

# Recommendations from the Independent Review of NERL's August 2023 Flight Planning System Failure: Status report

CAP3193

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# Foreword

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Recent years have underscored the importance for the aviation industry to undertake proactive resilience planning and continuous improvement through lessons learned. Events such as extreme weather, cyber threats and infrastructure failures across sectors have demonstrated the need for robust contingency frameworks. The CAA, alongside the Department for Transport, continues to prioritise resilience as a key strategic objective, ensuring that the aviation system remains capable of supporting economic growth, national connectivity and passenger confidence.

As the sector evolves, resilience must be embedded not only in operational procedures but also in governance, investment planning and stakeholder collaboration. However, I recognise the complexity of the challenge to enhance resilience whilst also maintaining operational efficiency and cost-effectiveness.

This report highlights the progress made up to December 2025 in embedding the recommendations from the independent review following the flight planning system failure on the 28 August 2023. I am pleased to see the proactive steps taken to integrate the recommendations into operations through strengthened policies and procedures that enhance resilience and future readiness. Many of these initiatives reflect a long-term commitment to continuous learning and improvement.

Since the 2023 incident, the UK aviation system has faced further disruptive events that have tested its ability to respond effectively while maintaining safety and minimising the impact on passengers. The response by NATS to the 30 July 2025 incident successfully mitigated the risk of a recurrence of the disruption experienced in 2023. It also demonstrated both the progress achieved and the value of collaboration across the system. However, it also highlighted opportunities for further improvement as we work together to build a more resilient aviation network.

The CAA remains committed to working closely with industry partners to continue to embed these changes into everyday practice, policy and regulatory oversight. I would like to extend my thanks to all stakeholders for their ongoing engagement and dedication to strengthening resilience across the UK aviation network. Your collaboration is essential to ensuring a safe, responsive and consumer focussed system for the future.

Rob Bishton

CAA Chief Executive

## Executive Summary

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On 28 August 2023, a significant failure occurred within the flight planning system operated by NATS, leading to widespread disruption across the UK aviation network. In response, the CAA commissioned an independent review to assess both the technical causes of the incident and how the wider aviation system managed its impacts.

The review's final report<sup>1</sup> (hereafter referred to as the NIR report) contained 34 recommendations across the industry. As of December 2025, 32 of the 34 recommendations have now been closed or integrated into operational practices and policies, delivering long term improvements to the resilience of the UK aviation system.

The two recommendations that remain open at this stage have involved complex system and process changes requiring detailed validation to ensure they meet the required standards. We are confident these will be complete in the next few months.

During this time the CAA will continue to work closely with industry partners to support the ongoing implementation of these system changes. These actions remain critical to ensuring a safe, responsive and consumer focused aviation system.

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<sup>1</sup> CAP2993: Independent Review of NATS (En Route) Plc's Flight Planning System Failure on 28 August 2023 – Final Report <https://www.caa.co.uk/cap2993>

## Chapter 1

# Background and introduction

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## Background

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- 1.1 On 28 August 2023, a failure occurred within the flight planning system operated by National Air Traffic Services Ltd (NATS). In response, the Civil Aviation Authority (CAA) commissioned an independent review to examine the technical issues that arose on the day, as well as how the wider aviation system responded to manage the resulting impacts on consumers and other affected parties.
- 1.2 The final report from The NIR review was published in November 2024 containing 34 recommendations for NATS, the CAA, Government, airports and airlines.
- 1.3 In July 2025, the CAA published an update on progress which set out the status of the implications of the recommendations at the end of April 2025<sup>2</sup>, noting 18 of the recommendations as complete.
- 1.4 This report is a further update on progress and sets out the status of the recommendations in December 2025.

## Introduction

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- 1.5 Two years on from the publication of the NIR report, this is the second update report on progress against the 34 actions.
- 1.6 Recommendations have been classified into one of three categories; 'Open', 'Complete', or 'Embedded into our operational regulatory oversight practices/long term legislative planning'. The last category refers to recommendations where actions are planned into new processes and polices that are ongoing with outputs expected in the near future.
- 1.7 This approach ensures that lessons from the 2023 incident drive lasting procedural and policy changes, strengthening resilience across the UK aviation system.

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<sup>2</sup> CAP3109: Recommendations from the Independent Review of NERL's August 2023 Flight Planning System Failure: update on progress <https://www.caa.co.uk/cap3109>

## Validation Process

### NATS

- 1.8 NATS was the sole subject of 11 recommendations from the NIR report, and was one of a number of subjects for a further two recommendations (R7 and R8).
- 1.9 NATS is providing the CAA with evidence to review for each of its recommendations. This evidence is at the same level as that which would be provided for the closure of a safety finding following a CAA audit. The CAA's Aerodromes and ATM team will review this evidence to judge whether it represents a satisfactory implementation of the recommendation.

### CAA

- 1.10 The CAA was the sole subject of nine recommendations from the NIR report, and was one of a number of subjects for a further four recommendations (R7, R8, R30 and R31).
- 1.11 The CAA are using the independent Consumer Panel as a means to validate delivery of its recommendations.

### Airports and Airlines

- 1.12 Airports and airlines were the sole subject of five recommendations from the NIR Report, and was one of a number of subjects for a further four recommendations (R7, R8, R30 and R31).
- 1.13 It is impractical for the CAA to validate the response for each individual airport and airline. The expansion to our compliance programme will validate elements of the recommendations. This programme started in October 2025 and will continue through 2026.

### Government

- 1.14 Government was the sole subject of five recommendations from the NIR report, and was one of a number of subjects for a further one recommendation (R31).

## Chapter 2

## Milestones and progress for each recommendation

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### ToR#1: Causes and Prevention

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R1: NERL should review in detail its contingency arrangements for significant disruption to ensure that maximum airspace capacity continues to be available without the need for flight restrictions for as long as possible, and if restrictions are required, that they are kept to a minimum.

2.1 NATS have submitted evidence to the CAA for validation covering actions it took following its own investigation into the August 2023 incident, including a review of its systems and the appointment of a new role of Traffic Volume Manager. Following review and discussion further evidence of progress has been requested before closure of this recommendation.

R2: NERL should reconsider its engineering resource management arrangements to provide timely onsite coverage with engineers of sufficient skill levels that are matched to aviation system demand.

2.2 NATS have submitted evidence to the CAA for validation, covering actions it took following its own review of the August 2023 incident, including revisions to its command structure during incidents and changes to its role profiles. We consider this recommendation to be **complete**.

R3: NERL should undertake a review of its software assurance process.

2.3 NATS have submitted evidence to the CAA for validation. A number of actions were identified and a timeline for implementation was agreed.

2.4 We consider this recommendation to be **complete**, with updates to assurance processes to be monitored via the normal oversight process.

R4: NERL should review its policy for the diversity of software, including an evidenced explanation of which systems have such diversity and which do not.

2.5 NATS have submitted evidence to support the closure of the recommendation, and we consider this recommendation to be **complete**.

## TOR #2 Industry Communication and Engagement

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R5: NERL should consider the need to give earlier notification to airlines and airports of possible disruption, together with frequent updates, ideally this should be based on pre-arranged timings and frequencies.

2.6 NATS have submitted evidence to the CAA for validation, including updated policy documents addressing the early notification of disruptions. We consider this recommendation to be **complete** with the expectation that the process will be further refined as part of any future lessons learnt.

R6: NERL should review all aspects of its procedures for communicating with stakeholders during periods of significant disruption, and in particular its operation of ATICC.

2.7 NATS have submitted evidence to the CAA for validation. We consider this recommendation to be **complete** with the expectation that NATS will continue to refine the communication processes based on any future lessons learnt.

R7: All relevant parts of the aviation sector should meet on a regular basis to conduct rehearsals of major incident management. The CAA should consider taking a role in facilitating this activity.

2.8 The first cross industry exercise was completed in February 2025, further exercises are being planned on an annual basis.

2.9 Exercise reports will be reviewed and future exercise plans overseen by the Operations Directors Liaison Group (ODLG). This recommendation has been **embedded into our operational regulatory oversight**.

R8: NERL and its customers should consider how best to achieve a more collaborative relationship through establishing a senior leadership forum in which matters of resilience and customer experience can be addressed. The CAA should consider how it could facilitate and encourage this process.

2.10 NATS have submitted evidence to the CAA for validation. Following review and discussion further evidence of progress has been requested before closure of this recommendation.

## ToR #3 Resources and Resilience

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R9: NERL should review change notifications previously submitted to the CAA and which have been noted as having an impact on Cyber Security controls, and bring these to the attention of its Cyber Security Responsible Manager for any necessary actions to be completed.

2.11 NATS have submitted evidence to the CAA to support the closure of the recommendation, and we consider this recommendation **complete**.

R10: NERL should review its processes for the submission of change notifications to the CAA, to ensure that all necessary internal coordination is completed prior to submission.

2.12 NATS have reviewed their processes and agreed improvements to highlight those changes that have an impact on resilience. NATS have submitted evidence to the CAA for validation, and we consider this recommendation to be **complete**.

R11: The CAA should review its resources for the oversight of NERL's safety critical systems to ensure these remain sufficient.

2.13 The CAA completed a review of its resources for the oversight of NERL's safety systems in 2024. Continuous review throughout 2025 has led to a revised recruitment package for aera rated ATCOs, and a similar exercise is nearing completion for Air Traffic Engineers.

2.14 This recommendation has been **embedded into our operational regulatory oversight** practices.

R12: The CAA should review its processes for the sampling of new and changed NERL air traffic systems to ensure these remain sufficient to inform its view of NERL's safety performance.

2.15 The CAA completed a review of its processes to ensure they remain sufficient to retain oversight of NERL's safety performance in 2024 and actions are being taken forward.

2.16 This recommendation has been **embedded into our operational regulatory oversight** practices.

R13: The CAA should ensure that the impact on airspace capacity of contingency mode operations is given sufficient importance when selecting air traffic control systems for audit in advance of approval.

2.17 The CAA reviewed its approach to regulatory oversight to understand the resource implications of undertaking this new requirement alongside its day-to-day regulation in the context of utilising the technical knowledge and experience of inspectorate technical specialists. Challenges remain in recruiting specialist roles. Steps have been taken to understand resource needs, and it is anticipated that filling current vacancies will enable delivery of resilience oversight in early 2026.

2.18 This recommendation has been **embedded into our operational regulatory oversight** practices.

## ToR #4 Investment

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R14: NERL should review its level of strategic oversight in relation to its change programme.

2.19 NATS have submitted evidence to the CAA for validation. We consider this recommendation to be **complete**.

R15: The CAA should consider how best to ensure that the interests of consumers are taken into account in setting the regulatory framework on investment and incentives for NERL.

2.20 This recommendation covers activities that are in the scope of price control reviews. An updated timetable for the next NERL price control review - NR28 - was published on 30 September. A Method Statement and NERL business plan guidance will be published in 2026, followed by CAA consultations in 2027 and the final regulatory decision in 2028.

2.21 We consider this recommendation to be **embedded into our operational regulatory oversight** practices.

## ToR #5 Performance and Incentives

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R16: The CAA should explore ways of measuring cancellations and knock on delays attributable to NERL for use in its incentive framework.

2.22 This recommendation covers activities that are in the scope of price control reviews. An updated timetable for the next NERL price control review - NR28 - was published on 30 September. A Method Statement and NERL business plan guidance will be published in 2026, followed by CAA consultations in 2027 and the final regulatory decision in 2028.

2.23 We consider this recommendation to be **embedded into our operational regulatory oversight** practices.

R17: NERL should consider formulating (after discussion with its major customers and stakeholders) and ambition in terms of comparative performance as against other ANSPs.

2.24 NATS has undertaken discussions with its major customers and stakeholders on this question, and reports that they consider the existing metrics are sufficient to compare NATS's performance against other ANSP's. NATS have submitted evidence of this to the CAA.

2.25 We consider this recommendation to be **complete**.

R18: The CAA should review the quantum and mechanism of incentives on NERL, with a view to strengthening the incentives to provide resilient as well as a safe service.

2.26 This recommendation covers activities that are in the scope of price control reviews. An updated timetable for the next NERL price control review - NR28 - was published on 30 September. A Method Statement and NERL business plan guidance will be published in 2026, followed by CAA consultations in 2027 and the final regulatory decision in 2028.

2.27 We consider this recommendation to be **embedded into our operational regulatory oversight** practices.

R19: The CAA should ensure that its NERL business plans guidance includes a clear focus on outcomes associated with resilience and consumer impact, as well as safety and efficiency.

2.28 This recommendation covers activities that are in the scope of price control reviews. An updated timetable for the next NERL price control review - NR28 - was published on 30 September. A Method Statement and NERL business plan guidance will be published in 2026, followed by CAA consultations in 2027 and the final regulatory decision in 2028.

2.29 We consider this recommendation to be **embedded into our operational regulatory oversight** practices.

R20: NERL should review its strategic approach to resilience, as is common among other safety-critical regulated sectors, recognising the importance to the public of resilience alongside safety and efficiency.

2.30 NATS reviewed its strategic approach, which is focussed on delivering a resilient operation aligned to the performance standards set out in CAP1682. Evidence for this was submitted to CAA in April 2025 and validated.

2.31 We consider this recommendation to be **complete**.

## ToR #6: Consumer Impact

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R21: Government should, as a matter of urgency, introduce legislative change to enhance the CAA's information powers to assist the enforcement of breaches of consumer rights laws in the aviation sector, to make them comparable with those available to other sector regulators.

2.32 The Government remains firmly committed to ensuring air passengers benefit from strong and effective protections and will continue to pursue legislative reform in this area.

2.33 We consider this recommendation to be **embedded into long term legislative planning**.

R22: The CAA should consider expanding the resources devoted to consumer rights enforcement and stepping in more readily in response to intelligence of a flagrant breach, not just in response to overwhelming and recurring evidence of breaches over a period.

2.34 The CAA has expanded the resources it devotes to consumer rights and further recruitment is ongoing. Using resource already recruited, the CAA announced commencement of its UK261 Compliance Programme in October 2025.

2.35 We consider this recommendation to be **embedded into our operational regulatory oversight** practices.

R23: Government should promote legislation to enable the CAA to take consumer enforcement action without recourse to the courts.

2.36 The Government remains firmly committed to ensuring air passengers benefit from strong and effective protections and will continue to pursue legislative reform in this area.

2.37 We consider this recommendation to be **embedded into long term legislative planning**.

R24: Government should consider the appointment of a statutory consumer body to collect, research and represent the views of air passengers and air freight users.

2.38 The Government continues to actively review this recommendation. This includes exploring the feasibility of expanding the remit of the newly established Passenger Standards Authority beyond rail to cover other modes, including aviation. This reflects the Government's commitment to ensuring that all transport users, including air passengers and freight customers, are effectively represented.

2.39 We consider this recommendation to be **embedded into long term legislative planning**.

R25: Airports and airlines should review their arrangements for meeting the needs of passengers in vulnerable circumstances during periods of significant disruption, including those travelling with children.

2.40 Noted as **complete** in July 2025 report.

## ToR #7: Aviation System Response

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R26: Airports should review and aim to improve their arrangements for making extra support available for passengers during periods of significant disruption.

2.41 Noted as **complete** in July 2025 report.

R27: The CAA, as part of its licensing arrangements should consider whether major airports should develop a consumer resilience plan which identifies risks, contingencies and mitigations to deal with major disruption.

2.42 The CAA has two types of airport licensing arrangements, neither of which seem well suited to the spirit of this recommendation. Economic licenses are held by airports for which we have made a market power determination – at present this is only Heathrow and Gatwick, who both already have license conditions which require them to maintain operational resilience including a requirement to produce an operational resilience plan. Airport certification applies to the over 40 UK aerodromes that have major commercial passenger operations, the requirements of these are laid down in law and therefore changes to conditions would require legislation by government.

2.43 In 2026 work will be taken forward by the CAA to review resilience plans held by major airports and provide guidance on best practice. We consider this recommendation to be **embedded into our operational regulatory oversight** practices.

R28: Airlines operating flights to, from or within the UK should always have sufficient staff or authorised representatives at the departing airport (not just check-in staff employed by other airlines who are not authorised to do anything else) who can speak on behalf of the airline and support passengers in need of information or assistance.

2.44 Noted as **complete** in July 2025 report.

R29: Airlines should review, together with the relevant airports, the adequacy of any food and drink vouchers offered to passengers, to ensure they are sufficient to cater for likely needs and are accepted at a sufficiently wide range of outlets within or near the airport.

2.45 Airlines and Airports review of arrangements was noted as complete in July 2025 report.

2.46 Voucher provision by airlines will be validated by the CAA's expanded UK261 compliance programme, which started in October 2025. We consider this part of the recommendation to be **embedded into our operational regulatory oversight** practices.

R30: Airlines and airports should develop a comprehensive suite of tools for communicating with consumers, for example using tannoy announcements at airports alongside emails, text messages and information boards to be used whenever a major incident occurs. The CAA should have a guiding hand in ensuring the coordination and delivery of this recommendation and should wherever possible promote standardisation of both the means and the content of these communications.

2.47 CAA commissioned consumer research to understand better consumers' needs and preference during periods of disruption. This research was published in July

2025. The CAA will convene industry to discuss this research with the aim of agreeing an Industry Code of Conduct on communicating with passengers during disruption, which stakeholders can commit to by the end of 2026.

2.48 We consider this recommendation to be **embedded into our operational regulatory oversight** practices.

R31: The CAA should develop and promote the use of a standardised form of communication about consumer rights under Regulation 261. All airlines should use the communication consistently and it should be available at all airports, at all times, overseas (for passengers flying to or from the UK) as well as in the UK. Government should consider amending UK261 to require this standardised communication, which would then be enforced by the CAA.

2.49 CAA commissioned consumer research to understand better consumers' needs and preference during periods of disruption. This research was published in July 2025. The CAA will convene industry to discuss this research with the aim of agreeing an Industry Code of Conduct on communicating with passengers during disruption, which stakeholders can commit to by the end of 2026.

2.50 We consider this recommendation to be **embedded into our operational regulatory oversight** practices.

R32: Airlines should review their claims processes to ensure that information given to passengers about how to claim (under Regulation 261 or other consumer rights legislation) is clear and provided in a timely fashion, and that all claims are processed with pace and courtesy.

2.51 Responses to the CAA letter in July 2025 indicated that airlines have such arrangements in place and report that they have reviewed or intend to review them in light of the NIR Report. This part of the recommendation was considered **complete** in the July 2025 report.

2.52 The CAA has recently commenced a compliance review of UK261 which will look at all the requirements of UK261.

2.53 We consider this part of the recommendation to be **embedded into our operational regulatory oversight** practices.

R33: Government should implement as a priority making ADR membership mandatory for all airlines operating to, from and within the UK.

2.54 The Government remains fully committed to strengthening passenger rights, including through reforms that will ensure consistent access to dispute resolution. It will look to introduce reforms when it can to provide air travellers with the highest level of protection possible.

- 2.55 We consider this recommendation to be **embedded into long term legislative planning**.

## ToR #8: Allocation of Financial Risks

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R34: Government should ensure that existing consumer rights protections, including those embedded within Regulation 261, are not diluted in any future reviews of the legislative framework.

- 2.56 The Government is fully committed to maintaining strong protections for air passengers, including those set out in Regulation 261.
- 2.57 We consider this recommendation to be **embedded into long term legislative planning**.