Northern LTMA Region Airspace Change (OFJES, CLN CTA11/12, FL105+)

Gateway Documentation:
Stage 2 Develop and Assess
Airspace Change Proposal
ACP-2025-023

Issue 1.0

Table of Contents

Change History

Issue	Month Year	Change in this issue
Issue 1.0	August 2025	Published on CAA portal

Roles

Action	Role	Date
Produced	Airspace Change Expert Operations Transformation	07/08/2025
Reviewed Approved	Operations Implementation Manager Operations Transformation	07/08/2025
Reviewed Approved	Airspace Concepts Manager Operations Transformation	07/08/2025

Referenced Documents

Ref Num	Name and Link	
1.	Airspace Change Portal ACP-2025-023	Link
2.	Airspace Change Process CAP1616 (main document) and CAP1616f (detailed guidance)	Link to CAP1616 Link to CAP1616f

1. Introduction

1.1. Airspace change process

1.1.1. This document forms part of the document set required in accordance with the requirements of the UK Civil Aviation Authority (CAA) CAP1616 Airspace Change Process (Ref 2).

1.1.2. This airspace change proposal (ACP) is a scaled Level 2 (Ref 2). For full details of the process requirements, see the assessment meeting minutes and assessment meeting presentation on the CAA's airspace portal page (Ref 1).

1.1.3. The change sponsor is NATS En-Route Ltd (NERL) and, presuming approval of this ACP, we intend to implement the change on 19th March 2026 in line with AIRAC 03/2026.

1.1.4. This document provides evidence to satisfy the requirements of Stage 2 Develop and Assess from CAP1616f, scaled as agreed with the CAA.

1.1.5. See the Stage 1 document for a history of this proposal, its Statement of Need, and how its design principles were determined.

1.1.6. We used the same key stakeholder engagement to acquire feedback on the design options presented in this Stage 2 document. We limited the design options to two versions of practical and simple amendments to existing CAS boundaries.

1.1.7. See Section 3 of the Stage 1 document for details on how we identified key stakeholders and engaged them in May 2025. We subsequently re-engaged DAATM in July and August 2025 to confirm their feedback[1].

1.1.8. Also see the Stage 1 document for full details of current day airspace arrangements and usage. This document uses simplified schematics to indicate the current and proposed options.

2. Design options for development

2.1. Option 0 Baseline (Do Nothing)

2.1.1. Figure 1 illustrates the current CAS design. The current base-step between CAS volumes CLN CTA11/12 (Class C) constrains controllers in their management of descents as effectively as required, where there is a need for multiple vertical integrations between the arrival flows from the east (OFJES) and from the south (OXDUF).

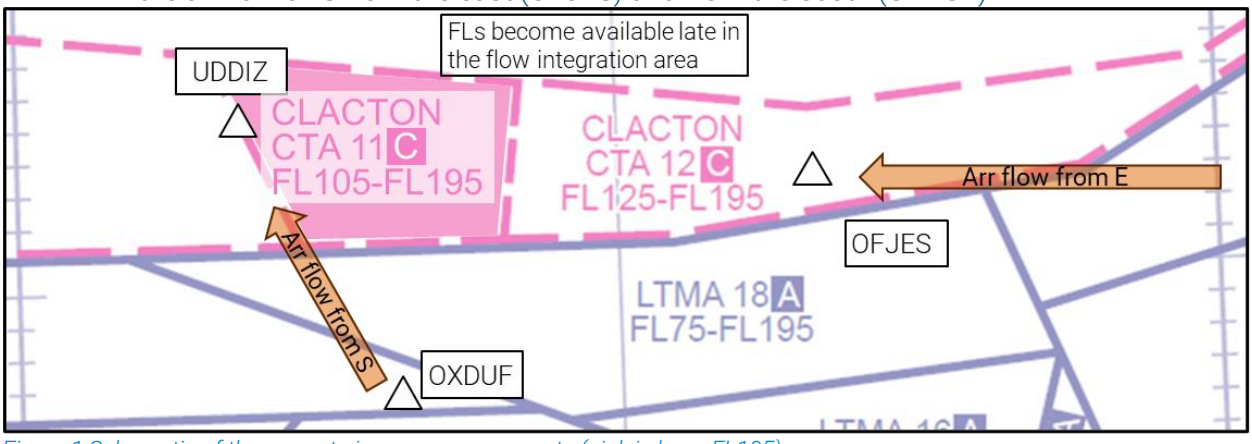

Figure 1 Schematic of the current airspace arrangements (pink is base FL105)

2.1.1. Design intent: No change to CAS base

2.1.2. Concept: No change to CAS base

2.1.3. Outcome: This causes ATC and pilot workload, increasing complexity due to the late along-track availability of lower flight levels from OFJES westwards. If we do not make a

[1] For additional details see the separate Stage 2 engagement evidence document.

change now, as traffic increases, so ATC complexity will build, with the potential for a future increase in risk. Safety is at the heart of everything we do, so when we identify a potential future safety issue, we act.

2.1. Option 1 concept: Change to CAS below FL100

2.1.1. Figure 2 illustrates the Option 1 CAS design. This concept suggests lowering one CAS base to either FL85 or FL95 as well as lowering another to FL105.

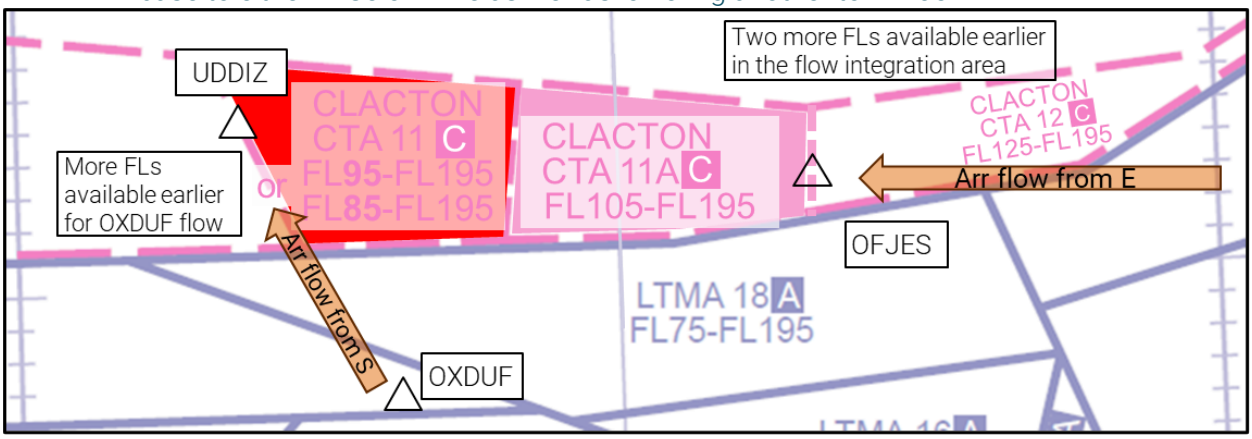

Figure 2 Schematic of Option 1 airspace arrangements (red is base below FL105, pink is base FL105)

2.1.2. Design intent: provide more levels for ATC to integrate OFJES arrivals with OXDUF arrivals, which could also descend earlier.

2.1.3. Concept: Lower the base of CLN CTA11 to FL95 or FL85, add a new CTA base FL105 west of OFJES, reduce CLN CTA12 by equivalent volume.

2.1.4. Outcome: two more levels would be available to ATC, west of OFJES, and one or two further levels for both flows (UDDIZ).

2.1.5. Engagement feedback from MoD-USAFE (relevant extract)[2]: Dropping the base of CTA11 to FL95… would likely cause significant adverse impacts on RAPCON, especially under easterly PFO [Practice Flame-Out] exercises.

2.2. Option 2 concept: Change to CAS FL105+

2.2.1. Figure 3 illustrates the Option 2 CAS design with which we engaged MoD-USAFE. This concept suggested a CAS change FL105+.

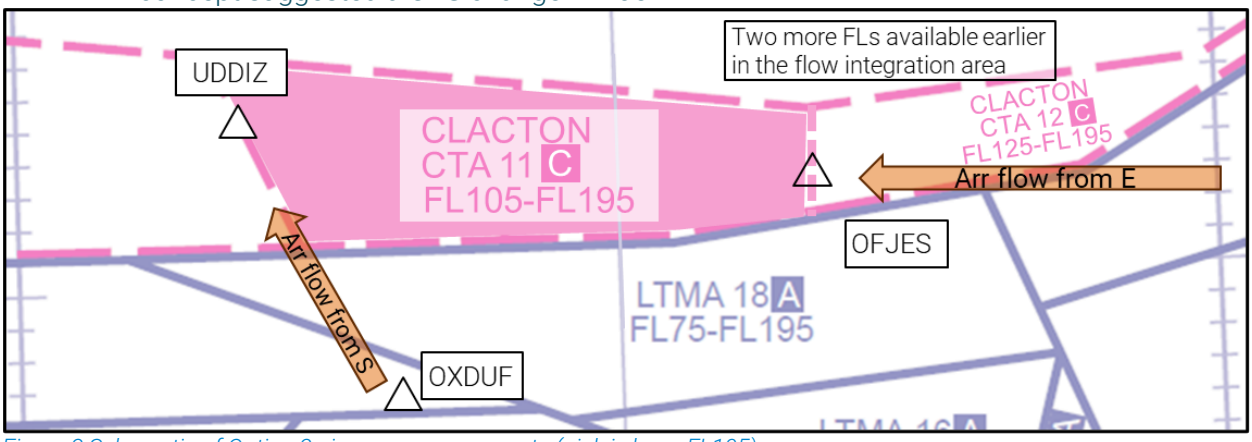

Figure 3 Schematic of Option 2 airspace arrangements (pink is base FL105)

2.2.2. Design intent: Provide more levels for ATC to integrate OFJES arrivals with OXDUF arrivals (which would not change).

2.2.3. Concept: : Extend CLN CTA11 (base FL105) east to OFJES, reduce CLN CTA12 by equivalent volume. No change below FL105.

2.2.4. Outcome: two more levels would be available to ATC, west of OFJES.

[2] For full details see the separate Stage 2 engagement evidence document.

2.2.5. Engagement feedback from MoD-USAFE (relevant extract)[3]: Expanding the FL105 base of CTA11 eastwards, with a corresponding reduction in CLN CTA12, may cause impacts of a less significant nature, in effect reducing RAPCON's "headroom" when operating above high-flying General Aviation such as gliders, but with less impact on PFO [Practice Flame-Out] and other ops.

3. Design Principle Evaluation (DPE)

3.1. DP list

MDP Safety	MDP1	The airspace change proposal must maintain a high standard of safety and should seek to enhance current levels of safety.
MDP Policy	MDP2	The airspace change proposal should not be inconsistent with relevant legislation, the CAA's airspace modernisation strategy or Secretary of State and CAA's policy and guidance.
MDP Environment	MDP3	The airspace change proposal should deliver the Government's key environmental objectives with respect to air navigation as set out in the Government's Air Navigation Guidance 2017.
DDP Technical (Ministry of Defence requirements)	DDP1	The airspace change proposal should be compatible with the requirements of the Ministry of Defence.
DDP Technical (Controlled airspace)	DDP2	The volume and classification of controlled airspace required for the provision of air traffic control services to IFR flights should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of other airspace users.

Table 1 Design principles from Stage 1

3.2. DP Assessment criteria

3.2.1. Each DP will be assessed against each design option qualitatively:

Met (green) means the design meets the DP to the fullest extent, or to a general extent.

Partial (amber) means the design meets some of the intent of the DP but not enough to be considered Met.

Not met (red) means the design does not meet the intent of the DP enough to be considered Partial.

3.3. DPE Outcome criteria

3.3.1. Design options where all DPs are met (green) will progress to the next step.

3.3.2. Design options where one DP is partially met (amber) and the rest are met (green) will progress to the next step, unless safety-related (MDP1).

3.3.3. Design options where two or more DPs are partially met (amber) will not progress to the next step.

3.3.4. Design options where any DPs are not met (red) will not progress to the next step.

[3] For full details see the separate Stage 2 engagement evidence document.

3.4. Option 0 Baseline (Do Nothing)

MDP Safety	MDP1	Not met	The baseline do-nothing option would not, over time, maintain a high standard of safety and would not enhance current levels of safety.
MDP Policy	MDP2	Partially met	The baseline do-nothing option would, over time, weaken the region's alignment with the AMS Simplification "end" because complexity would continue to rise. Alignment with the AMS "end" Flight Efficiency would also weaken over time, as the CAS base constraint would lead to reduction in ATC issuing effective and timely descent commands for flow integration.
MDP Environment	MDP3	Met	This would generally be met for IFR commercial traffic even though the lack of ATC flexibility has the potential to reduce flight efficiency over time. There would be no change in impact on fuel use and associated greenhouse gas emissions for traffic outside CAS (such as military and GA operations).
DDP Technical (Ministry of Defence requirements)	DDP1	Met	No changes to CAS arrangements in the region – this would remain compatible with the requirements of the Ministry of Defence.
DDP Technical (Controlled airspace)	DDP2	Met	While the extant CAS volumes remain functional in the short term, the baseline do-nothing option causes a lack of ATC flexibility which has the potential to reduce flight efficiency over time. However, we consider Option 0 as generally meeting DDP2.

Table 2 Option 0 Baseline Do Nothing Design Principle Evaluation

3.4.1. In accordance with the DPE outcome criteria in paragraph 3.3.4 above, Option 0 does **not** progress to the next step and is rejected.

3.5. Option 1 Change to CAS below FL100

MDP Safety	MDP1	Not met	While safe for IFR commercial traffic via OFJES, Option 1 has the potential to cause safety issues for MoD-USAFE traffic by forcing them lower and closer to GA traffic during critical phases of flight training.
MDP Policy	MDP2	Partially met	Regarding alignment with the AMS Simplification "end", this would be met for IFR commercial traffic but there would likely be greater complexity outside CAS due to its lowering below FL100. Therefore it would be unlikely to meet the AMS Integration of Diverse Users "end" with respect to military and GA operations in the region.
MDP Environment	MDP3	Met	This would likely be met for IFR commercial traffic due to the increased ATC flexibility to issue flight levels for flow integration. A proportion of arrivals would start their descent earlier at a reduced thrust setting, with a reduction in less-efficient stepped descents as a likely result. Option 1 is unlikely to cause greater fuel use and associated greenhouse gas emissions for traffic outside CAS (such as military and GA operations). However it would also be unlikely to cause an improvement.
DDP Technical (Ministry of Defence requirements)	DDP1	Not met	MoD-USAFE stakeholders made clear in their feedback that Option 1 would not be acceptable due to its impacts on their operations.
DDP Technical (Controlled airspace)	DDP2	Not met	Option 1 would not be the most efficient use of CAS in the region, in order to solve the issue raised by this ACP.

Table 3 Option 1 Change to CAS below FL100 Design Principle Evaluation

3.5.1. In accordance with the DPE outcome criteria in paragraphs 3.3.3 and 3.3.4 above, Option 1 does **not** progress to the next step and is rejected.

3.6. Option 2 Change to CAS FL105+

MDP Safety	MDP1	Met	Option 2 enhances safety for commercial IFR traffic, and MoD-USAFE have deemed this option acceptable.
MDP Policy	MDP2	Met	Regarding alignment with the AMS Simplification "end", this would be met for IFR commercial traffic, and would generally meet the AMS Integration of Diverse Users "end" with respect to military and GA operations in the region.
MDP Environment	MDP3	Met	This would likely be met for IFR commercial traffic due to the increased ATC flexibility to issue flight levels for flow integration. A proportion of arrivals would start their descent earlier at a reduced thrust setting, with a reduction in less-efficient stepped descents as a likely result. Option 2 is unlikely to cause greater fuel use and associated greenhouse gas emissions for traffic outside CAS (such as military and GA operations). However it would also be unlikely to cause an improvement.
DDP Technical (Ministry of Defence requirements)	DDP1	Partially met	MoD-USAFE stakeholders made clear in their feedback that Option 2 may cause impacts on their operation of a less significant nature, and deem them acceptable.
DDP Technical (Controlled airspace)	DDP2	Met	Option 2 would cause an increase in CAS in the region, however it is the minimum possible required to solve the issue raised by this ACP.

Table 4 Option 1 Change to CAS below FL100 Design Principle Evaluation

3.6.1. In accordance with the DPE outcome criteria in paragraph 3.3.2 above, Option 2 **progresses** to the next step.

3.7. DPE Conclusion

3.7.1. Option 2 progresses to the next step, Options 0 and 1 are rejected and will not be considered further.

4. Consolidated Options Appraisal

4.1. Process note

4.1.1. Due to the scaling of this Level 2 ACP, the CAA agreed that qualitative statements and assessments will suffice, i.e. there is no need for quantitative assessments[4].

4.1.2. Therefore this section will present an options appraisal of Option 0 Baseline Do Nothing for comparison purposes with Option 2 Change to CAS FL105+.

4.1.3. We will use an abridged version to illustrate potential impacts in the Stage 3 engagement material.

[4] Assessment meeting minutes p.7.

4.2. Appraisal of Option 0 Baseline Do Nothing

Environmental and technical impacts	Qualitative assessment
Communities: Noise	Not applicable – in accordance with the DfT's Air Navigation Guidance 2017 altitude-based priorities, the minimising of noise is no longer a priority in the airspace at or above 7,000ft. The region for this change is well above 7,000ft.
Communities: Local air quality	Not applicable – in accordance with the DfT's Air Navigation Guidance 2017, emissions from aircraft above 1,000ft are unlikely to have a significant impact on local air quality. The region for this change is well above 1,000ft.
Wider society: Greenhouse gas emissions	As a general principle, aircraft burn less fuel and produce lower emissions the higher they are. However, when subjected to stepped descents, where aircraft alternate between short periods of descent and level flight, fuel-burn and emissions are adversely impacted. There would be no change in impacts in the immediate future under Option 0. Over the short to medium term, air traffic growth would exacerbate the lack of ATC flexibility in flow integration. This has the potential to more noticeably reduce flight efficiency over the longer term due to more frequent stepped descents. As noted above, these adversely impact fuel burn which in turn would increase greenhouse gas emissions per flight. It would be disproportionate to attempt to quantify and monetise that impact. There would be no change in impact on fuel use and associated greenhouse gas emissions for traffic outside CAS (such as military and GA operations).
Wider society: Tranquillity	Not applicable – in accordance with the DfT's Air Navigation Guidance 2017 altitude-based priorities, the minimising of noise is no longer a priority in the airspace at or above 7,000ft. The region for this change is well above 7,000ft, and for this impact assessment noise and tranquillity are considered as being equivalent.
Wider society: Biodiversity	There are no biodiversity areas within scope of this proposal, and there would be no flightpath changes below 7,000ft if the current airspace arrangements continued.
General Aviation: Access	There would be no change in impacts in the short term, nor the long term.
Wider society: Capacity/resilience	In the immediate future, the operational resilience of the region would start to decline as air traffic growth would exacerbate impacts of the lack of ATC flexibility in flow integration. This erosion of resilience would continue over the short and medium term, leading to a potential increase in risk, with a safety impact to follow. Flow restrictions (temporary capacity decreases) are unlikely to change because they are not an appropriate tool to mitigate the bunching of traffic in this area.

Economic impacts	Qualitative assessment
General aviation/commercial airlines: Economic impact from increased effective capacity	Given capacity and resilience are analogous opposites, Option 0 would reduce resilience in both short and longer terms, which may have negative impacts on capacity in the region. This is likely to cause a negative economic impact, however it would be disproportionate to attempt to quantify and monetise that impact.
General aviation/commercial airlines: Fuel burn	There would be no change in impacts in the short term. Over the longer term, air traffic growth would exacerbate the lack of ATC flexibility in flow integration. This has the potential to noticeably reduce flight efficiency over time, which may increase fuel burn due to more stepped descents. This is likely to cause a negative economic impact, however it would be disproportionate to attempt to quantify and monetise that impact. There would be no change in impact on fuel use and associated greenhouse gas emissions for traffic outside CAS (such as military and GA operations).
Commercial airlines: Training costs Commercial airlines: Other costs Airport/ANSP: Infrastructure costs Airport/ANSP: Operational costs Airport/ANSP: Other costs Airport/ANSP: Deployment costs	There would be no change to these costs under this option.

Table 5 Option 0 Appraisal (qualitative assessments)

4.2.1. Option 0 has already been rejected at the DPE step in Section 3 above. This appraisal of Option 0 is presented for comparison purposes with Option 2 on the next page.

4.3. Appraisal of Option 2 Change to CAS FL105+

Environmental and technical impacts	Qualitative assessment
Communities: Noise	Not applicable – in accordance with the DfT's Air Navigation Guidance 2017 altitude-based priorities, the minimising of noise is no longer a priority in the airspace at or above 7,000ft. The region for this change is well above 7,000ft.
Communities: Local air quality	Not applicable – in accordance with the DfT's Air Navigation Guidance 2017, emissions from aircraft above 1,000ft are unlikely to have a significant impact on local air quality. The region for this change is well above 1,000ft.
Wider society: Greenhouse gas emissions	As a general principle, aircraft burn less fuel and produce lower emissions the higher they are. However, when subjected to stepped descents, where aircraft alternate between short periods of descent and level flight, fuel-burn and emissions are adversely impacted. Under Option 2, aircraft will regularly be offered descent earlier than under Option 0 do-nothing. While this earlier descent may result in increased fuel burn and emissions in some instances, the overall reduction in stepped descents (thrust reduced and then increased again shortly afterwards) is likely to be offset by allowing the aircraft to manage a prolonged period of descent at reduced thrust settings. The actual degree of offset will vary depending upon airframe, operator, aircraft weight and environmental factors, and it would be disproportionate to attempt to quantify and monetise that impact. Option 2 is unlikely to cause greater fuel use and associated greenhouse gas emissions for traffic outside CAS (such as military and GA operations). However it would also be unlikely to cause an improvement.
Wider society: Tranquillity	Not applicable – in accordance with the DfT's Air Navigation Guidance 2017 altitude-based priorities, the minimising of noise is no longer a priority in the airspace at or above 7,000ft. The region for this change is well above 7,000ft, and for this impact assessment noise and tranquillity are considered as being equivalent.
Wider society: Biodiversity	There are no biodiversity areas within scope of this proposal. There would be no flightpath changes below 7,000ft and the Habitats Regulations Assessment (HRA) early screening criteria resulted in no further action required. See HRA document on the CAA Portal (link to HRA document).
General Aviation: Access	The airspace classification under Option 2 would remain Class C and the base of FL105 would be extended by c.9.1nm, reducing the FL125 base by the same. However, in practice GA flights rarely fly this high, and neither do they request entry to the within-scope CTAs. Additionally we presented our key stakeholders with radar evidence that the proposed extension of FL105 CAS would impact a very small number of other airspace users such as MoD-USAFE and GA. This very small number of flights would need to either avoid the CAS extension laterally, or fly slightly lower than under Option 0 baseline do-nothing.
Wider society: Capacity/resilience	Option 2 would increase resilience in both short and longer terms, offsetting against additional complexity caused by traffic growth. Overall the operational resilience of the region would increase due to the added ATC flexibility in flow integration.
Economic impacts	**Qualitative assessment**
General aviation/commercial airlines: Economic impact from increased effective capacity	Given capacity and resilience are analogous opposites, Option 2 would increase resilience in both short and longer terms, offsetting against additional complexity caused by traffic growth. This is likely to cause a broadly neutral economic impact, however it would be disproportionate to attempt to quantify and monetise that impact.
General aviation/commercial airlines: Fuel burn	Under Option 2, aircraft will regularly be offered descent earlier than under Option 0 do-nothing. While this earlier descent may result in increased fuel burn in some instances, the overall reduction in stepped descents (thrust reduced and then increased again shortly afterwards) is likely to be offset by allowing the aircraft to manage a prolonged period of descent at reduced thrust settings. The actual degree of offset will vary depending upon airframe, operator, aircraft weight and environmental factors, and it would be disproportionate to attempt to quantify and monetise that impact. There would be no change in impact on fuel use and associated greenhouse gas emissions for traffic outside CAS (such as military and GA operations).
Commercial airlines: Training costs Commercial airlines: Other costs Airport/ANSP: Infrastructure costs Airport/ANSP: Operational costs Airport/ANSP: Other costs	There would be no change to these costs under this option.
Airport/ANSP: Deployment costs	Controllers and support staff will need to be briefed on the change, but no formal training is required. There would be minor deployment costs caused by the need to update radar maps and associated systems (for NATS and for MoD-USAFE). However, these updates are "business as usual", and would only be a small part of regular systems updates that occur on AIRAC cycles such as the planned implementation AIRAC 03/2026. These are not monetised.

Table 6 Option 2 Appraisal (qualitative assessments)

5. Conclusion

5.1. Conclusion

5.1.1. This document considered three options for its Design Principle Evaluation, and two options for its Consolidated Options Appraisal. For both steps, one option was to do nothing.

5.1.2. We used engagement feedback from our key stakeholders – the same as in Stage 1 – to inform the development of this proposal. See the Stage 2 Engagement Evidence document for details.

5.2. Preferred option

5.2.1. Option 2 (change to CAS FL105+) is our preferred option for this proposal, which is consistent with feedback from our key stakeholders.

5.3. Addressing the Statement of Need, and safety assessment

5.3.1. Option 2 addresses the Statement of Need by reducing ATC complexity.

5.3.2. ATC workload would be reduced because the flow integration constraints on ATC, caused by the CAS base-step between CLN CTA11/12, will be mitigated with the CAS base-step moved further east.

5.3.3. In turn this will address the potential issue before safety is affected, presuming implementation along the planned timeline.

5.3.4. ATC Subject Matter Experts (SMEs) have studied Option 2 and assess that it will improve overall aviation safety in the region. Appropriate formal safety assurance will take place in accordance with NATS' safety processes.

5.4. Alignment with the Airspace Modernisation Strategy CAP1711 (AMS)

5.4.1. This proposal, and Option 2 specifically, was designed to align with the highest priority "ends" of the AMS, which reads
Maintaining and, where possible, improving the UK's high levels of aviation safety has priority over all other 'ends' to be achieved by airspace modernisation.

6. Next steps

6.1.1. Due to the specific circumstances of this ACP, material relating to Stages 1 and 2 will be published simultaneously, with draft Stage 3 material submitted for approval also.

6.1.2. Presuming Stage 1 is passed at the combined gateway assessment meeting on 29th August 2025, the CAA will also assess our Stage 2 submission at the same gateway.

6.1.3. Likewise, presuming our Stage 2 submission passes, the CAA will then assess our draft Stage 3 submission (which is not published on the portal at the time of assessment, as per standard CAP1616 guidance).

6.1.4. Presuming our draft Stage 3 submission passes, the CAA will notify us that all three stages have passed, and we will prepare to commence formal engagement.

[End of Document]