UK Civil Aviation Authority

Terms of Reference for CAA Review of UK Air Traffic Management Resilience, System Renewal and Future Capability (the “Review”)

CAP 3315

Published by the Civil Aviation Authority, 2026

Civil Aviation Authority
Aviation House
Beehive Ring Road
Crawley
West Sussex
RH6 0YR

You can copy and use this text but please ensure you always use the most up to date version and use it in context so as not to be misleading, and credit the CAA.

First published 2026

Enquiries regarding the content of this publication should be addressed to: content@caa.co.uk

The latest version of this document is available in electronic format at: www.caa.co.uk/CAP3315

1. Background

1. Following the disruption to UK air traffic services provided by (NATS (En Route) Plc) (NATS) on 8 September 2026, the Secretary of State for Transport has asked the Civil Aviation Authority (CAA), as the UK's independent aviation regulator, to conduct a review to establish the causes of the disruption, and identify any additional actions needed to strengthen confidence in the resilience of the UK's air traffic management system to support the needs of passengers and the wider aviation sector.
2. The Review will be undertaken by the CAA in accordance with its statutory functions (including the Transport Act 2000) and supported, where appropriate, by external technical advisers, and an Independent Challenge Panel, whose membership will be proposed by the CAA and approved by the Secretary of State for Transport, to provide independent challenge and advise throughout the Review.
3. The Review will consider the findings of NATS' own investigation and undertake any additional analysis necessary to satisfy itself regarding the causes of the disruption, the adequacy of mitigating actions NATS has taken in response, and the implications for the future resilience of UK air traffic management.
4. While informed by the circumstances of this incident, the Review will focus primarily on the implications for the future resilience, renewal and development of UK air traffic management infrastructure.
5. While the Review is focused primarily on resilience, system renewal and future capability, it shall do so recognising that the safety of the UK air traffic management system remains paramount and that resilience, modernisation and operational performance must be considered in the context of maintaining and enhancing safety outcomes.

2. Purpose

6. The purpose of the Review is to:
    - Establish the causes and contributory factors associated with the disruption and assess the adequacy of actions identified in the response.
    - Assess the resilience of current air traffic management systems and supporting infrastructure and the robustness of associated resilience management arrangements.
    - Determine whether the current UK air traffic management system remains fit for purpose and capable of supporting the needs of the aviation sector and the wider UK economy.
    - Identify any additional actions or more fundamental changes necessary to strengthen the resilience, reliability and future capability of the UK air traffic management system.
7. The Review will draw on evidence arising from the incident, together with an assessment of resilience, investment, governance and system renewal

arrangements, to identify any changes necessary to strengthen the future resilience, reliability and capability of UK air traffic management. The Review should consider not only the resilience of current arrangements, but also NATS' ability to deliver and sustain the operational, technological and organisational changes necessary to support the future UK air traffic management system.

3. Scope

Workstream 1: Cause and Lessons Learned

8. The Review shall:
    - Consider the findings of the NATS investigation and satisfy itself that the causes and contributory factors associated with the disruption have been adequately identified and understood.
    - Assess the effectiveness of immediate corrective actions and mitigating measures implemented in response to the disruption.
    - Review the findings, recommendations and actions arising from previous significant UK ATM disruption events, including the August 2023 disruption, and assess the extent to which they have been effectively implemented and remain adequate in addressing both system resilience and the consequences of major disruption for airlines, passengers and the wider aviation sector.
    - Identify any additional lessons and actions necessary to strengthen the future resilience of UK air traffic management.
9. The Review shall assess whether any recurring issues indicate weaknesses in implementation, governance, investment, oversight or the underlying approach to resilience improvement

Workstream 2: Existing System Resilience

10. The Review shall examine:
    - The adequacy of the resilience requirements, governance and assurance arrangements applied to NATS critical operational systems and supporting infrastructure.
    - The effectiveness of arrangements to identify, assess and manage technology, operational and resilience risks, including the extent to which latent vulnerabilities or failure modes have been identified and appropriately mitigated.
    - The effectiveness of resilience testing, assurance and monitoring activities in providing confidence in the resilience of critical operational systems and supporting infrastructure.
    - Arrangements for managing system degradation and failure, including business continuity and contingency plans.

- The adequacy and effectiveness of business continuity, contingency, recovery and stakeholder communication arrangements during periods in which critical operational services rely on legacy systems pending the implementation of replacement capabilities.
- Recovery and service restoration capabilities following significant operational disruption.

11. The Review is not intended to provide independent certification of the resilience of all operational systems, but shall assess whether existing resilience, assurance, testing, investment and business continuity arrangements provide sufficient confidence that material risks, vulnerabilities and potential failure modes are being identified, mitigated and managed appropriately throughout the transition to replacement systems.

Workstream 3: Capital Investment and System Renewal

12. The Review shall examine:
    - NATS' strategy and plans for the renewal, replacement and modernisation of critical operational systems, including the extent to which existing systems rely on legacy technologies and the management of technology obsolescence and technical debt.
    - The adequacy of current and planned capital investment programmes and the extent to which investment prioritisation aligns with resilience risks, strategic objectives and future operational requirements.
    - The effectiveness of governance, programme management and delivery arrangements for major technology and system renewal programmes, including key delivery risks and dependencies.
    - The organisational capability, capacity and culture required to deliver major technology and system renewal programmes effectively and to sustain the pace of change necessary to meet future resilience and performance objectives.
    - The extent to which current plans address vulnerabilities, risks and lessons identified through recent incidents and previous reviews.
    - The extent to which governance, investment and regulatory incentive arrangements support the delivery of resilience and system renewal objectives.
    - The effectiveness of accountability, governance and reporting arrangements between NATS, the CAA and Government in supporting resilience, system renewal and delivery of strategic objectives.
    - The extent to which NATS ownership structure can influence the delivery of resilience and system renewal objectives.
13. The Review shall assess whether NATS has established a credible, appropriately governed and deliverable approach to the renewal of critical air traffic management infrastructure, including whether it possesses the organisational capability, capacity and leadership necessary to deliver and sustain the changes required to support a

resilient, reliable and sustainable UK air traffic management system over the coming decade.

Workstream 4: Future Capability and Modernisation

14. The Review shall examine:
    - The extent to which current modernisation plans, technology architectures and future operating concepts across the UK air traffic management system are capable of supporting future operational requirements and resilience objectives.
    - The effectiveness of governance, assurance, oversight and delivery arrangements for major technology and modernisation programmes.
    - Opportunities to strengthen resilience, performance and operational capability through future technologies, system architectures and design approaches.
    - Lessons that may be drawn from relevant national and international practice including comparisons with other air navigation service providers regarding system resilience, significant disruption events, recovery arrangements and the impacts of such events.
    - Whether the current system architecture, operating model, governance arrangements and regulatory framework remain fit for purpose, or whether more fundamental changes should be considered to support future resilience, performance and capability.
    - The extent to which organisational, operational and human factors arrangements support adoption of future technologies, automation and new operating concepts.
15. The Review shall assess whether current plans and strategic initiatives across the UK air traffic management system are sufficient to provide a resilient, modern and sustainable system over the coming decade, and whether more fundamental changes may be required to meet future operational, technological and resilience needs. In undertaking this work, the Review should draw upon relevant existing CAA, Government and industry work where appropriate, including airspace modernisation initiatives, future airspace users and technologies programmes, relevant regulatory and rulemaking activities, and other strategic work relating to the future development of the UK air traffic management system.

Workstream 5: Regulatory and Organisational Learning

16. The Review shall examine:
    - Whether there are lessons for the CAA's approach to resilience assurance, oversight, incident management and stakeholder engagement and whether these remain fit for purpose.
    - Opportunities to strengthen the CAA's oversight, assurance and organisational arrangements to support the future resilience of the UK air traffic management system

4. Out of Scope

17. The Review shall not:
    - Determine legal liability, culpability or whether regulatory or enforcement action should be taken in relation to the 8 September 2026 incident. The Review may identify organisational, technical, governance and operational factors that contributed to the disruption, but any decisions regarding regulatory or enforcement action in relation to the 8 September 2026 incident will remain subject to established CAA regulatory processes operating separately from this Review.
    - Assess the performance of other participants in the aviation system, including airlines and airports, except where necessary to understand the causes, consequences or wider resilience implications of the event.
    - Consider disciplinary, personnel or employment matters.
    - Undertake a broader review of the economic regulatory framework applicable to NATS, other than where aspects of that framework are directly relevant to resilience, investment, system renewal or accountability arrangements. Findings relevant to future regulatory arrangements may be identified for consideration through subsequent regulatory processes, including NR28.
    - Re-perform the detailed technical or forensic investigation undertaken by NATS, except where additional analysis is necessary to inform the Review's conclusions.
    - Re-open regulatory decisions unrelated to the incident or its implications for resilience, system renewal and future capability.

5. Governance, Assurance and Independence

Governance

18. The Review will be conducted by a dedicated CAA review team (the “Review Team”).
19. The Review Team shall operate separately from routine oversight activities relating to the incident and shall report through established governance arrangements to the CAA Board.
20. The Review will be conducted in accordance with principles of objectivity, transparency, proportionality and evidence-based decision making.
21. The Review Team may draw upon expertise, evidence and analysis from across the CAA as necessary to support its work. Other CAA teams may provide technical advice, information and factual input, but responsibility for the Review's findings, conclusions and recommendations shall remain solely with the Review Team.

Independence

22. The Review shall reach its conclusions independently and without influence from NATS, Government departments, industry stakeholders, technology suppliers or any other party with an interest in the outcome of the Review.
23. The Review Team may draw upon expertise, evidence and analysis from across the CAA as necessary to support its work. Other CAA teams may provide technical advice, information and factual input, but responsibility for the Review's findings, conclusions and recommendations shall remain solely with the Review Team.
24. Neither NATS, Government departments, industry stakeholders nor technology suppliers shall have any role in determining the Review's findings, conclusions or recommendations. Stakeholders may provide evidence, technical information and factual clarification, and may be consulted as part of the Review process, but responsibility for analysis, findings, conclusions and recommendations shall remain solely with the Review Team.

External Challenge and Technical Assurance

25. The Review Team may appoint external advisers on technical or strategic matters where specialist expertise or independent challenge is required.
26. External advisers may be invited to:
    - Provide advice on strategic governance and assurances approaches to major infrastructure and regulated entities.
    - Review evidence and analytical approaches.
    - Challenge assumptions and emerging findings.
    - Provide specialist advice on systems engineering, software assurance, resilience and technology renewal.
    - Assess major capital investment and system replacement programmes.
    - Provide independent perspectives on relevant national and international good practice.
27. External advisers shall have direct access to the Review Team and may provide advice independently of NATS and other stakeholders.
28. The Review Team shall remain responsible for all conclusions and recommendations.

Independent Challenge Panel

29. An Independent Challenge Panel, independent of the CAA and the Review Team, shall be established to provide independent challenge and advice to the Review Team throughout the conduct of the Review. The Independent Challenge Panel shall comprise suitably qualified independent experts with relevant experience in air traffic management, resilience, systems engineering, major infrastructure programmes, technology transformation, public sector assurance and other areas relevant to the Review.
30. The membership of the Independent Challenge Panel shall be endorsed by the Secretary of State for Transport. Members shall be selected on the basis of their

expertise, independence and ability to provide objective challenge and scrutiny throughout the Review.

31. The Review Team shall engage with the Independent Challenge Panel at key stages of the Review, including in relation to the Review's methodology, evidence base, emerging findings and draft conclusions. The Panel may raise additional matters that it considers relevant to the conduct of the Review and provide independent challenge throughout the Review.
32. Responsibility for the Review's findings, conclusions and recommendations shall remain solely with the Review Team.
33. The role of the Independent Challenge Panel is to strengthen confidence in the independence, robustness, credibility and transparency of the Review through the provision of independent challenge and oversight.

Transparency

34. The Review shall maintain an auditable record of:
    - Evidence obtained.
    - Stakeholders consulted.
    - Analytical methodologies applied.
    - External advice received.
    - Key decisions made during the Review.
35. The final report shall set out the Review methodology, sources of evidence and any limitations encountered during the Review.

Stakeholder Engagement

36. The Review Team shall maintain appropriate engagement with NATS, airlines, airports, passenger representative bodies and other relevant stakeholders throughout the course of the Review.
37. Such engagement shall inform the Review but shall not influence its independence.

6. Outputs

CAA Board Update

38. The Review Team shall provide an update to the CAA Board before the end of 2026 setting out progress, key issues identified to date and any emerging observations relevant to the conduct of the Review.

Initial Findings Report

39. The Review shall provide an Initial Findings Report to the Secretary of State by the end of January 2027.
40. The Initial Findings Report should:
    - Set out preliminary findings regarding the causes and contributory factors associated with the disruption.

- Assess the effectiveness of immediate corrective actions and mitigating measures implemented in response to the disruption.
- Identify any recurring themes arising from previous significant disruption events and reviews.
- Provide initial observations on resilience, contingency, recovery and business continuity arrangements.
- Identify any recommendations requiring urgent action to strengthen resilience.
- Initial observations regarding the adequacy and deliverability of current and planned investment, renewal and modernisation programmes.

41. The Review may issue recommendations before the publication of the Initial Findings Report where this would support timely resilience improvements.

Independent Challenge Panel Review

42. Prior to submission of the Initial Findings Report to the Secretary of State, the Independent Challenge Panel shall review the Review Team's initial findings, analysis and proposed recommendations.
43. The Panel shall provide independent challenge regarding the sufficiency of the evidence base, the robustness of the analysis and the appropriateness of emerging recommendations.
44. The Review Team shall consider any material observations raised by the Panel and document how those observations have been addressed.
45. Responsibility for the findings, conclusions and recommendations shall remain solely with the Review Team.
46. Following its review of the Initial Findings Report, the Independent Challenge Panel shall provide a statement to the Secretary of State, either by way of a separate letter or a foreword to the report, setting out the extent of its scrutiny of the Review and its advice on the the Review's findings and recommendations.
47. A similar statement shall be provided in relation to the Final Report prior to its submission to the Secretary of State

Final Report

48. The Review shall provide its final report by March 8th, 2027, at the latest and take into consideration any observations arising from the Initial Findings Report and Independent Challenge Panel Review.
49. The report shall include:
    - Findings on the causes and contributory factors associated with the disruption.
    - Assessment of lessons learned.
    - Assessment of system resilience.
    - Assessment of capital investment, system renewal and technology modernisation programmes.
    - Assessment of future capability and longer-term strategic resilience.
    - Assessment of regulatory and organisational lessons identified through the Review.

- Recommendations to strengthen resilience, reliability and future capability.
- A prioritised implementation roadmap.

50. Recommendations will be structured as:

Immediate Actions (0–12 Months)
Actions necessary to address urgent resilience vulnerabilities.

Medium-Term Improvements (1–3 Years)
Actions to improve resilience, governance, recovery capability and organisational effectiveness

Strategic Renewal and Modernisation (3–10 Years)
Actions supporting long-term technology renewal, infrastructure replacement and future capability.

7. Desired Outcomes

51. The Review shall seek to:
    - Provide confidence that the causes of the disruption have been identified and understood, and that lessons arising from this and previous significant disruption events have been appropriately identified and acted upon.
    - Identify opportunities to strengthen the resilience, reliability and long-term performance of UK air traffic management infrastructure, including the identification and management of any systemic resilience risks or latent vulnerabilities.
    - Assess whether current investment, renewal and modernisation programmes are sufficient to support a resilient, modern and sustainable UK air traffic management system and support their effective delivery.
    - Assess whether the current UK air traffic management system remains fit for purpose and identify any need for more fundamental changes to support future resilience, performance and capability.
    - Identify lessons for the CAA and strengthen the effectiveness of its future oversight, assurance and incident response arrangements.
    - Enhance confidence among Government, industry and the travelling public in the resilience and future capability of the UK's air traffic management system.