

Airspace change masterplan – assessment framework

CAP 2156b



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Executive summary

1. The CAA and Department for Transport, as co-sponsors of airspace modernisation in the UK, have commissioned NATS (En Route) plc (NERL) to create a single coordinated implementation plan for airspace changes in the UK to cover the period to 2040, known as the **airspace change masterplan**. The co-sponsors required NERL to set up an impartial body, the **Airspace Change Organising Group (ACOG)**, to develop the masterplan.
2. In order to confirm that the masterplan is consistent with government policy and the CAA's own statutory airspace functions, the co-sponsors must **assess** ACOG's progress. Based on that assessment, and before the masterplan can be implemented, the CAA must decide to formally **accept** the masterplan into its **Airspace Modernisation Strategy**, having consulted the Secretary of State.
3. The CAA's acceptance of the masterplan into the Airspace Modernisation Strategy makes the masterplan, together with CAP 1616¹, the legal basis against which individual airspace change decisions are made by the CAA.² Therefore, the CAA's decisions on airspace change proposals will need to ensure that there is no misalignment with the masterplan.
4. The CAA's duties when carrying out its air navigation functions are set out in section 70 of the Transport Act 2000. Such functions include the CAA's acceptance of the masterplan into the Airspace Modernisation Strategy, as well as the CAA's separate regulatory decision-making process for individual airspace change decisions under the CAP 1616 process.
5. This document explains the **assessment framework** – that is, the legal and policy considerations and the process that the co-sponsors will follow to assess ACOG's progress with developing the airspace change masterplan iterations and to confirm that these are delivering what the co-sponsors commissioned. This document is published pursuant to Direction 4 of the [Civil Aviation Authority \(Air Navigation\) Directions 2017 \(as amended\)](#), which for convenience we refer to as the 'Air Navigation Directions'.
6. The **criteria** against which the CAA will make the decision whether to accept the airspace change masterplan into the Airspace Modernisation Strategy are set out

¹ CAP1616 *Airspace change: Guidance on the regulatory process for changing the notified airspace design and planned and permanent redistribution of air traffic, and on providing airspace information*, fourth edition March 2021. www.caa.co.uk/cap1616

² Direction 5 of the [Civil Aviation Authority \(Air Navigation\) Directions 2017 \(as amended\)](#).

in a separate document, CAP 2156a *Airspace change masterplan – CAA acceptance criteria*.³

7. Airspace modernisation is achieved through the coordination by ACOG of a series of individual airspace change proposals initiated by 'sponsors', in this case airports (for routes close to airports) and NERL (for upper airspace routes connecting airports).⁴ We refer to the airspace change proposals forming part of this modernisation programme as 'constituent airspace change proposals'.⁵ Hence both the masterplan and CAP 1616 processes are needed for making airspace change decisions to achieve airspace modernisation and individual sponsors are required to follow the process in this document and CAP 2156a, as well as CAP 1616.
8. ACOG envisages a minimum of four iterations of the masterplan. The iterations broadly align with certain gateways of the CAP 1616 process that each of the constituent airspace change proposals will follow. The interaction between development of the masterplan and the CAP 1616 process is described in Chapter 2 under the heading '*Interaction with the CAP 1616 airspace change process*'.
9. Each iteration must be accepted separately into our Airspace Modernisation Strategy, except Iteration 1, which was only a high-level plan. Iteration 1 has already been assessed and published.⁶
10. Airspace modernisation is a long and complex programme. The masterplan has been commissioned to cover the period to 2040. **The CAA will therefore need to update this document over the lifetime of the masterplan** to reflect the evolving context for airspace modernisation, such as any changes or additions to co-sponsor commissions to produce elements of the masterplan, or unanticipated external events.

³ www.caa.co.uk/cap2156a.

⁴ The CAA and Department for Transport are 'co-sponsors' of airspace modernisation in the UK. However, in the context of the CAA's airspace change process, a 'sponsor' is an organisation that proposes, or sponsors, a change to the airspace design, usually an airport and/or air navigation service provider.

⁵ For additional context, constituent airspace change proposals are those identified by NERL's Feasibility Study (to be confirmed by ACOG in Iteration 2 of the masterplan) as necessary to coordinate in order to deliver the objectives of the co-sponsors' commissioning letters dated 2 November 2018, 30 July 2019 and 12 May 2021. The commissioning letters are published as Appendix A to CAP 2156a *Airspace change masterplan – CAA acceptance criteria* www.caa.co.uk/cap2156a. The Department for Transport published NERL's Feasibility Study, and the CAA's assurance of it, in December 2018 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/763085/nats-cao-feasibility-airspace-modernisation.pdf.

⁶ CAP 1884 *Airspace Masterplan Iteration One (Southern UK): co-sponsor assessment*. www.caa.co.uk/cap1884

Chapter 1

The airspace change masterplan and CAA acceptance

Roles of the Department for Transport and CAA as co-sponsors

- 1.1 The Department for Transport and CAA are co-sponsors for airspace modernisation, which means we are working together to deliver a shared objective for the modernisation of UK airspace.⁷ There are two distinct roles within this co-sponsor arrangement:
 - the **Department for Transport** will develop and own national policy, including the strategic case for airspace modernisation and the objectives it must deliver; the Secretary of State also sets the CAA's role in the Air Navigation Directions
 - the **CAA** will develop and maintain an Airspace Modernisation Strategy and oversee and report annually to the Secretary of State on its delivery.
- 1.2 The co-sponsors commission specific projects necessary for airspace modernisation, agreeing what must be delivered and the outcomes. We also set parameters for delivery groups tasked with planning and delivering modernisation projects.
- 1.3 The co-sponsors commissioned NATS (En Route) plc (NERL) to create a single coordinated implementation plan for airspace changes in the UK to cover the period to 2040, known as the airspace change masterplan. Given the large number of parties involved in the development of the masterplan, including many airports and NERL itself, the co-sponsors required NERL to set up an impartial body, the Airspace Change Organising Group (ACOG), to develop the masterplan.⁸
- 1.4 The CAA has specified these requirements in the form of a condition on NERL's economic licence.⁹ What the masterplan seeks to achieve is set out in commissioning letters from the co-sponsors to NERL.¹⁰

⁷ <https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-Modernisation-Strategy/Shared-Objective-and-Parameters/>

⁸ www.acog.aero

⁹ NERL licence condition 10a www.caa.co.uk/cap2111. See also Chapter 3 about the legal and policy framework.

¹⁰ The commissioning letters of 2 November 2018, 30 July 2019 and 12 May 2021 are published as Appendix A to CAP 2156a *Airspace change masterplan – CAA acceptance criteria* www.caa.co.uk/cap2156a.

- 1.5 It is the role of the co-sponsors to decide whether to approve the masterplan, including iterations of it, by assessing whether the masterplan has delivered against the commission. The CAA and the Department for Transport will also act in individual capacities during the development of the masterplan. For example, it is the role of the CAA to decide whether to accept the masterplan into the CAA's Airspace Modernisation Strategy, after having consulted the Secretary of State, and to decide whether ACOG and individual sponsors have followed the masterplan process as set out in this document and CAP 2156a *Airspace change masterplan – CAA acceptance criteria*.¹¹ In practice, while these activities are separate, they will usually happen at the same time, which is at the formal decision-making point of an iteration of the masterplan. In parallel, it is the CAA's role to assess individual sponsors' activities as they develop each individual airspace change proposal (which together are being coordinated into the masterplan) against CAP 1616 and at the gateways identified in that process.¹²

Airspace Change Organising Group (ACOG)

- 1.6 ACOG is a unit within NERL, separate and impartial from NERL's other functional units. It is made up of airspace change programme and communications specialists. It is subject to oversight from a Steering Committee to assist with its impartiality and engagement of relevant stakeholders. The Steering Committee must include at least one representative from NERL, airlines, airports, the General Aviation community and independent members with appropriate experience. NERL remains accountable for the activities of ACOG.

Airspace Modernisation Strategy

- 1.7 One of the CAA's functions is to have a strategy and plan for airspace. In 2017 the Government published its strategic case for airspace modernisation.¹³ The Secretary of State subsequently directed the CAA to "prepare and maintain a coordinated strategy and plan for the use of UK airspace up to 2040, including modernisation".¹⁴ As a result, in 2018, the CAA published an Airspace

¹¹ www.caa.co.uk/cap2156a

¹² CAP1616 *Airspace change: Guidance on the regulatory process for changing the notified airspace design and planned and permanent redistribution of air traffic, and on providing airspace information*, fourth edition March 2021. www.caa.co.uk/cap1616

¹³ *Upgrading UK Airspace: Strategic Rationale*, Department for Transport, 2017. <https://www.gov.uk/government/publications/upgrading-uk-airspace-strategic-rationale>

¹⁴ Civil Aviation Authority (Air Navigation) Directions 2017, subsequently amended by the Civil Aviation Authority (Air Navigation) (Amendment) Directions 2018 and the Civil Aviation Authority (Air Navigation) (Amendment) Directions 2019. The CAA has published a [consolidated version](#) of the Air Navigation Directions for convenience.

Modernisation Strategy¹⁵, which replaced the earlier 2011 Future Airspace Strategy.

- 1.8 The Airspace Modernisation Strategy sets out the ends, ways and means of modernising airspace through 15 initiatives that will upgrade the design, technology and operations of airspace, initially focusing on the period until the end of 2024. You can read more about the strategy, including the latest news, on our website.¹⁶ The CAA is in the process of reviewing the strategy and expects to publish an updated version in early 2022. Such potential changes in the policy context – in this case where the masterplan is delivering a key component of the Airspace Modernisation Strategy – underline the need for a masterplan that is as flexible and agile as possible.

The airspace change masterplan

- 1.9 The volume of airspace change proposals required to modernise airspace at a systemised level requires a strategic coordinating mechanism in the form of the masterplan. The masterplan is a high-level coordinated implementation plan that will identify which airspace design changes need to be developed in coordination to achieve the range of benefits that modernisation can deliver (i.e. the objectives of the co-sponsors' commissioning letters¹⁷), and when. Initially the masterplan commission was in respect of airspace in Southern England, but in May 2021 this was extended to cover all of the UK.¹⁸
- 1.10 Airspace modernisation is achieved through the coordination by ACOG of a series of individual airspace change proposals initiated by 'sponsors', in this case airports (for routes close to airports) and NERL (for upper airspace routes connecting airports).¹⁹ We refer to the airspace change proposals forming part of this modernisation programme as 'constituent airspace change proposals'.

¹⁵ CAP 1711 *Airspace Modernisation Strategy* www.caa.co.uk/cap1711. The associated annex about airspace modernisation governance is at www.caa.co.uk/cap1711b as updated by page 7 of CAP 1862 *Airspace Modernisation – 2019 Progress Report* www.caa.co.uk/cap1862.

¹⁶ <https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-Modernisation-Strategy/About-the-strategy/>

¹⁷ The commissioning letters of 2 November 2018, 30 July 2019 and 12 May 2021 are published as Appendix A to CAP 2156a *Airspace change masterplan – CAA acceptance criteria* www.caa.co.uk/cap2156a.

¹⁸ Thus encompassing the FASI-South and FASI-North programmes (FASI meaning Future Airspace Strategy Implementation) redesigning the existing airspace structure. The FASI-South airspace change programme is particularly complex because of the number of changes necessary to achieve modernisation in the south of the UK. <https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Airspace-change-proposals-in-the-FASI-S-and-FASI-N-programmes/>

¹⁹ The CAA and Department for Transport are 'co-sponsors' of airspace modernisation in the UK. However, in the context of the CAA's airspace change process, a 'sponsor' is an organisation that proposes, or sponsors, a change to the airspace design, usually an airport and/or air navigation service provider.

These airspace change sponsors create comprehensive lists of potential design options in respect of each of the airspace change proposals that are identified by the masterplan. ACOG will draw on information from sponsors to consider potential interdependencies between these airspace changes, potential conflicts or enablers, the concepts that might be used to resolve conflicts and the trade-offs that may be needed to deliver modernisation.²⁰ **The masterplan does not show the detail of individual airspace designs.** It will include a programme plan for their development and implementation.

- 1.11 With agreement from the co-sponsors, ACOG has adopted an iterative approach to the development of the masterplan, which is described in Chapter 2. These iterations broadly align with certain gateways of the CAP 1616 process that each of the constituent airspace change proposals will follow. The interaction between development of the masterplan and the CAP 1616 process is described in Chapter 2 under the heading '*Interaction with the CAP 1616 airspace change process*'.
- 1.12 ACOG will run a public engagement exercise on the content of Iteration 3 before it is submitted to the co-sponsors for assessment and subsequent acceptance by the CAA into the Airspace Modernisation Strategy. Through this engagement ACOG will make stakeholders aware of the later consultations on airspace change proposals that will take place under the CAP 1616 process, how they are linked together, and how stakeholders can feed back on trade-off decisions that may affect them.

Acceptance into the Airspace Modernisation Strategy

- 1.13 In order to confirm that the masterplan is consistent with government policy and the CAA's own statutory airspace functions, the co-sponsors must assess ACOG's progress. Based on that assessment, and before the masterplan can be implemented, the CAA must decide to formally accept the masterplan into the Airspace Modernisation Strategy, having consulted the Secretary of State.²¹ In this way, the co-sponsors both have a role in accepting the masterplan.

²⁰ An **interdependency** can be described as two or more airspace change proposals that are linked together either because there is a potential conflict in their design options that must be solved, they enable each other at a system level, or there is a potential cumulative impact on stakeholders on the ground.

A **conflict** can be described as two or more airspace change proposals that cannot both proceed in their proposed form (for example, they intersect with one another in a way which is not technically possible for both to proceed).

A **trade-off** is the choice or decision to resolve a conflict, and could be between two sponsors of separate airspace changes, or between two objectives (such as achieving noise reduction and achieving fuel efficiency).

²¹ The CAA has also consulted the Secretary of State on the criteria for accepting the masterplan set out in