Engagement for FASI(N) Edinburgh ACP-2019-074

We have studied carefully your Design Principles and are happy to confirm we have no objection to any and support your overall aims.

One key aspect for us is that the existing arrangements with Edinburgh Air Traffic Control covered by Letter of Agreement are not affected.

We look forward to continuing our engagement with you on this importanat work.

Regards

[redacted]
Cumbernauld Airport ACP

[redacted]

B.9 Response of Glasgow Prestwick Airport to Draft Design Principles email.

Dear Sir/Madam

With regards to the above ACP, and in light of the early stage of its progress, Glasgow Prestwick Airport has no objections. However, this may change as the proposal develops, and further details come to light. We shall advise you as and when this occurs.

Yours, faithfully

[redacted]

Technical Co-ordinator
Glasgow Prestwick ATC

[redacted]
Glasgow Prestwick Airport Ltd.

[redacted]
Glasgow Prestwick Airport Ltd.
[redacted]

[redacted]
Glasgow Prestwick Airport Ltd.

T: [redacted]

[redacted]
www.glasgowprestwick.com

B.10 Response of the Airfield Operators Group to Draft Design Principles email.

Sorry for not replying earlier. I have no comment to make.
Regards
[redacted]
AOG rep on NATMAC

Sent from my iPhone