

Investigation under section 34 of the Transport Act 2000: Project Oberon

CAA Provisional Conclusions

CAP 1551



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Chapter 1

Executive Summary

Complaint

- 1.1 By letter of 22 April 2016, Stansted Airport Ltd ('STAL') complained to the Civil Aviation Authority ('CAA') about the recent performance of NATS (En Route) plc ('NERL') in managing the performance of the London Terminal Manoeuvring Area ('LTMA').
- 1.2 By its complaint, STAL alleged that Stansted Airport had been subject to substantial flow restriction delays and that one of the main causes of these delays was that NERL had failed to provide adequate resources to manage the performance of the LTMA properly. Specifically, STAL charged that NERL had failed to make proper contingency plans for short and long-term controller absences. Additionally, STAL complained that NERL attaches a higher priority to managing Heathrow flights than to flights into other London airports, including Stansted Airport.
- 1.3 On 25 August 2016 the CAA received a written complaint from Ryanair plc ('Ryanair'). Ryanair's letter echoed STAL's complaint. Ryanair alleged that:
- NERL was failing to take all reasonable steps to meet demand at Stansted Airport, contrary to both NERL's statutory duties (pursuant to section 8(1)(c) and (d) of the Transport Act 2000) and the conditions of NERL's licence (especially conditions 2.1 and 5.2).
 - NERL was in breach of its licence (especially conditions 2.7 and 2.8) in that it had unduly preferred and discriminated in the provision of its services and that discrimination was intended or likely to have the effect of preventing, restricting or distorting competition in any market.

Investigation

- 1.4 Under section 34 of the Transport Act 2000 (TA00), the CAA must investigate an allegation that there has been a breach of a section 8 duty or a Licence condition, where this allegation is made by a person with an interest, unless the allegation is either frivolous or vexatious. Pursuant to the CAA's investigation of this complaint, it has had regard to a variety of evidence, including NERL's responses to the CAA's questions, correspondence between NERL, STAL, and Ryanair, and third-party data analysing the existence, cause, and extent of delay at Stansted Airport.

Findings

- 1.5 The CAA's preliminary view is that, although there is evidence of increased delay in 2016 compared to previous years, NERL has not failed to take all reasonable steps to meet demand at Stansted Airport.
- 1.6 Delays in the London Approach Service increased in 2016 due to low resilience within the service. This was caused by significant cuts to NERL staffing that were not supported by improvements to reduce the operational requirement, and therefore put simply there were too few operational staff to provide normal resilience levels. The services were therefore adversely affected by higher than expected rates of short-term sickness, unplanned retirements among controllers, and a lack of take up of voluntary overtime as a result of an unfavourable industrial relations climate. The CAA is of the view that NERL could not have reasonably foreseen that each of these events would materialise and combine within such a short space of time to place such pressure on the London Approach. Equally, the CAA has found no evidence that NERL has not acted reasonably in how it has identified and implemented the remedial measures designed to combat the increased rate of delay.
- 1.7 Furthermore, the CAA has found no evidence that NERL has unduly preferred or discriminated against any party. Various structural features of Heathrow Airport have enabled it to be more resilient to the adverse

conditions which have caused increased delays at Stansted Airport, including:

- Heathrow has a larger number of rostered controllers operating at any one time, thereby minimising the effect of unexpected, short-term absences.
- Controllers can only control airports for which they hold a validation. Substantially more controllers are validated solely for Heathrow Airport than solely for Stansted Airport, due in part to the complexity of Heathrow Airport's operation.

1.8 The CAA finds, however, that these structural conditions are justified by Heathrow's special operating requirements, rather than decisions on the part of NERL to unduly prefer or discriminate against any party. Accordingly, the differential rate of performance between Heathrow Airport and Stansted Airport is not evidence of NERL having breached its Licence conditions.

1.9 Therefore the CAA does not consider that NERL has failed in meeting its duties under the TA00 and the conditions of its Licence.

1.10 Notwithstanding the CAA's preliminary conclusion in relation to the investigation, during the course of the investigation the CAA has identified a number of issues with NERL's planning that it expects NERL to address now that NERL has a better understanding of the impacts of its decisions and its ability to deliver change. We will take this into account in coming to a view on any potential future allegation of a licence breach.

1.11 We have made a number of recommendations for NERL to improve the resilience of its operations and contingency planning and to ensure adequate oversight of its operations with a view to improving its delay performance and ensuring the continuity and quality of ATS services for both aircraft operators and end-users. This includes:

- Understanding better how resource shortfalls will impact users and airports at a more granular level;

- a greater focus on sensitivity analysis in planning in the face of uncertain forecasts; and
- the wider development of service delivery plans.

1.12 In addition, the investigation has been helpful in identifying improvements with the CAA's own oversight of NERL within the regulatory settlement period which it intends to address and in which it expects NERL's full cooperation. As the development of RP3 has started, the CAA will also consider the appropriate level of oversight of NERL within this process, in particular in relation to NERL's regulatory reporting requirements.

Chapter 2

Introduction

- 2.1 This report sets out the CAA's provisional analysis, following its investigation into allegations raised by complainants regarding the compliance of NERL with its obligations under its Air Traffic Services licence (the 'NERL Licence') and the Transport Act 2000 (TA00).
- 2.2 This document is a redacted non-confidential version of the CAA's findings that has been produced and issued to interested stakeholders. The redactions are clearly marked in the text. It will be available for representations until 16:00 on 30 May 2017. Representations may be made via economicregulation@caa.co.uk.
- 2.3 Chapter 2 provides a general introduction and summarises the allegations made against NERL.
- 2.4 Chapter 3 sets out the regulatory framework under which the CAA is conducting its investigation.
- 2.5 Chapter 4 sets out the background and evidence collected.
- 2.6 Chapter 5 sets out the CAA's analysis of the evidence.
- 2.7 Chapter 6 sets out the CAA's provisional conclusions with respect to the allegations as well as its observations on a number of other issues that have come to light during the course of its investigation.
- 2.8 Appendix A sets out basic information on the operation of Air Traffic Services.
- 2.9 Appendix B describes the CAA's quantitative analysis of Air Traffic Flow Management delay.
- 2.10 The remainder of this chapter sets out the factual chronology of the complaints and introduces the parties and sets out the allegations.

Parties

- 2.11 The party under investigation is NERL. NERL holds an Air Traffic Services Licence issued under section 6 TA00. NERL is registered as company number 04129273 at 4000 Parkway, Whiteley, Fareham, Hampshire, PO15 7FL. It is a wholly owned subsidiary of NATS Holdings Ltd registered as company number 04138218 at 4000 Parkway, Whiteley, Fareham, Hampshire, PO15 7FL.
- 2.12 The allegations have been made in separate complaints lodged with the CAA by:
- Stansted Airport Ltd – registered in the UK is the operator of Stansted Airport (company no. 01990920). It is a wholly owned subsidiary of Manchester Airports Group Plc (company no. 04330721); and
 - Ryanair plc – registered in the Republic of Ireland and operates the airline Ryanair, the largest low cost carrier in Europe (company no. 104547).

The two companies are referred together as the ‘Complainants’.

The allegations

Complaints made to the CAA

Complaints by STAL

- 2.13 In its letter to the CAA of 22 April 2016, STAL raised concerns with NERL’s recent performance in managing the performance of the London Approach Service.¹ STAL expressed the view that, over the last year, Stansted Airport had increasingly been subject to flow restriction delays and that the extent of these delays appeared to go well beyond the increase in traffic across the UK and the LTMA. STAL’s view was that one

¹ We note the complaint is phrased in terms of the London Terminal Manoeuvring Area (LTMA). The LTMA is a volume of airspace and the service provided within the LTMA is the London Approach Service. Performance therefore relates to the London Approach Service rather than the LTMA.

of the main causes of the increased delays was the level of resources that NERL had made available to be able to provide contingencies for short and long-term controller absences. In addition, STAL expressed concern that NERL attached a higher priority to managing flights at Heathrow Airport than to flights to other London airports and that, as a result, the impact of NERL's resource shortages were being felt disproportionately at Stansted Airport. STAL expressed the view that, although they had been engaging with NATS (Services) Ltd at a local level and NERL at the Terminal Control level, they did not at that time have satisfactory assurances around NERL's programme for resolving the identified issues.

- 2.14 On 12 July 2016, STAL wrote again to the CAA regarding NERL's performance in managing the London Approach Service, reiterating the concerns it raised in its letter of 22 April 2016, and also emphasising the concerns of its airlines, including Ryanair and easyJet, given the knock-on impact of NERL's performance on punctuality and the customer experience. STAL presented information (based on The Eurocontrol data) indicating that Stansted Airport was the worst performing airport for Air Traffic Control (ATC) staffing-related delays in April 2016.
- 2.15 STAL stated also that, on the weekend of 2 July 2016, controller shortages resulted in flow restrictions to only ten arriving flights per hour into Stansted Airport which, according to STAL, was a 65% reduction in normal hourly movements. Further, STAL explained that these restrictions impacted 17 flights with passengers delayed by up to an hour and knock-on delays to the Stansted Airport flight schedule throughout the day. STAL also explained that the airport also suffered more delays to arriving flights on the morning of 6 July 2016 due to controller shortages in the Essex radar sector. STAL explained that it had raised the matter with NERL, and sought assurances around their programme for resolving the issues, particularly over the summer months which make up the peak holiday period. Whilst STAL had received a response from NERL, it was still concerned that the matter was not being fully addressed.

- 2.16 On 24 August 2016, STAL sent an email to the CAA to notify it of a further issue at Stansted Airport that morning where the airspace serving Stansted Airport (Essex radar sector) had been closed for four hours as a result of a controller falling ill at Swanwick. STAL stated that the airspace closure affected five passenger flights and six cargo flights.

Complaints by Ryanair

- 2.17 On 25 August 2016, the CAA received a written complaint from Ryanair stating that, in its view, NERL was failing to meet demand at Stansted Airport in accordance with its statutory duties under section 8(1)(c) and (d) TA00 and under conditions 2.1 and 5.2 of the NERL Licence. In its complaint, Ryanair stated that, in the months leading up to the complaint, staff shortages at NERL had resulted in significant delays for Ryanair flights and that flight delays directly resulting from NERL's staff shortages for the first six months of 2016 increased approximately 1,300% compared to the equivalent period in 2015.
- 2.18 In addition, Ryanair stated that, in June 2016, 139 Ryanair flights to / from London were directly delayed by approximately 5,000 minutes in total. Further, Ryanair stated that over 100,000 Ryanair passengers in London have been directly disrupted due to NERL's staff shortages in 2016 up to that point. Ryanair expressed the view that NERL had accepted responsibility for delays caused by its staff shortages, referring to a letter from NERL to Ryanair, dated 11 July 2016, in which NERL recognised that ATC staffing-related delays were a significant issue for Ryanair and apologised for the impact that these delays had on Ryanair's operations.
- 2.19 In its complaint, Ryanair also made reference to conditions 2.7 and 2.8 of the NERL Licence, which concern discrimination. Ryanair stated that, in its view, NERL was discriminating against airlines whose operations focus on Stansted Airport in favour of airlines operating at Heathrow Airport. Citing the Eurocontrol data, Ryanair explained that, in the first six months of 2016, 395 Ryanair flights were delayed at Stansted Airport due to NERL staff shortages, compared to only 161 British Airways flights at Heathrow Airport, despite Heathrow Airport handling over triple the

number of flights. Ryanair stated, over the same period, there were 61% more flight delays caused by NERL staff shortages at Stansted Airport than at Heathrow Airport. Further, Ryanair emphasised that, whilst NERL has a service delivery plan for Heathrow Airport, it does not have one for Stansted Airport. In Ryanair's view, this had resulted in NERL systematically underestimating Stansted Airport traffic in June 2016, whilst overestimating Heathrow Airport traffic, resulting in favourable treatment for Heathrow Airport over Stansted Airport.

Summary of the allegations

2.20 With regard to the duties placed on NERL by TA00 and the obligations placed on it by the NERL Licence, the allegations comprise two limbs.

- **Limb 1 – Failure to meet demand through provision of sufficient or reasonable resources** pursuant to a number of differently framed but broadly similar regulatory obligations:
 - Under section 8(1)(c) TA00, NERL has failed in its duty to take all reasonable steps to secure that the demand for the London Approach Service is met;
 - Under section 8(1)(d) TA00, NERL has failed in its duty to have regard, in providing, developing and maintaining the system, to the demands which are likely to be placed on it in the future in respect of the London Approach Service;
 - With reference to NERL Licence condition 2.1, NERL has failed to meet its obligation to make available the London Approach Service so as to be capable of meeting on a continuing basis any reasonable level of overall demand for the service;
 - With reference to NERL Licence condition 5.2, NERL has failed to meet its obligation to act at all times in a manner calculated to secure that it has available to it sufficient resources including (without limitation) financial, management and staff resources, fixed and moveable assets, rights, licences, consents and facilities, on such terms and with all such rights as shall ensure

that at all times it is able to carry out the provision of the London Approach Service.

- **Limb 2 – Discrimination:**
 - With reference to NERL Licence condition 2.7, in providing the London Approach Service, NERL has failed to meet its obligation to not unduly prefer or discriminate against any person or class of person in respect of the operation of its systems, after taking into account the need to maintain the most expeditious flow of air traffic as a whole without unreasonably delaying or diverting individual aircraft or such other criteria as NERL may apply from time to time with the approval of the CAA;
 - With reference to NERL Licence condition 2.8, in providing the London Approach Service, NERL has failed to meet its obligation to not unduly discriminate against or give preferential treatment to any person or class of persons in respect of the terms on which services are provided, to the extent that such terms have or are intended to have or are likely to have the effect of preventing, restricting or distorting competition in any market.

Procedural Chronology

- 2.21 After receipt of the complaints from STAL, the CAA wrote to NERL on 24 August 2016 requesting clarification on: (a) how the then recent short-notice sickness amongst its controllers looked against historical trends; (b) why the pool of validated controllers for Heathrow Airport was more resilient than that for Stansted Airport; (c) the analysis conducted by NERL on staffing issues in the run-up to the submission of its 2016 certificate of resources under condition 5 of the NERL Licence; and (d) the forward timetable for how it expected staff shortages to be addressed for the remainder of summer 2016 period and looking ahead to 2017.

- 2.22 Following receipt of the complaint from Ryanair on 25 August 2016, the CAA wrote to NERL on 16 September 2016 notifying NERL that it had received a further complaint from an airline at Stansted Airport alleging that NERL was failing to meet demand at Stansted Airport in accordance with its statutory duties under section 8(1)(c) and (d) TA00 and under conditions 2.1 and 5.2 of the NERL Licence. In this letter, the CAA explained that, under section 34 TA00, the CAA was under a duty to investigate any alleged contravention of a section 8 duty or Licence condition submitted by or on behalf of an interested person. The CAA explained that it was seeking additional information from the complainant, including consent to disclose the details of the complaint, and would establish the best process to follow in line with the CAA's duties under the TA00 and its published enforcement guidelines, and it would write to NERL subsequently with more details.
- 2.23 The CAA received a letter from NERL on 19 September 2016, in which NERL provided information on NERL's performance at Stansted Airport which, in its view, demonstrated that NERL was meeting its licence obligations to ensure that all airspace users have access to controlled airspace while at the same time ensuring that the airspace is used most efficiently overall.
- 2.24 On 27 September 2016 the CAA wrote to NERL informing it that it was conducting an investigation under section 34 TA00 and requesting information to assist this investigation. The CAA also disclosed to NERL the complaint from Ryanair and informed NERL that it intended to consider both the Ryanair complaint and concerns raised by STAL as part of a single investigation. On 11 October 2016 the CAA wrote to Ryanair and STAL to confirm that it was conducting an investigation under section 34 TA00 and requesting any further evidence that either Ryanair or Stansted Airport would consider would aid the CAA in its investigation.
- 2.25 On 28 October 2016 NERL responded to the CAA's information request of 27 September 2016. A further information request was sent by the CAA to NERL on 7 November 2016. A response was provided by NERL on 21

November 2016. A state of play meeting was held with NERL on 21 December 2016.

- 2.26 On 24 March 2017 the CAA wrote to NERL to notify it that, having carefully considered the information in its possession to date, including the responses from NERL to the CAA's two previous information requests, the CAA's initial analysis indicated that NERL may have contravened or may be contravening or was likely to contravene certain of its duties under section 8 TA00 and certain of the conditions of the NERL Licence. The CAA informed NERL that it considered that the test for opening a formal investigation under section 34 TA00 was satisfied. Further, the CAA notified NERL that, in the light of its initial analysis, it considered that the test for exercising its formal information gathering powers under section 25 TA00 was satisfied. The letter included a Notice issued to NERL pursuant to section 25 TA00 requiring the production of specified documents and information. NERL responded to this request on 7 April 2017.

Chapter 3

Regulatory Framework

Legal framework for Investigations under the Transport Act 2000

Statutory duty to investigate

- 3.1 Under section 34 TA00, the CAA must investigate an allegation that there has been a breach of a section 8 duty or a Licence condition, where this allegation is made by a person with an interest, unless the allegation is either frivolous or vexatious. The CAA cannot reject a complaint on administrative priorities but must investigate in accordance with its public law responsibilities and the principles of good administration.

Stages of investigation

- 3.2 The CAA's guidance on its economic licence enforcement powers is set out in CAP1234 (the 'Guidance'²) which provides for a staged approach to enforcement that moves from co-regulation through to informal investigation by the CAA to formal enforcement action.
- 3.3 The CAA has formal information gathering powers under section 25 TA00 where 'it appears to the CAA that a licence holder may have contravened or may be contravening or is likely to contravene a section 8 duty or a Licence condition' such that it may compel the provision of documents and information.

Statutory thresholds for regulatory intervention by the CAA

- 3.4 There are two courses of action available to the CAA under section 20 TA00 if, after conducting its investigation, it considers that there is or may be a breach of a Licence condition. The choice between them will depend on the strength of the CAA's conclusions drawn from the evidence base:

² CAP1234 Economic Licensing Enforcement Guidance (www.caa.co.uk/cap1234).

- Under section 20(1) TA00, if the CAA is satisfied that a licence holder is in breach of, or is likely to breach, a Licence condition it must make a *final order* containing the provisions which it thinks are needed to secure compliance with the condition.
- If the CAA is not so satisfied but it appears to the CAA that a licence holder is in breach of, or is likely to breach, a Licence condition, then, under section 20(2) TA00, the CAA must make a *provisional order* containing provisions that it thinks are needed to secure compliance with the condition. The licence holder will then have the opportunity to remedy the CAA's concerns within a specified period, failing which the CAA may either confirm the provisional order or make a final order.

3.5 The standard of proof is the civil standard – i.e. on the balance of probabilities.

3.6 Section 21 TA00 provides exceptions to the duty to conduct an investigation. The CAA must not make a final order or make or confirm a provisional order if:

- It is satisfied that its general duties in section 2 TA00 preclude it; or
- It considers that it would be more appropriate to proceed under the Competition Act 1998.

3.7 Further, the CAA need not make a final order or make or confirm a provisional order where one or more of the following applies:

- The licence holder has agreed to take and is taking all the steps the CAA thinks appropriate to secure or facilitate compliance;
- The breach is trivial;
- The breach will not adversely affect the interests of users; or
- The Secretary of State has made an application for an air traffic administration order.

3.8 Section 22 TA00 provides for certain procedural notification and consultation requirements in the event that the CAA decides to make a final order or make or confirm a provisional order. Further, under section

22(11) TA00, the CAA must also publish a notice where it decides not to make a final order or make or confirm a provisional order as a result of one or more of the above exceptions, to bring it to the attention of persons that are likely to be affected.

Obligations imposed on NERL by the TA00 and the NERL Licence

Obligations to meet demand for air traffic services

Transport Act 2000

3.9 The duties of licence holders set out in TA00 are:

- Section 8(1)(c) – While a licence is in force, its holder must take all reasonable steps to secure that the demand for authorised air traffic services in respect of a licensed area is met.
- Section 8(1)(d) – while a licence is in force, its holder must have regard, in providing, developing and maintaining the system, to the demands which are likely to be placed on it in the future.

The NERL Licence

3.10 The NERL Licence imposes a number of regulatory obligations on the licence holder as follows:

- Condition 2.1 – Without prejudice to the general power conferred under this Licence, the Licensee shall make available:
 - (a) the Core Services³ so as to be capable of meeting on a continuing basis any reasonable level of overall demand for such services; and

³ Core Services are set out in condition 1 of the NERL Licence to mean the (a) UK En route Air Traffic Control Service, (b) Oceanic En route Air Traffic Control Service, (c) Advisory Control Service and (d) London Approach Service. The London Approach Service “means, in respect of Heathrow, Gatwick, London City, Luton and Stansted airports, the Airfield Service other than such element of service as is provided to an aircraft on its final approach path or initial departure path or on the manoeuvring area or apron of the aerodrome”.

(b) the Specified Services⁴.

- Condition 5.2 – The Licensee shall at all times act in a manner calculated to secure that it has available to it sufficient resources including (without limitation) financial, management and staff resources, fixed and moveable assets, rights, licences, consents and facilities, on such terms and with all such rights as shall ensure that at all times it is able to:
 - (a) carry out its Permitted Purpose⁵ activities; and
 - (b) comply in all respects with its obligations under TA00 and this Licence including, without limitation, its duties under section 8 TA00.

Requirement of reasonable demand

3.11 Paragraph 4 of condition 2 of the NERL Licence states:

In determining what is reasonable for the purposes of paragraph

1(a), regard shall be had to:

- (a) the level of overall demand reasonably expected to be met at the relevant time on the basis of capacity to be made available in accordance with the Service and Investment Plan provided by the Licensee pursuant to condition 10; and
- (b) the effect on overall demand of changes in legal or regulatory requirements made subsequent to the provision of such Plan, provided that the Licensee has taken all reasonable steps to meet the resulting changed demand.

⁴ Specified services are set out in Schedule 4 of the Licence – no specific services are considered in this investigation.

⁵ Permitted Purpose is set out in condition 1 of the Licence. It means the purpose of all or any of the following (a) the En route (UK) Business, the En route (Oceanic) Business or any business or activity within the limits of condition 5.9 to 5.12; (b) without prejudice to the generality of paragraph (a), any payment or transaction lawfully made or undertaken by the Licensee for a purpose within subparagraphs (i) to (vii) of paragraph 19(b) of condition 5. The En route (UK) business is the focus of this investigation defined as the Licensee's business which consists of the provision by the Licensee of the UK En route Air Traffic Control Service, the Advisory Control Service, the London Approach Service and the Specified Services.

Non-discrimination

3.12 The obligations of holders of the NERL Licence are:

- Condition 2.7 – In providing services under [condition 2.1] the Licensee shall not unduly prefer or discriminate against any person or class of person in respect of the operation of the Licensee’s systems, after taking into account the need to maintain the most expeditious flow of air traffic as a whole without unreasonably delaying or diverting individual aircraft or such other criteria as the Licensee may apply from time to time with the approval of the CAA.
- Condition 2.8 – Subject to [condition 2.7], the Licensee shall not unduly discriminate against or give preferential treatment to any person or class of persons in respect of the terms on which services are provided, to the extent that such terms have or are intended to have or are likely to have the effect of preventing, restricting or distorting competition in any market.

Other relevant sources for discrimination

3.13 Under both Chapter II of the Competition Act 1998 and Article 102 of the Treaty on the Functioning of the European Union (TFEU) the concept of ‘undue discrimination by a dominant undertaking’ has been found to be abusive. Article 102(2)(c) TFEU provides the example of “*applying dissimilar condition to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage*”.

3.14 Discrimination is a complex area of competition law for a number of reasons. A focus of this investigation concerns the comparatively rare allegation of discrimination in quality of service provision rather than price discrimination.

3.15 Under competition law, there are a number of ways in which discrimination can be objectively justified, such as on the basis of cost or other objective considerations. There is also, in theory, the countervailing consideration of the freedom of companies to contract, but the scope of that freedom is constrained in the present instance by the NERL Licence

conditions which impose a clear duty on NERL to supply. A key feature of the competition regime is to show competitive harm to the parties affected by the action. If harm cannot be proven then the discrimination is not illegal. However, it does not appear that actual harm needs to be shown under the TA00 (“*have or are intended to have or are likely to have*”).

Single European Sky Performance Scheme

- 3.16 As well as the broader conditions in the NERL licence, NERL is subject to the Single European Sky Performance Scheme (the Performance Scheme). The Performance Scheme sets specific targets in relation to cost efficiency, capacity, environment and safety. Elements of the Performance Scheme are embedded in the NERL Licence. The Performance Scheme is currently in its second reference period (RP2) which runs from January 2015 to December 2019. It is the capacity and cost efficiency targets that are of most relevance to the matters investigated here.
- 3.17 Under the Performance Scheme NERL is subject to a capacity target set at UK level that is split into four elements:
- C1 relates to all cause Air Traffic Flow Management (ATFM) delay
 - C2 relates to NERL attributable ATFM delay per flight
 - C3 is a weighted version of C2 that gives greater prominence to delays in peak periods
 - C4 is metric based on worst day
- 3.18 NERL is also subject to a cost efficiency target which will see the unit rate (charges) fall by 4.7% per annum over the period.
- 3.19 Under the scheme NERL is subject to a traffic risk sharing mechanism which means that in the event of traffic being above or below forecast NERL shares some of this additional revenue/cost with its customers.

Chapter 4

Background and evidence

- 4.1 This section sets out key background information and evidence gathered as part of the CAA's investigation.

NERL's response to the complaints

- 4.2 On 22 April 2016 STAL raised concerns with NERL's performance in managing the LTMA in a direct letter to NERL, to which it responded on 13 May 2016. In that response, NERL acknowledged that, on recent occasions, it had experienced staff shortages as a result of sickness in the Swanwick Operation, which had led to staffing Air Traffic Flow Regulations (regulations) and resulted in delays affecting Stansted, Gatwick, London City and Luton Airports at a slightly higher level than in previous years. NERL explained that, although its staffing is planned to be at a level to meet the requirements for day-to-day delivery of the service, there were a number of factors that had made the operation more susceptible to disruption from short notice sickness than in previous years:

- Lack of controller availability – NERL cited two factors that it felt had adversely impacted on the availability of controllers:
 - A reduction in NERL operational staff numbers to help meet the cost efficiency targets set through the RP2 performance regime.
 - A higher than normal number of London Approach Service controllers had left its operation during the previous year on medical grounds.
- Flexibility of validations – NERL explained that, although its supervisory teams try to optimise controller resources in order to provide the best possible service to all its customers, they are restricted by the validations that each controller holds to oversee

different airports. NERL explained that, although each experienced controller will typically hold two validations (though newly validated controllers may only hold one), the Heathrow Airport controllers are not normally cross-validated on other airports. The reason given for this was that the size and complexity of the Heathrow Airport operation means that more positions are required to be open to deliver the service requiring a larger number of controllers. NERL explained that the larger pool of resource for Heathrow Airport means that there is slightly greater resilience inherent in that operation to cover unexpected short-term staffing issues.

- Other factors – Although no details were provided, NERL also referred to a combined effect of growing demand and the NERL technology refresh programme as presenting some challenges.

4.3 In its response, NERL explained that it was taking a number of steps to deal with the issue of resilience at Stansted, Gatwick and Luton airports:

- Training – NERL explained that it had a programme underway to train and validate additional staff which, in its view, would provide a longer-term solution. In addition, it was prioritising approach training and watch balancing (the validations available on a particular shift) for its existing team to make the best possible use of its resources. Further, it expected two additional validations in the coming months which it considered would help resilience.
- External recruitment – NERL stated that it was investigating options to recruit experienced controllers from outside NERL.
- Planning – NERL explained that it was using schedule data for all LTMA airports to predict high demand days and would compare these to its resource demands for the operation, projects, and training with the aim of protecting the operational service.

4.4 On 11 July 2016 NERL wrote to Ryanair on the subject of ATC-related staffing delays. In relation to the identified staffing resilience issue, NERL explained that it had less capacity on the airport approach sectors than it would like to have. NERL explained the reasons for this as:

- Increase in traffic – According to NERL, traffic had increased overall and ahead of forecast at Luton, Stansted and Gatwick Airports.
- Controller availability – A higher than normal number of controllers had left the business on serious medical grounds over the previous two years.
- Voluntary overtime – NERL explained that, in situations where there is a particularly high staffing risk, it would normally be able to supplement rosters through various means, including voluntary overtime. According to NERL, there had been a lower take-up of voluntary overtime in 2016 due to a less favourable industrial relations climate [REDACTED].

4.5 In its letter to Ryanair, NERL explained that it was taking a number of steps to deal with the staffing issues:

- Training – NERL explained that it had fourteen controllers carrying out live training with five expected to validate between August and October 2016 and a further seven by Summer 2017. NERL stated that these validations were targeted at Stansted, Luton, London City and Gatwick Airports.
- External recruitment – NERL stated that it had two experienced controllers joining the business in Autumn 2016 and that it had a further external recruitment process underway with the aim of recruiting another [REDACTED] controllers.
- Voluntary overtime – NERL explained that, once the 2016 pay negotiations were complete, it would expect to see an increase in the take-up of voluntary overtime.

4.6 In that letter, NERL also addressed the issue of potential discrimination against, or preferential action in favour of, other airlines or airports. NERL explained that the nature of the Heathrow Airport operation meant that more positions were open to deliver the service. As a result, NERL explained that there is a larger pool of resource for Heathrow Airport which means that there was slightly greater resilience inherent in the

operation to deal with unexpected short-term staffing issues. In terms of the distribution of the impact that the staffing issues were having, NERL presented analysis which showed that, between January and July 2016, delays to arrivals at Heathrow Airport constituted 21% of the total staffing delays as compared to 14% for Stansted Airport and 13% for Luton and Gatwick Airports respectively. NERL expressed the view that, according to its analysis, Ryanair had not been disproportionately affected as compared to other airlines including British Airways, easyJet, City Flyer and Flybe.

- 4.7 On 1 August 2016 NERL wrote again to Ryanair on the subject of ATC-related staffing delays. NERL explained that, at that time, it had just over [REDACTED] validated LTMA controllers against an Operating Requirement of [REDACTED] – i.e. it was [REDACTED] controllers below its target. NERL explained further that, at that time, it had fourteen controllers completing on-the-job training along with two experienced external recruits. NERL confirmed that these controllers were targeted at Stansted, Gatwick Thames Radar (City) and Luton Airports. NERL confirmed also that the first of these controllers had recently validated and that the next was expected to validate in the first or second week of August 2016.
- 4.8 In that letter, NERL also provided further information on controller leave allowance and take-up. NERL explained that, whilst controllers could take approximately 15-18 days' leave between April and September 2016, the actual leave approval is typically slightly less due to rostering constraints to meet the staffing schedules.
- 4.9 NERL also presented a table covering the then current breakdown of validations. This table is reproduced below (Figure 1).

Figure 1: LTMA airports validations and control positions

Airport	Number of approach validations	Average daily traffic July 15 to June 16	Peak daily traffic July 15 to June 16	Operating positions required (Typical-Max)
LTCC Gatwick Approach	36	748	935	2-3
LTCC Heathrow Approach	52	1295	1390	4-5
LTCC Luton Approach	30	339	463	1-2
LTCC Stansted Approach	35	476	580	2-3
LTCC Thames Radar (London City)	30	232	327	2-4

Source: Letter 1 Aug 2016 Andy Shand (NERL) to Choorah Singh (Ryanair) document no. 0009

NERL's response to the CAA's enquiries

NERL's response to the CAA's 24 August 2016 letter

- 4.10 NERL responded to the CAA's 24 August letter on 19 September 2016 stating that, in its view, NERL was meeting its licence obligations to ensure that all users have access to controlled airspace whilst at the same time ensuring that the airspace is used most efficiently overall.
- 4.11 In terms of background, NERL stated that, during RP1 and the first year of RP2, NERL's service provision had been good, with an attributable delay per flight of five seconds or less. NERL acknowledged, however, that there had been an increase in attributable delays for 2016, to around six seconds per flight in the LTMA.

- 4.12 NERL expressed the view that, as part of its consultation with its customers in 2013, which formed part of the development of the RP2 price control settlement, it had explained to its customers that, because of expected rising traffic volumes and the cost efficiency target set by the CAA, it would not be able to maintain the delay performance achieved previously. NERL stated also that, in discussions with its customers over reducing the number of controllers during the RP2 period, it had explained that, although the reduction in the number of controllers would not impact the majority of the day-to-day service, it would lead to a lower level of resilience to certain circumstances such as staff illness, and therefore a greater number of “bad days” in practice. In NERL’s view, its customers were willing to trade off a lower level of resilience, in spite of the implications for delays, in return for a reduction in prices.
- 4.13 In relation to traffic growth, NERL stated that the rate of growth during RP2 had been faster than expected. NERL explained that, in the calendar year to August 2016, flight volumes were 4.6% higher than that forecast for the period as part of RP2. NERL went on to explain that, during the summer, there had been strong growth in demand for the airspace around the south-east of England, with around 8% more flights in August 2016 than that forecast as part of RP2. In relation to Stansted Airport, NERL explained that volumes at the airport were more than 10% higher in August 2016 than the same month in 2015.
- 4.14 In relation to operational staffing issues, NERL stated that sickness levels for summer 2016 had been higher than historical trends. In support of this statement, NERL presented evidence showing that the number of working days lost due to sickness for controllers in the LTMA had increased from around [REDACTED] between June and August 2014 to around [REDACTED] between June and August 2016. NERL also stated that there were a number of staff who were medically unfit to deliver an operational service at that time. Further, NERL stated that a number of controllers had retired earlier than expected. In summary, NERL stated that it needed a further [REDACTED] controllers in the LTMA to meet its service quality targets under the prevailing traffic conditions.

- 4.15 [REDACTED]
[REDACTED]
[REDACTED] NERL stated that, in normal years, it would use overtime to cover staff sickness, allowing it to efficiently manage the resources in its operation.
- 4.16 In terms of the steps it was taking to address the staffing issues, NERL stated that it was training more controllers and also recruiting externally. It explained that five controllers had commenced training for the LTMA with a further seven to commence in early 2017. NERL further explained that two former LTMA controllers had been recruited and that it was actively attempting to recruit up to [REDACTED] more that year. NERL explained that it was also taking other actions to address the issue, namely exploring new procedures to use existing controllers more flexibly and offering enhanced terms for working overtime.
- 4.17 In its letter, NERL also commented on the comparison between Heathrow Airport and Stansted Airport. NERL reiterated its previous explanation that the nature of the Heathrow Airport operation meant that more positions were open to deliver the service and therefore that there was slightly greater resilience inherent in the operation to deal with unexpected short-term staffing issues. NERL also explained that, traffic volumes for Heathrow Airport were static, which was in contrast to the significant traffic growth at other London airports, including Stansted Airport.

NERL's response to the CAA's information request of 27 September 2016

- 4.18 On 28 October 2016 NERL responded to the CAA's information request of 27 September 2016. As part of this response, NERL responded to information that had been provided to the CAA by Ryanair as part of its complaint. Specifically, data supplied by Ryanair containing details of 614 Ryanair flights that, according to NERL, Ryanair was claiming were delayed by over 15 minutes due to NERL staff shortages. According to NERL's own analysis, only 268 (44%) of the 614 flights identified by Ryanair incurred a delay due to NERL staffing on Stansted Airport

approach over the six month period. NERL stated that this represented 0.5% of total Ryanair flights arriving to/departing from Stansted Airport (approximately 50,000 flights over the same six month period).

- 4.19 NERL also responded to a statement made by Ryanair in its complaint to the CAA that, because NERL does not have a Service Delivery Plan in place for Stansted Airport as it does for Heathrow Airport, “NERL systematically [underestimated] STN traffic every day in June 2016 by up to 13.5%, while overestimating LHR traffic by up to 7% for the same period”. In response, NERL highlighted that airport schedules do not take into account the general aviation traffic. NERL went on to state that Luton and London City airports add an estimate of the number of general aviation movements that they think they may receive. According to NERL, however, Stansted Airport does not do this. In planning, therefore, NERL explained that it had to rely on historical schedules for Stansted Airport and other intelligence. Finally, NERL stated that, since Gatwick and Heathrow airports have very few general aviation movements, their actual movements are more closely aligned to the plan.
- 4.20 On the issue of Service Delivery Plans more generally, NERL commented that, although there is no formal requirement for a Service Delivery Plan, and that these are produced on the initiative of the individual airport, such plans are valuable for NERL. NERL stated also that, in June 2016⁶, it offered to assist STAL in developing a Service Delivery Plan, but that its offer was declined.
- 4.21 In relation to traffic growth, NERL presented a comparison of the compound growth to date above that forecast for RP2⁷ (NERL stated that this forecast was key in determining how NERL planned to resource its operation, both from an investment and staffing perspective). NERL explained that traffic had grown at a higher rate than expected across the UK, and especially at Luton, Stansted and London City airports. In support

⁶ According to NERL, this offer was made at its ‘Terminal Control Airports and Airline Interface Day’, which was held at Swanwick on 1 June 2016.

⁷ The RP2 Business Plan was based on the STATFOR Medium Term Forecast 2013 published at the end of February 2013.

of this statement, NERL stated that the RP2 Business Plan was based on a total growth rate from 2014 to 2016 (inclusive) of 4.1% but that, in the same period, Luton Airport had seen cumulative traffic growth of more than 24%, whilst Stansted Airport had seen 15% growth, London City Airport nearly 17% growth, and Gatwick Airport 6% growth. The relevant table is reproduced below (Figure 2).

Figure 2: NERL data showing the percentage change in traffic growth for 2014-2016 compared to observed values

Region	Forecast	Observed
UK flights	4.1	8.2
Luton	7.0	24.2
Stansted	6.5	15.3
London City	-0.1	16.8

Source: NERL, Table 5, Response to the CAA's request for information for investigation under section 34 of the Transport Act 2000 document no 0024

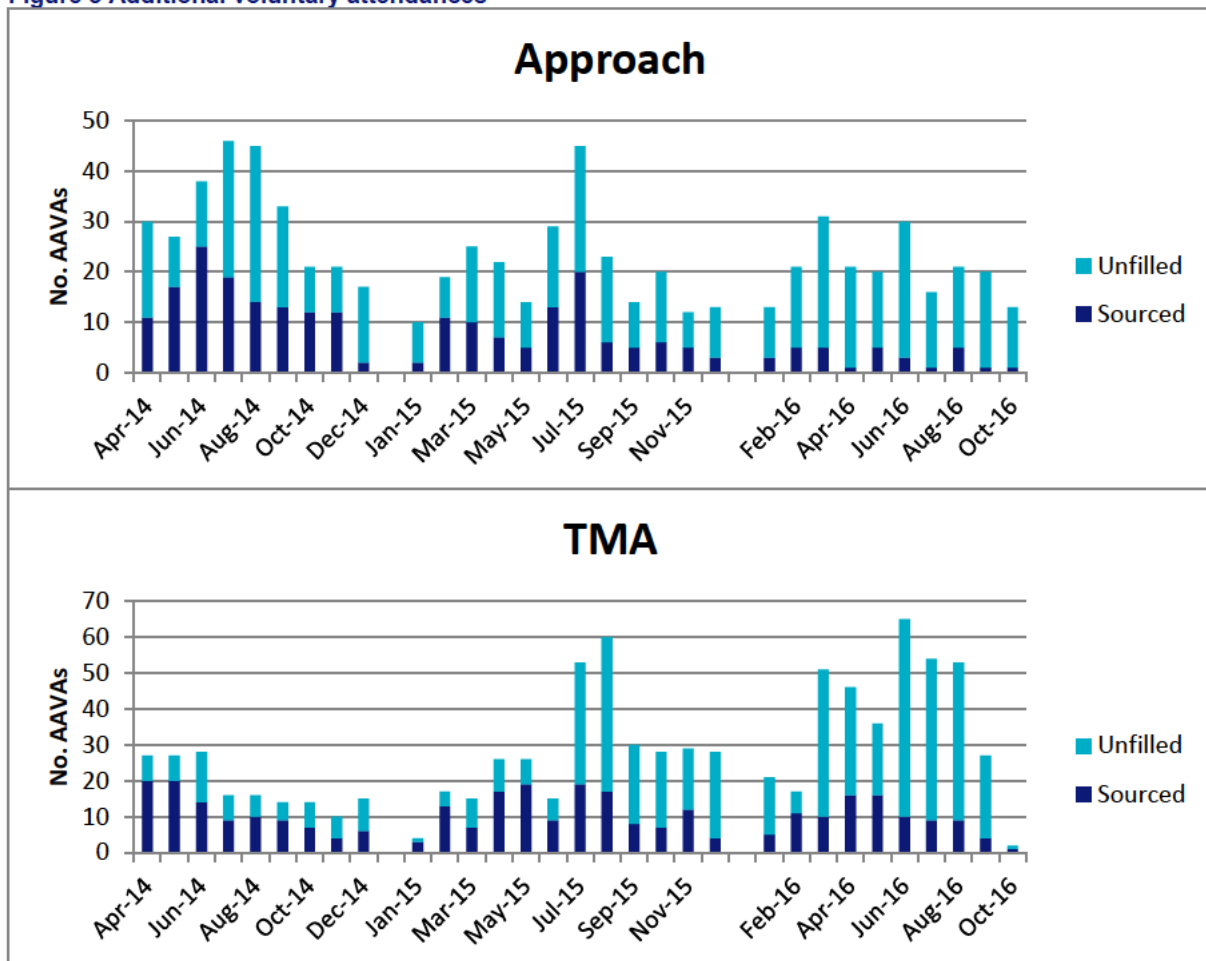
4.22 In relation to staffing issues, NERL stated that it was aware at the time of the final RP2 settlement that the settlement posed a challenge in terms of maintaining the service at the levels proposed in NERL's preferred option for the settlement and that, in particular, it would have lower resilience to staff sickness, extreme weather events and unexpected traffic presentation. NERL stated that, in response to this challenge, its 2014 Business Plan contained measures to deliver efficiencies from working practices; implement a new rostering tool; and increase the number of validations held by individuals. However, according to NERL, progress to deliver these measures was slow and, in particular, the plan to achieve efficiencies from working practices had stalled because of the less favourable industrial relations climate as a result of the pay negotiations. NERL also drew attention to the fact that higher than predicted numbers of London Approach controllers were medically retired or resigned (total █ controllers) or lost their licences on medical grounds (█ controllers) in 2015 and 2016.

- 4.23 NERL provided further information on the level of sickness incurred within the London Approach Service. The data shows for April to September that controllers with Stansted Approach validation accounted for 14 and 15 per cent of the total recorded sick days in 2014 and 2015 respectively, but in 2016 controllers this figure increased to 33 per cent.
- 4.24 In its response, NERL provided information on the average number of controllers rostered for each month for each of the main London airports for the period April 2014 to October 2016. For Stansted Airport, the information provided by NERL shows a small shortfall in the average number of controllers for three months in 2014 and four months in 2015. According to this rostering information, there was no shortfall in the average number of controllers rostered for Stansted Airport for any month between January and October 2016 inclusive. Over the same period, the information showed that there were four and three shortfall months for Heathrow and London City airports respectively. The same information shows that there were 43 days in the period April to October 2014 where NERL was below its eight rostered controllers for Stansted Airport, and 42 days in the same period in 2015. However, for the period April to October 2016, there were only 17 days where NERL was below its eight rostered controllers⁸.
- 4.25 The rostering information referred to in the previous paragraph also showed that, despite Stansted and Gatwick Airports having the same number of required operating positions (see paragraph 4.9 and the accompanying table), for the period January 2016 to October 2016 Gatwick Airport had an additional [redacted] [less than 1] controllers attending duty on average per day compared to Stansted Airport.
- 4.26 In relation to the use and take-up of voluntary overtime, NERL explained that rosters are constructed and planned to be resourced through use of contracted hours, unless there is a known shortfall (e.g. long-term sickness) in which case overtime is sought. In addition, NERL explained

⁸ Document No.0024 Figure 3.

that overtime is also sought in the event of short-term sickness post publication of the roster. As has been stated by NERL previously, the take-up of voluntary overtime reduced significantly coincident with the negotiations on the pay deal for 2016 (which began in September 2015). In support of this statement, NERL presented two charts showing the filled and unfilled overtime for the London Approach Service and the TMA based on operational records of overtime requests. These charts are reproduced below (Figure 3).

Figure 3 Additional voluntary attendances



Source: Document No. 0024 and Document No. 0029

Note: According to NERL, the mix of validations held by individuals means that it does not record overtime requests by airport – i.e. it is not possible to show where the overtime requirement originated or where overtime was filled.

4.27 In relation to the issue of the availability and flexibility of controller validations, NERL explained that the number of controllers holding any validation varies month to month due to controllers losing their validations, for example through loss of medical, or through gains from training. NERL stated that it does not keep a historical record of validations. However,

NERL was able to provide a table of the number of validations for the London Approach airports at 1 August 2016. This table is reproduced below (Figure 4).

Figure 4: LTMA airports validations

Airport	Number of approach validations
LTCC Gatwick Approach	36
LTCC Heathrow Approach	52
LTCC Luton Approach	30
LTCC Stansted Approach	35
LTCC Thames Radar (London City)	30

Source: NERL, Table 3, Response to the CAA's request for information for investigation under section 34 of the Transport Act 2000 document no 0024

4.28 In its 27 September 2016 information request, CAA requested information on a reported shortfall of ■ controllers on average for 2015⁹ compared to the number in the RP2 plan. NERL responded that the identified shortfall was largely driven by a reduction in the number of trainee controllers and instructors compared to the 2015 Business Plan. NERL explained that, as trainees are non-operational staff, the reduction did not affect service at Stansted Airport. NERL stated that it chose to reduce the number of trainee controllers and, therefore, instructors at the college, for three reasons. First, around ■ trainee controllers (including ■ for Swanwick) were no longer required because NERL was anticipating efficiencies through working practice changes. Second, ■ trainee controllers were no longer required because of timing and because of improvements in training success rates. Third, around ■ instructors were no longer required due to lower trainee numbers. NERL went on to explain that actual controller manpower for 2015 (excluding trainees) at Swanwick was

⁹ As reported in the NERL Business Plan Report for 2015.

in line with the 2015 Business Plan when the 'churn adjustment'¹⁰ was taken into account

- 4.29 In its response, NERL also provided further information on its current and planned measures to increase controller rostering flexibility. NERL highlighted, among other things, that a number of changes to working practices had been unlocked with the resolution of the negotiations on the 2016 pay deal. Specifically, an agreement on the use of extra duty days would enable around [REDACTED] additional attendances to be deployed at key times. Further, NERL expected that an arrangement for enhanced voluntary overtime would increase the attractiveness of overtime and therefore would improve the resilience of the service. NERL also drew attention to other measures being developed, including using less controller time to instruct trainees and reducing the time for trainee controllers to validate.
- 4.30 In addition, NERL provided additional information on its actions to increase operational resources for the London Approach Service. These included actions already highlighted by NERL, namely increasing the supply of trainee controllers expected to validate in the near-term (including [REDACTED] trainees expected to validate for the Stansted Airport Approach between December 2016 and December 2017) and the external recruitment of qualified controllers, including controllers rated for Approach. In addition, NERL stated that it was requesting more attendances from part-time staff to improve staffing resilience, offering part-time work for retirees, and enabling non-operational controllers the tasks to be undertaken by other grades.

¹⁰ NERL explained that a 'churn adjustment' is made in recognition that there is a systemic transfer of people within different departments of its operation, and is used to eliminate any errors which might otherwise arise from double counting.

presented by NERL indicates that only [REDACTED] of these controllers held a Stansted Approach validation.¹⁶

- 4.36 In response to a request from the CAA for more information on the decisions taken by NERL to decrease the number of trainee controllers, NERL responded that, although in its 2014 business plan NERL had taken the decision to decrease the number of trainees at Swanwick for 2015/16 by [REDACTED] as compared to Business Plan 13, it subsequently took the decision to increase the number of trainees in Business Plan 15 to between [REDACTED] trainees above that specified in Business Plan 13 for that same period.
- 4.37 In its response, NERL provided further information on the mix of validations for controllers operating the Heathrow Approach as compared to the approach functions of other airports. NERL clarified that 21 per cent of Heathrow Approach controllers have multiple validations, which are voluntary. NERL explained that, in contrast, 97 per cent of Stansted Approach controllers have multiple validations, which are mandatory. NERL explained that the minimum unit requirement for the London Approach Service is for a controller to hold either a Heathrow Approach validation; two other airport approach validations (i.e. Stansted and Luton Approach) or; a terminal manoeuvring area validation. By way of extra background, NERL explained that the requirement for a controller to hold only a Heathrow validation is based on the higher level of traffic demand throughout the year in comparison with the other approach functions and the complexity of the procedures at Heathrow (with 4 holds and 2 runways). NERL went on to explain that, as a result of this, Heathrow Approach controllers need to spend more time exercising these skills to maintain competence and safety. Finally, NERL stated also that the minimum unit requirements that controllers are required to maintain are reviewed on a regular basis.

¹⁶ Document No. 0026 Q3

- 4.38 Expanding on its previous statements relating to Service Delivery Plans, NERL stated that the plans provided by Heathrow and Gatwick airports provide NERL with hourly inbound and outbound data about the air traffic movements expected the following day. In the absence of such information, NERL stated that it has to rely on scheduled information that only gives expected number of movements per day and can be inaccurate. NERL explained that the extra information provided through service plans enables it to deploy its resources more effectively.
- 4.39 In addition, NERL provided further information on its actions to improve its resilience in the staffing of the operation. These actions covered a number of areas, including:
- Increases in operational staff including, in the near term, through the recruitment of new staff, increasing attendance from part-time staff, redirecting non-operational controllers to operational duties and backfilling with other grades, and extending the operational duties of retirees that agree to part-time working. Over the longer term (i.e. the remainder of RP2), options included increasing the throughput of trainee controllers and further recruitment.
 - Changes to working practices, [REDACTED]
[REDACTED]
[REDACTED]
 - Controller training, [REDACTED]
[REDACTED]
 - Other initiatives, including a new rostering tool which NERL considered would improve the efficient use of controllers, as well as other tools for supporting operational demand and capacity planning.

NERL's response to the CAA's formal information request of 24 March 2017

- 4.40 On 7 April 2017 NERL responded to the CAA's formal information request of 24 March 2017. The CAA's information request focused on three areas where the CAA considered it needed a greater understanding of certain

decisions taken by NERL as part of its implementation of the RP2 settlement, and subsequently, which impacted on operational staffing for the Approach service within the LTMA. This included information on the incidence of ATFM regulations and resulting delays, information pertaining to NERL's planning and implementation of the voluntary redundancy scheme and the cut to its trainee pipeline, and information on NERL's forward planning for the key summer 2017 period and beyond.

NERL's planning and implementation of the voluntary redundancy scheme

4.41 As part of NERL's planning for the RP2 regulatory settlement, NERL sought to reduce its headcount to provide efficiency savings so that it could meet the proposed cost efficiency targets. In a paper to the NERL Board in March 2013, NERL stated that the NERL Business Plan 13 included the assumption to remove up to [REDACTED] FTEs from the business, primarily through a voluntary redundancy programme, with the stated aim being to reduce staff as quickly as possible. The principal reason given by NERL for the speed of the proposed staffing cut was to avoid greater cuts in later years.¹⁷ NERL noted that there was a degree of risk in introducing the voluntary redundancy programme [REDACTED], in order to meet planned operational performance targets, it would need goodwill across the operation.

4.42 In this same paper NERL noted that, in order to release this number of staff from the business, a number of enablers were required. These were identified as:

- new technology, both short-term and longer term (with the latter including [REDACTED]);
- working practice changes, [REDACTED];
- reduced internal service levels;

¹⁷ Document 0101, 0054 and 0049

- lower service quality performance which, at that time, NERL considered would be a slight deterioration from the levels delivered the previous year;
- a recruitment freeze; and
- the release of surplus trainee controllers, as a result of the numbers of trainees ready for deployment being in excess of the then current requirements.

4.43 In relation to the risks to the delivery of these enablers, NERL noted that, although the business plan assumptions were aligned with the assumptions for headcount reductions in terms of costs and timings, the delivery of these enablers would be challenging.

4.44 The preparation for the voluntary redundancy began in early 2013¹⁸. As part of this, NERL implemented an application and approval process for requests for voluntary redundancy. As evidenced by NERL, there were a number of key elements to this process:

- The process was developed by a Project Steering Group (PSG) and Project Working Group (PWG). The PSG was responsible for approving the final implementation plan, while the PWG was responsible for developing the planned solution in consultation with peer review groups.
- NERL's management of the voluntary redundancy process was carried out by specially trained Designated Senior Managers¹⁹, supported by Human Resource Business Partners.
- A key part of the Designated Senior Manager role was to complete a 'Rationale Form'²⁰ for applications for voluntary redundancy. Amongst other things, the form required the Designated Senior Managers to make an assessment of whether the applicant was in a

¹⁸ Document 0103 and 0067

¹⁹ Document 0103, 0062 and 0058

²⁰ Document 0060.

business critical role²¹ or whether the individual was a 'business critical person'²².

- 4.45 As evidenced by NERL, following the closure of the window for applications for voluntary redundancy, the recommendations for voluntary redundancy were collated for an overall business review. In a slide deck entitled 'OLT Collective Review'²³, it is clear that a number of applications from controllers based in Swanwick were rejected based on an appraisal of the critical skills needed for business continuity and service delivery.
- 4.46 In its evidence, NERL notes also that of the ■ controllers released from Terminal Control, ■ had Approach qualifications. Of these, ■ were aged 57 or above when they exited the business in 2014 and that the remaining ■ would all be aged at least 57 at 1 July 2016. According to NERL, if there had not been a voluntary redundancy process, it would be reasonable to expect that these staff would have retired from the business by the end of 2016.

NERL's ongoing operational staff planning

- 4.47 In its response, NERL explained its process for annual business planning, which includes consideration of such factors as changes in external conditions (e.g. traffic forecasts, inflation, market conditions), current and projected performance against its performance targets (safety, cost, environment, service), and emerging and/or changing customer requirements ('hotspots'), and investment priorities. NERL stated that a key consideration within this process is the extent to which changes to centre staffing are required in order to meet performance targets. As part of this process each business area, including operational business units such as Swanwick, is asked to review the changes in external conditions and also consider the level of operational resource / manpower that is

²¹ Defined as a role that contributes directly to the strategic success of the business; a role which, if unoccupied, would lead to a significant detriment in the day-to-day delivery of services; or a role that is required to be filled from a regulatory or Corporate Governance perspective.

²² Defined as an individual who makes a significant contribution to the business within or outside their current role, whose skills and abilities are not easily replaceable without considerable effort.

²³ Document 0058.

required to meet the performance targets. Input from each area is then collated centrally, and internal cost and service targets are established in service of the overall performance targets. Individual business areas are then required to create plans to meet these targets.

- 4.48 NERL explained that, during the year, each business area within NERL reviews cost and service performance, relative to the agreed business plan, and considers key supply, demand, and performance issues on, typically, a monthly basis. The implementation of staffing levels as set out in the annual business plan, and / or realising changes that are required as a result of reviews held throughout the year, is primarily dealt with through NERL's Senior Leadership Teams. NERL stated also that quarterly reviews take place between the NERL College and Centre Management to test and review the assumptions made as part of the annual planning process, and consider what changes might be required. In support of this, NERL provided examples of what it stated were typical materials considered as part of this process, which covered information on controller trainee output²⁴, an analysis of the likely loss of controllers leaving the business based on historical data²⁵, and the 'Swanwick ATCO headcount planning' given to NERL's CEO in July 2015.²⁶

NERL's decision making in relation to controller trainees

- 4.49 Unlike the voluntary redundancy programme, NERL undertook no specific process in relation to the reduction in its trainee pipeline. The cut to the trainee pipeline was undertaken as part of its general annual business planning. The business planning process assesses the demands for controllers across the different business unit and sets targets for the NERL College to deliver. Between November 2012 and 2016 the demand for trainee controllers [REDACTED] and the NERL College delivered the requisite demand.²⁷

²⁴ Document 0057.

²⁵ Document 0066, 0063.

²⁶ Document 0059.

²⁷ Document 0103

NERL's awareness of the operational staffing and other issues relating to the performance of the TC Approach service

4.50 In its response, NERL provided more detail of how it monitored the emerging and, subsequently, actual operational staffing and performance issues in relation to London Approach Service in 2015 and 2016.²⁸

Evidence produced by NERL showed that:

- In August and September 2015 and April 2016 the NERL Board was informed that short notice sickness was impacting the London Approach Service, including that for Stansted Airport.
- In April 2016, the NERL Board was informed that, due to the pay discussions ongoing at that time, there had been some issues [REDACTED].
Issues around the take-up of voluntary overtime were also discussed at the NERL Board in July, September and October 2016. In the Board minutes of July 2016 it was recorded that NERL had taken actions to increase uptake that they “*offered very good rates for overtime at £[REDACTED] per shift and had increased this to £[REDACTED] to try and increase uptake*”.
- In May 2016 the Operations Director specifically reported on the risk of resourcing non-Heathrow approach functions in Terminal Control as part of seeking to “*get service performance back on track with [the] regulatory settlement*”.²⁹
- Although traffic growth formed part of the general reporting to the Board on performance, in July 2016 the NERL Board was specifically informed that delays relating to Swanwick were significantly higher than in previous years. The reasons given for this were, amongst other things, generally increased traffic, with significant growth at particular airports, and localised staffing shortages, particularly in relation to the TC Approach.

²⁸ Document 0094, 0095, 0091, 0051, 0104, 0092, 0097 and 0052

²⁹ Document 0104

- In October 2016 the Board was informed that the relatively high levels of delay in 2016 was due to a number of factors, including faster than forecast traffic growth, inability to make the changes to airspace that had been planned and shifts in traffic patterns which had led to some sectors seeing unexpectedly high demand. Further, the Board was informed that a number of sectors had been operating at levels well above their declared capacity.

4.51 A paper presented to the NERL Board in July 2016³⁰ set out that, in July 2015³¹, NERL had anticipated a mismatch between supply (the number of controllers) and demand (operational requirement), noting that a [REDACTED] FTE shortfall at Swanwick had been identified, but that the position looked manageable until summer 2018. The paper stated that, although remedial actions had been taken, the position in regards to service performance and resilience going forward looked worse due to both supply and demand factors. The paper stated also that, although London Approach should have adequate staffing for the summer 2016 operation, there was no surplus. Further, the small surplus that was anticipated in July 2015 for the Terminal Control Approach functions had turned into an effective deficit of around [REDACTED] FTEs resulting from: unusually high medical retirements and long-term sickness; an increase in the operational requirement, driven by higher traffic and London Airspace Management Programme (LAMP) 1A changes; and trainee controllers taking longer to validate than planned. The paper stated that, in practice, this deficit had been exacerbated by short-term sickness, localised to particular approach skill sets, which had a disproportionate impact on resilience as there were fewer of these skills required in the operation.

4.52 On remedying this situation the paper stated that:

“3.9. A plan for closing the current gap is underway that includes: [REDACTED]

[REDACTED]

[REDACTED]

³⁰ Document 0097

³¹ Document 0059

3.10. Looking forward, Swanwick continues to monitor the future supply and demand for ATCOs. This work suggests that the deficits identified in the June 2015 paper for AC and TC TMA will now start to impact earlier, probably from summer 2017. Work is underway to address these shortfalls using the measures identified in 3.9, plus other longer term measures including: the One People Plan, reducing the non-operational requirement for ATCOs, recruitment, increasing TATC [Training Air Traffic controllers] throughput. These measures will require additional funding to be made available.”³²

NERL’s planning for summer 2017

4.53 The CAA’s information request also sought information on NERL’s planning for summer 2017. In response, NERL provided a copy of its strategic staffing forecast³³ and available skills³⁴ for summer 2017. The strategic staffing forecast set out that NERL had sufficient staff to cover its requirements for summer 2017. The forecast of available skills indicated that NERL was currently below its optimal mix of skills for the non-Heathrow approach services for summer 2017, but that it expected any shortfall to be made up through overtime. This is shown in Figure 5 below.

Figure 5 Available skills vs optimal skill requirement

	Gatwick	Stansted	Luton	Thames
March 2017	■	■	■	■
Expected at October 2017	■	■	■	■

³² Document 0097

³³ Document no 0080

³⁴ Document no 0078

Current optimal skill requirement	■	■	■	■
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Source: strategic forecast of available skills, document number 0078

- 4.54 In its response NERL explained that it anticipated a much higher take-up of voluntary overtime through agreements reached with the trade unions, including, specifically, an agreement on the use of extra duty days and an arrangement for enhanced voluntary overtime (the latter valid until 30 June 2018). NERL explained that these arrangements allowed for additional attendances for controllers to be put into the roster. NERL stated that, although the exact staffing requirement for June to October this year is not yet known (in that the requirement will increase in response to summer traffic), it should have sufficient nominated dates by controllers to meet it.
- 4.55 NERL noted that the uptake of voluntary attendance (overtime) for Feb/March 2017 was 73 per cent up from 24 per cent in the same period for 2016.³⁵
- 4.56 In addition to overtime arrangements, NERL explained that it was offering an incentive for retirees to provide 12 months' notice to allow NERL a longer planning window.³⁶
- 4.57 In relation to its management of resource and capacity risks for this summer, NERL explained that it is tracking the risks through its Risk Assessment and Mitigation Plan. This sets out the scope of the risk and steps NERL is taking (where they consider it appropriate) to mitigate the risk. There are two key risks identified:
- Swanwick resourcing. This risk is defined as a risk that NERL may not be able to efficiently allocate sufficient operational skills to satisfy both operational and non-operational demand. The risk log sets out a number of mitigating actions, including three separate resource

³⁵ Document No 0103 question 10.

³⁶ Document No 0103 question 10.

improvement plans for Swanwick, covering the short, medium, and long-term, and new tools for rostering and manpower planning. On the current assessment of these mitigations, NERL assess that by the end of RP2 the risk is reduced [REDACTED].³⁷

- Swanwick capacity. The risk is defined as a risk that NERL may fail to meet its regulatory delay targets as a result of increasing traffic levels, changes in traffic patterns and limitations in existing airspace infrastructure, procedures, and airport schedules. The risk log sets out a number of mitigating actions, [REDACTED]
[REDACTED]
[REDACTED]. On the current assessment of these mitigations, NERL assess that by the end of RP2 the risk is at 55 per cent.³⁸

4.58 NERL has provided a list of 23 separate actions currently underway to improve their staffing and resilience³⁹. These include:

- Formation of a Service Delivery Improvement Group⁴⁰ which is focussing on NERL achieving its RP2 performance targets.
- Formation of a Strategic Resource Board⁴¹ which is focussing on resourcing and demand for services.
- A new manpower planning tool which will be delivered in September 2017.
- [REDACTED].

Other evidence

4.59 In addition to the evidence collected directly by the CAA as part of this investigation, the CAA has had regard to other relevant information available to it, specifically the reports that NERL is required to submit to the CAA under conditions 5 and 11 of its Licence. In addition, we have

³⁷ Document No 0084.

³⁸ Document No 0085.

³⁹ Document No 0103 question 11 C

⁴⁰ Terms of reference in Document No 0086

⁴¹ Terms of reference in Document No 0090

also had regard to The Eurocontrol data (set out in the following chapter) and the RP2 Plan.

- 4.60 Under condition 5 of the Licence NERL reports on the adequacy of its resources to deliver its operation. NERL has not reported any issues with regards to available resources as part of its condition 5 reporting over this period. Since 2014 NERL has paid dividends totalling £164.5m.⁴²
- 4.61 NERL reports under condition 11 of the Licence on its performance. The report for the final quarter of 2016 showed that delay for 2016 was substantially worse than for 2015. In 2015 NERL earned a bonus under the Performance Scheme for its delay performance. It is our understanding that, for 2016, NERL will incur a penalty. Although NERL is expected to incur a penalty for 2016, the level of delay for 2016 is expected to be within the bounds of performance incentivised by the Performance Scheme. It is not expected that NERL will incur the full penalty set down in the scheme.

⁴² Dividends paid £46m May 2014, £23m Nov 2014, £48.3m May 2015, £24.2m Nov 2015 and £23m May 2016

Chapter 5

Analysis

- 5.1 In assessing NERL's compliance with its regulatory duties and obligations under the TA00 and the NERL Licence, and with reference to the two principal allegations summarised in Chapter 1, the CAA has conducted the following analysis:
- By utilising data on UK airspace regulations applied by NERL between 1 January 2014 and 31 December 2016, the CAA has conducted a quantitative analysis of the London Approach Service provided by NERL over that period, examining the extent of delays arising from these regulations, their origin (i.e. NERL-attributable versus non-NERL-attributable), and the distribution of delay between airports and airlines.
 - The CAA has also conducted an examination of NERL's decision-making in relation to the strategic and business decisions made as part of its implementation of the RP2 settlement and subsequently, which impacted on operational staffing for the Approach service within the LTMA.
- 5.2 For the avoidance of doubt, it has not been the objective of the CAA in its analysis to supplant the judgement of NERL/NERL with the judgement of the CAA in relation to the relevant decisions. Rather, the CAA's analysis has focused on whether the systems and processes that NERL/NERL had in place to take such decisions (including the information it took into account) were those that would be reasonably expected of a well-run and resilient business.

The regulatory settlement and the Licence

- 5.3 On a number of occasions NERL has stated to the CAA that it considers that it cannot be found to have breached its Licence over the course of

RP2 to date as it is performing within the bounds of the RP2 settlement with regard to capacity and delay.⁴³ The CAA rejects this assertion. Whilst it is true that the observed levels of delay during 2015 and 2016 are within the bounds of overall performance incentivised by the Performance Scheme, the scheme does not represent the totality of the legal duties and obligations placed on NERL by the TA00 and its Licence, including in relation to its performance in terms of capacity and delay. The setting, ex-ante, of overall performance targets does not preclude the CAA from considering, ex-post, NERL's performance at a more granular level, for example the Approach Service at a particular airport and/or concluding, where appropriate and it is supported by relevant evidence, that NERL has been, is, or is likely to be, in breach of its legal duties and obligations.

5.4 Throughout the course of the investigation NERL has stated that it considers the tightness of the regulatory settlement for RP2 as a contributory factor in the deterioration of its delay performance in 2016 and the staffing-related issues it experienced in relation to the London Approach Service. In relation to the CAA's role in setting the regulatory settlement in this, NERL has stated for example⁴⁴:

- *"[...] delay performance and cost are factors that must be balanced. How they are balanced is determined by the CAA through the terms of NERL's RP2 Performance Plan".*
- *"[NERL's customers and the CAA] gave greater importance to material price reduction (21% in real terms over RP2), which could only be achieved through significant operational headcount reduction. This was regarded as an acceptable trade-off and NERL's plans to achieve such savings were approved by the CAA".*

5.5 The CAA considers that NERL appears to have fundamentally misunderstood the difference between the CAA's role in its ex ante economic regulation of NERL and the decision taken by NERL in its day-to-day operation of its business on an ongoing basis. Contrary to the

⁴³ See, in particular, Document no. 0102

⁴⁴ See, in particular, Document no. 0102

assertions made by NERL, it is not the CAA that determines the balance between delay performance and cost, but rather it is NERL, within the bounds of its legal duties and obligations as set out in the TA00 and its Licence. Further, the CAA did not approve NERL's plans to achieve the costs savings required within RP2. Through RP2, the CAA set certain conditions and parameters within which NERL had to operate to further users' interests. It is for NERL to decide how best to operate within these constraints. These decisions, including the headcount reduction achieved by NERL in the run up to RP2, the reduction profile and its consequences, are the sole responsibility of NERL.

5.6 NERL has also made reference to the traffic forecasts used as part of the RP2 settlement and the CAA's involvement in determining them. For example, NERL has stated that "*The Performance Plan regime is [...] based upon detailed business plans developed by NERL that are [...] founded on traffic volume assumptions set by the CAA [...]*". Whilst it is true that the RP2 settlements was based on the official STATFOR forecast, this does not preclude NERL from developing its own traffic forecasts (particularly when underlying assumptions change) and basing its strategic and business decisions, including in relation to operational staffing, on these (or any other) forecasts if it feels that these alternative forecasts are likely to be more accurate given the prevailing conditions. Indeed, the CAA would note that NERL does indeed have its own in-house forecasting team and produces its own traffic forecasts.

5.7 Accordingly, NERL cannot attribute fault for the increased delays and service quality issues to the CAA as economic regulator but must recognise and account for its own decisions that have contributed to the concerns raised.

Allegation 1 – Failure to meet demand through provision of sufficient or reasonable resources

Traffic growth

- 5.8 NERL considers that the unforeseen increase in traffic was a significant contributory factor in the deterioration in its performance in terms of delay.⁴⁵ However, NERL has produced no evidence to demonstrate a direct causal link between the deterioration in the delay performance of the London Approach Service in 2016, and at Stansted Airport in particular, and the increase in traffic growth over that forecast for the London airports.
- 5.9 We note that traffic is a key driver of the overall charges and hence revenue. All else equal, a lower traffic forecast equates to higher charges over the reference period. As explained in paragraph 4.21 and the accompanying Figure, it is clear that there has been significant traffic growth above forecast levels during RP2.
- 5.10 The CAA makes two observations in this regard:
- First, as part of the RP2 settlement, NERL is subject to a traffic risk sharing mechanism. This means that NERL benefits from growth in traffic in additional revenues up to the threshold and then it is required to share some of that benefit with its customers⁴⁶. Therefore, additional financial resources should have been available to NERL to allow it to mitigate, to some degree, the financial impact of maintaining service levels. We estimate that for 2015 and 2016 NERL will have earned an additional £19.9m due to changes in traffic, of this we estimate NERL will retain £10.4m.⁴⁷

⁴⁵ See, for example, paragraphs 4.4, 4.12, 4.13, 4.21, 4.50 (bullets 4 and 5), and 4.51.

⁴⁶ This is a symmetrical mechanism and, as such, NERL takes the initial hit on traffic below forecast but shares some of this cost with its customers if it passes a set threshold.

⁴⁷ The estimate is calculated on the basis of outturn service units compared to forecast multiplied by the NERL component of the determined unit cost this generated values of -£6.8m for 2015 and £26.6m for 2016. We have then factored in the impact of risk sharing taper rate to illustrate the amount NERL will eventually retail.

- Second, in terms of staffing, the Stansted Approach operation is set up in the same way as the Gatwick Approach operation (see paragraph 4.9 and the accompanying Figure). Given that the Gatwick Approach operation handles a greater number of movements than the Stansted Approach operation (see footnote 13), it follows that, other things being equal, the Stansted Approach operation should be able to handle traffic at least up to the level of the Gatwick operation.

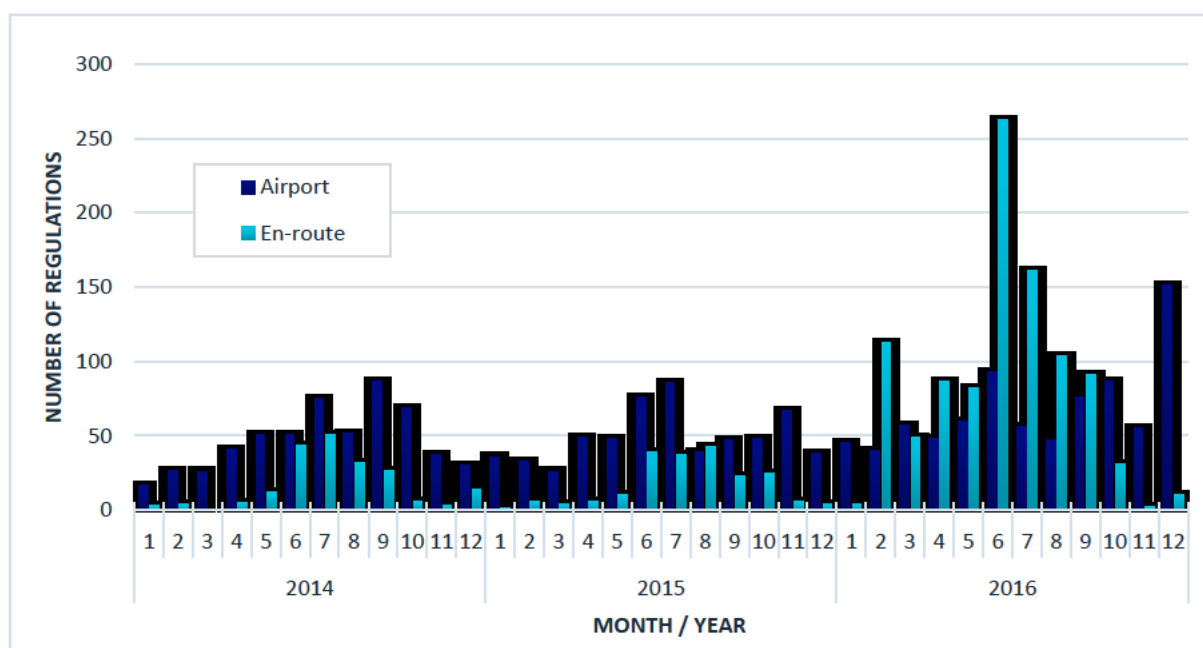
5.11 Both of these observations indicate that, in isolation, and absent the other issues impacting the resilience of the Approach Service as identified by NERL in its evidence (e.g. short notice sickness, lack of take-up of voluntary overtime, higher than predicted numbers of LTMA Approach controllers medically retiring or losing their licences on medical grounds), NERL should have been able to manage the impact of the additional traffic growth on the performance of the London Approach Service experienced during RP2 .

Quantitative analysis of the London Approach Service

5.12 We have analysed the regulations and delay in UK airspace for the three consecutive years of 2014, 2015 and 2016.

5.13 Airspace delay results from ATFM regulations. ATFM regulations are applied to restrict the amount of traffic entering a certain volume of airspace. These can be due to weather conditions, the capacity of the airspace, staffing and other technical reasons. Figure 6 shows the number of airspace regulations by month in 2014 to 2016, split by airport delay (i.e. delay associated with the tower airspace) and en route airspace (primarily that associated with NERL). Whilst the airport regulations have remained constant, 2016 has seen significantly more en route regulations than in previous years, particularly for en route airspace.

Figure 6: Monthly number of regulations (all reasons) by month and location (January 2014 to December 2016)



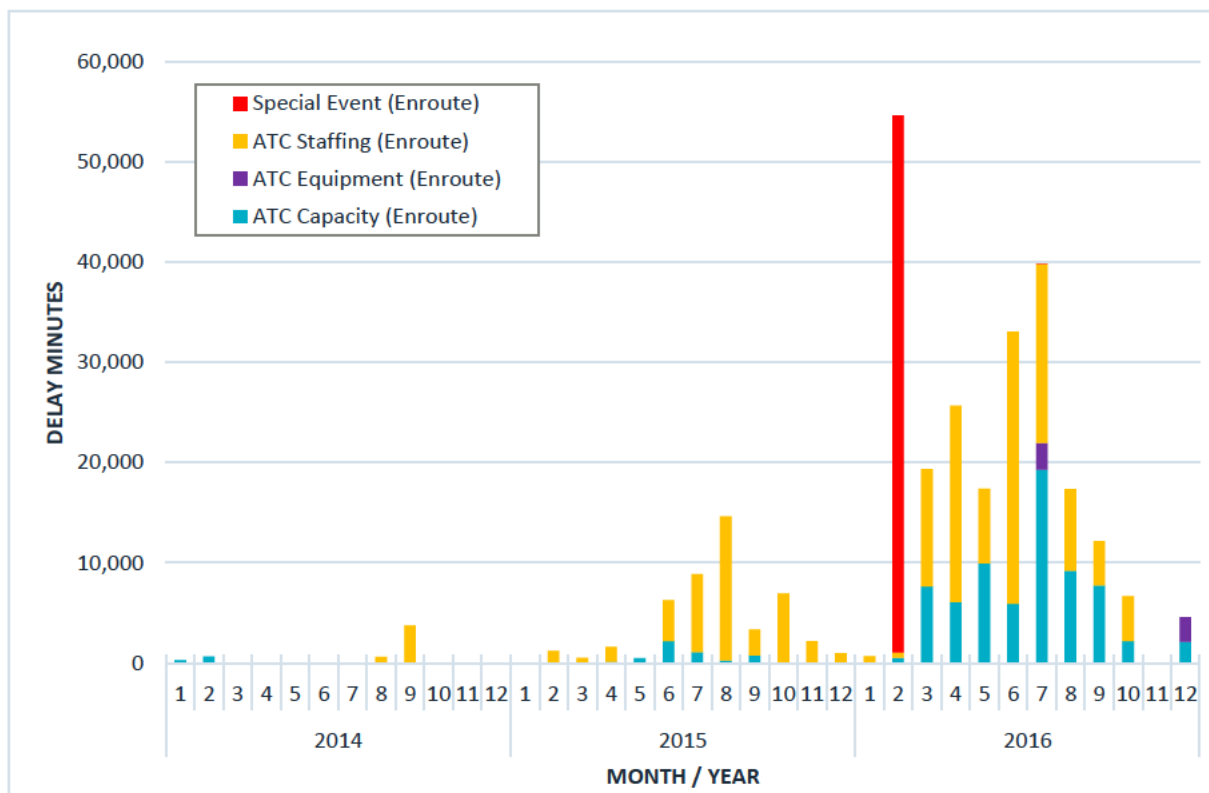
5.14 Where airspace regulations cause aircraft to be delayed, this is recorded as part of the regulation. The majority of delay in 2014 to 2016 has been associated with weather conditions. 2016 was a particularly bad year for delay with double the amount of delay seen in 2015. Weather conditions caused more than 51 per cent more delay than in the previous year. Of the non-weather related delay, the delay attributable to NERL itself increased from 38% in 2014 to 75% in 2016. See Figure 7.

Figure 7: Weather delay as a share of all UK ATFM delay, by year

Reason	Year		
	2014	2015	2016
Weather Delay (mins)	567,366	739,799	1,119,986
Total Delay - All Reasons (mins)	754,048	947,074	1,923,934
<i>Weather Share of Total Delay (%)</i>	75%	78%	58%
NERL Attributable Delay (mins)	71,835	95,521	599,930
Total Delay - Excluding Weather (mins)	186,682	207,275	803,948
<i>NERL Attrib Delay as % of Total Delay (Exc Weather)</i>	38%	46%	75%
<i>Flights (millions)</i>	2.267	2.322	2.449

- 5.15 Looking at Terminal Control (see Figure 8 below) we see a similar picture in terms of delay performance for 2016 compared to previous years with en route staffing problems attributable to NERL being the main contributor. The special event spike in February 2016 relates to planned airspace changes, where regulations are put in place to ensure new ways of working are deployed in a safe manner.

Figure 8: NERL attributable ATFM delay in the London Approach



- 5.16 In summary the data illustrates that 2016 has been a comparatively poor year for delay performance, with significant increases in delay being observed compared to previous years, particularly associated with NERL staffing issues. Increased delay on prior years is the overall picture for NERL in 2016, which is consistent with the evidence presented of operational staffing issues over that year.

Analysis of NERL's decision-making

- 5.17 Based on the evidence collected by the CAA, it is clear that NERL took a number of decisions in its implementation of RP2, and subsequently, that

had a substantial impact on the availability of operational staff, both in terms of their numbers and validation mix, to operate the London Approach Service. Broadly speaking, these were:

- Decisions taken pre-RP2 that impacted on operational staffing, namely the voluntary redundancy programme, and decisions relating to the number of trainee controllers.
- Decisions taken within RP2 to address the then emerging performance and resilience issues.

5.18 In taking these decisions, NERL had regard to a number of key pieces of information. Broadly speaking, these were:

- The STATFOR forecast that was used for the RP2 settlement and the subsequent observed growth in traffic.
- The improvements in efficiency which NERL was expecting to deliver within RP2, in particular the expected changes to working practices.
- The availability and flexibility of operational staffing within the RP2 period and the operational staffing challenges relating principally to short notice sickness, early retirement, medical retirement, and the lack of take-up of voluntary overtime.

5.19 The following sections set out the CAA's analysis in relation to each of these areas.

Pre-RP2 decisions

NERL's voluntary redundancy programme

5.20 As set out in paragraphs 4.41 to 4.46 above, NERL conducted a voluntary redundancy scheme prior to the start of RP2. The purpose of the scheme was to enable the cost reductions NERL considered necessary to reach its RP2 cost efficiency target. As explained by NERL, it considered that taking action prior to RP2 would enable it to make savings at a lower cost and that delays in implementing the scheme would increase the depth of cuts needed later in RP2 to meet the target.

- 5.21 For its final planning for RP2 NERL relied on the February 2014 STATFOR forecast. In the CAA's view, although traffic growth increased significantly in 2015 and 2016, it was reasonable for NERL to rely on this for its forecast at that time. However, subsequent events have demonstrated the need for more thorough sensitivity analysis (see paragraph 5.27).
- 5.22 Evidence submitted by NERL (see paragraphs 4.41 to 4.46 above) indicates that the NERL Board was made aware in early 2013 that the delivery of the headcount reduction was contingent on a number of demand side enablers that would reduce the operational requirement for controllers, the delivery of which NERL noted would be challenging. Indeed, it is clear from the evidence submitted by NERL that it ultimately struggled to deliver the enablers relating to new technology and changes to working practices (see, for example, paragraphs 4.22 and 4.33).
- 5.23 Further, in early 2013, NERL also noted that there was a degree of risk in introducing the voluntary redundancy programme [REDACTED] [REDACTED] given that, in order to meet planned operational performance targets, it would need goodwill across the operation (see paragraph 4.41 above). Again, as discussed in paragraph 4.22 above, it subsequently transpired that the progress in delivering measures such as changes to working practices and the implementation of new technology was slow and that, in particular, the plan to achieve efficiencies from working practices had stalled because of the less favourable industrial relations climate as a result of the pay negotiations.
- 5.24 From the evidence submitted it is clear that NERL, including the NERL Board, was aware of the challenges posed in implementing the voluntary redundancy programme and the dependencies of it on a number of key factors. Further, as noted in paragraph 5.20 above, there was a timing consideration for NERL in terms of delivering its headcount reductions plans prior to the start of RP2.
- 5.25 In relation to how the voluntary redundancy programme was designed and operated, it is clear from the evidence submitted by NERL (see

paragraphs 4.44 to 4.45) that this was done with due regard given to whether applicants were in a business critical role or whether the individual was a business critical person. Indeed, NERL has evidenced that a number of applications from controllers based in Swanwick were rejected based on an appraisal of the critical skills needed for business continuity and service delivery.

- 5.26 In summary, the CAA has found no evidence which demonstrates that NERL acted unreasonably at the time in the decisions it took prior to RP2⁴⁸ to implement the voluntary redundancy programme.
- 5.27 However, subsequent events have highlighted the need for NERL improve its planning and risk analysis. In particular::
- The CAA has found no evidence that, in conjunction with the development of the voluntary redundancy programme, NERL had sought to understand, and plan for, the risk of a less favourable industrial relations climate as a result of the voluntary redundancy programme and subsequent pay negotiations. Given the extent of the savings that NERL was seeking to make through the voluntary redundancy programme and subsequent pay deals, the CAA considers that that the rise of a less favourable industrial relations climate was a possible risk that should have been recognised and monitored at the time, albeit that its scale and precise nature would not have been known.
 - Although in March 2013 NERL identified the need for increased sector validations and an optimised skills mix as key enablers for the voluntary redundancy programme (see paragraph 4.42 above), it is not clear to the CAA that NERL conducted a more detailed analysis of the risks associated with non- or under-delivery of these enablers. In particular examining the potential for hotspots – i.e. specific areas of poor delay performance – to develop. Indeed, at the time that the

⁴⁸ Noting also that it was autumn 2014 (i.e. a few months before the start of RP2) before the risk of a controller shortfall in relation to the London Approach began to crystallise, albeit identified for the winter season 2017 and 2018 (see paragraph 4.32).

‘Operational Headcount Planning’ presentation was given to NERL’s Operational Leadership Team in October 2014, it is clear that there was still a lack of understanding on the part of NERL of the risks associated with the availability and flexibility of validations (the presentation recommends that an analysis by ‘skill level’ be conducted to fully understand the risk of controller shortfall – see paragraph 4.32 above). Not only does this mean NERL was not aware of where particular services were likely to be under pressure, it was also have been difficult for it to have understood whether any failure to deliver would have inequitable or disproportionate effects on particular user groups.

- More generally, the CAA has found no evidence that, in conjunction with the development of the voluntary redundancy programme, NERL had developed a contingency plan to deal with the risk that the key enablers identified by NERL for this programme would not be delivered fully.

5.28 These observations do not amount to a breach of the TA00 obligations or NERL licence but are not trivial and have the potential for and had reported adverse effects to users’ interests. With the benefit of hindsight these observations merit further attention to secure users’ interests in the continuity and quality of air traffic services, either now on an informal basis or as part of the next review period, to ensure that the lessons are learnt and that the risk of recurrence is minimised.

NERL’s decision to reduce the number of trainee controllers for delivery within the RP2 period

5.29 The management of trainees is undertaken as part of the yearly business planning. NERL flexes its trainee pipeline to match the supply of trainees with demand for trainees within the operation. This means that, where NERL has a surplus of trainees graduating from the college, they will not offer them positions; or, where graduates have been offered positions, they may be cut.

- 5.30 NERL has not supplied any detailed evidence on its decision-making in this area, other than that it was part of its general business process and not subject to any special requirements (unlike the voluntary redundancy programme). The cut to the trainee pipeline for 2015/16 through Business Plan 14 (see paragraph 4.36 above) was in line with the considerations driving the voluntary redundancy programme. By 2015 it is clear that NERL was reacting to the changing circumstances and through Business Plan 15 had directed a substantial increase in the delivery of controller trainees for 2015/16 (see again paragraph 4.36 above).
- 5.31 In summary, the CAA has found no evidence that demonstrates that NERL did not act reasonably in the decisions it took prior to RP2 and subsequently on the delivery of trainee controllers to the operation.

Events and decisions taken by NERL during RP2

The availability and flexibility of operational staffing within the RP2 period

- 5.32 It is clear from the evidence submitted by NERL that, by mid-2015⁴⁹, it had begun to become concerned that, whilst reductions in supply had been achieved through the voluntary redundancy programme, the actions taken to reduce demand had stalled, notably the intended changes to working practices and workforce flexibility, and in relation to new technology. As evidenced by the discussions that took place at the NERL Board during 2016 (see paragraph 4.50), the emerging mismatch between supply and demand was being worsened by other factors, in particular short notice sickness (which was impacting the London Approach Service, for Stansted Airport in particular – see paragraph 4.23), localised staffing shortages as a result of higher than predicted numbers of London Approach controllers medically retiring or losing their licences on medical grounds, a lack of take-up of voluntary overtime, and unexpected traffic growth (with significant growth at particular London airports including Stansted Airport).

⁴⁹ See the references to the CEO briefing covered in paragraph 4.33 above.

- 5.33 Although, in the context of the implementation of the voluntary redundancy programme, NERL had noted certain key risks to the delivery of the headcount reduction (including in relation to industrial relations and the delivery of such measures as changes to working practices and new technology) and that, in the run up to RP2, unexpected traffic growth was identified by NERL as a risk to it meeting its performance targets, it is clear from the evidence provided by NERL that it did not expect the impact of all these risks to crystallise by 2016, in addition to the operational staffing issues highlighted in the previous paragraph.
- 5.34 Notwithstanding the CAA's more general concerns around NERL's contingency planning as set out in paragraphs 5.27-5.28 above, the CAA is of the view that it would be unreasonable to expect NERL to have foreseen that each of these events would materialise and combine within such a short space of time to place such pressure on the operation as a whole, and in particular certain parts of the operations, i.e. the London Approach Service, and for Stansted Airport in particular.
- 5.35 However, it should be recognised that, although NERL's delay performance for 2016 is significantly worse than for 2015, and that issues around operational staffing have led to specific resilience issues at certain locations at certain times (resulting in a number of 'bad days' for NERL and certain of its customers), these concerns are not such to warrant enforcement action to counter breach of NERL's statutory and/or licence obligations but can be addressed more appropriately through other remedial measures and wider recommendations.

Decisions taken within RP2 to address the then emerging performance and resilience issues

- 5.36 As evidenced in each of its responses to the CAA's information requests, as well as in its original responses to the complainants in May and July 2016, during 2016 NERL put in place a number of remedial measures to increase its operational staffing in an effort to improve the resilience of its operation, in particular the London Approach, and to improve its delay performance and overall resilience (see paragraphs 4.3, 4.5, 4.16, 4.29,

4.30, 4.33, 4.37 and the second bullet in paragraph 4.50). Notwithstanding the CAA's more general concerns around NERL's contingency planning set out in paragraph 5.27 above, given the situation in which NERL found itself in 2016, there appears to have been insufficient lead-in time to address the issues that were materialising at that time. Despite this, the CAA has found no evidence that NERL did not act reasonably in how it identified and implemented the remedial measures in order to increase its operational staffing and improve the resilience of its operation. Provided those remedial measures are implemented and properly monitored, the performance and resilience issues should subside

Decisions taken within RP2 to address potential future performance and resilience issues

- 5.37 As described in paragraphs 4.53 to 4.58, NERL has provided the CAA with information relating to its forward planning for the summer 2017 period. However, the information that NERL has provided regarding the remedial measures that it is putting in place for this summer and beyond, and its expectations of the availability of operational staff for this summer (see paragraphs 4.53 to 4.55), indicates to the CAA that NERL has acted reasonably in responding to the challenges that this summer is likely to present.
- 5.38 In drawing this conclusion, the CAA has not sought to assess in detail the impact of these remedial measures, individually or in combination. However, it is of some concern to the CAA that it has found no evidence that NERL itself has sought to make such an assessment. Indeed, it does not appear to the CAA that NERL has a roadmap in place for the delivery of each of these measures and/ or appear to have no clear understanding of their impact on the performance of its business operations at a granular level – e.g. the London Approach Service and the airports within it. If such measures are to be fully implemented, there must be appropriate follow-up and oversight to monitor and ensure their effectiveness in terms of service continuity and quality.

Allegation 2 – Discrimination

Quantitative analysis

- 5.39 To assess discrimination we have looked at delay outcomes across the airports in the London Approach. The data shows that outcomes are different and that Stansted had particularly high delays in 2016, although comparable to London City Airport the previous year. 2016 also shows a general increase in delay due to staffing of the London Approach than in prior years. See Figure 9 below.
- 5.40 The data shows significant additional delay at Stansted Airport attributable to NERL staffing in 2016, above that of other airports in the London Approach. This is consistent with the evidence presented in chapter 4 in relation to Limb 1, with the Approach service for Stansted Airport being particularly badly hit by short-term sickness (see paragraph 4.23 above)..
- 5.41 Looking at the data on a per flight basis we see that London City generally receives a poorer service in relation to staffing-related delays. In previous years the per-flight delay has been much lower at Stansted and Luton (Figure 10). Looking at all NERL staffing delays (not just those from the London Approach) in previous years we see a more general spread of delay across the airports that has increased in 2016. (Figure 11).

Figure 9: NERL staffing delays by London Approach Function



Figure 10: NERL average staffing delays per flight by London Approach Function

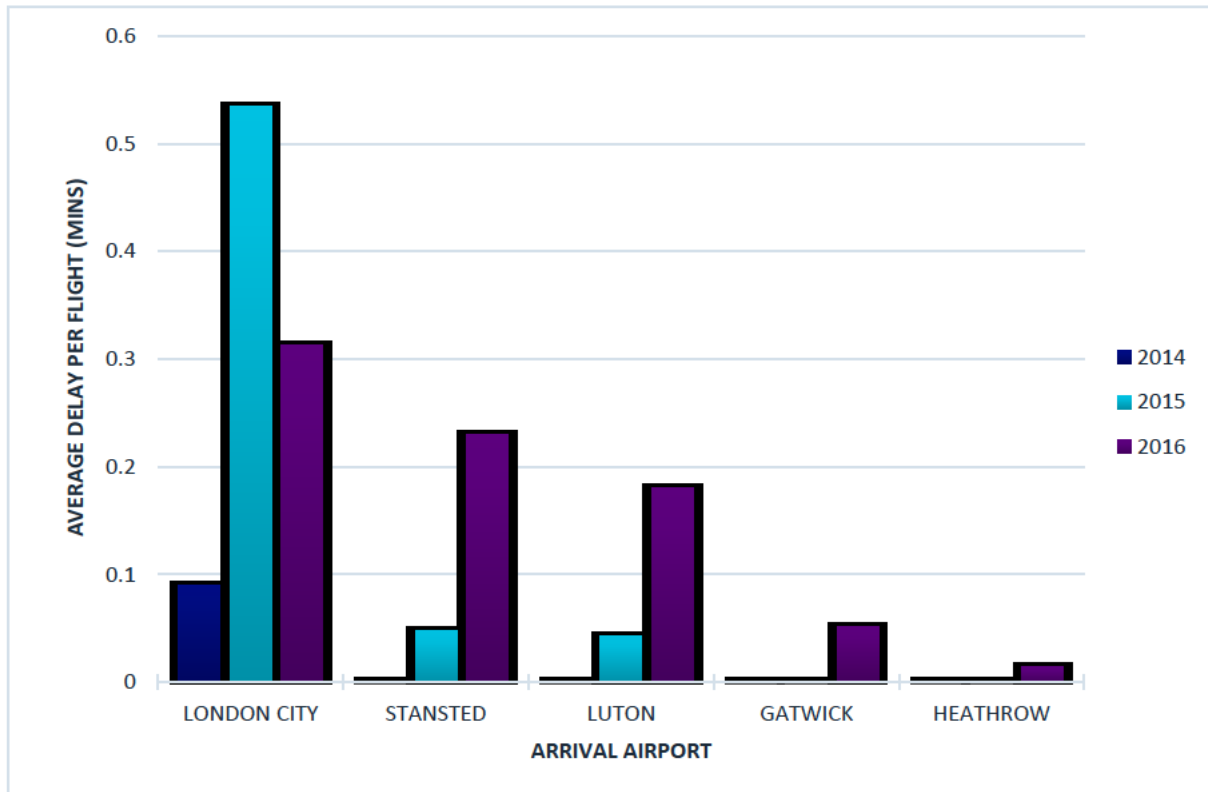
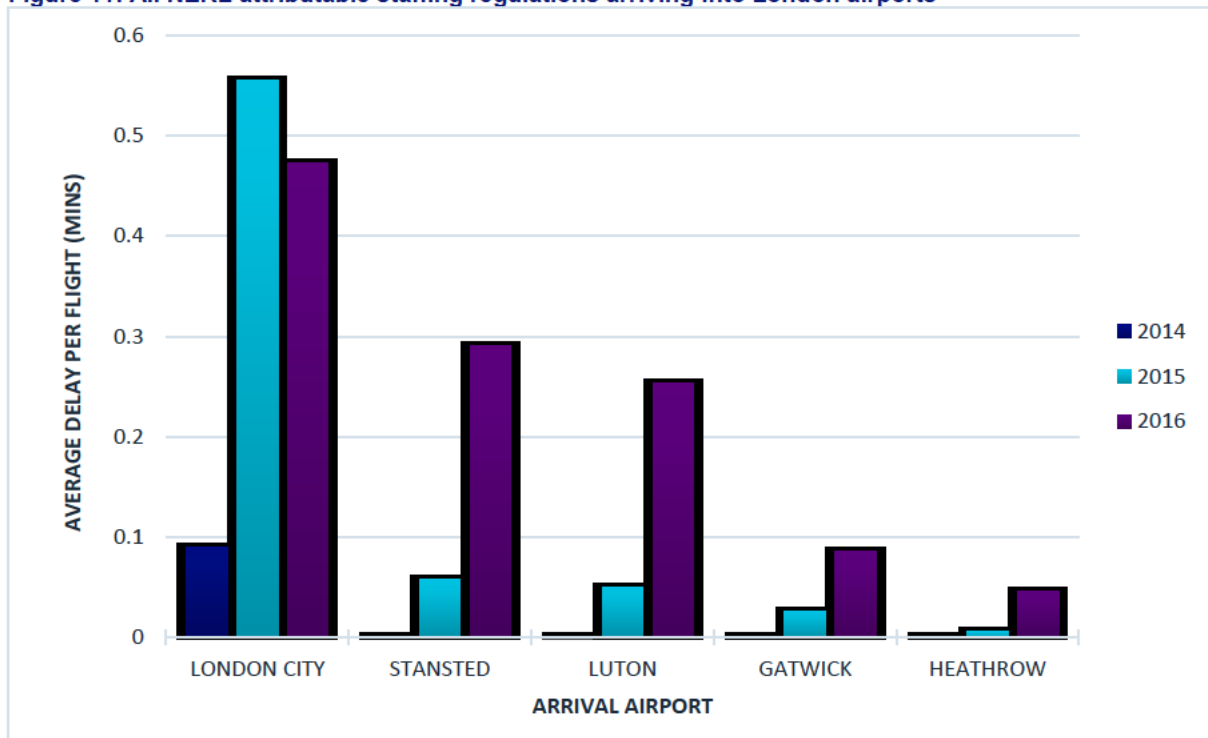


Figure 11: All NERL attributable staffing regulations arriving into London airports



5.42 In summary, although the data shows that, in 2016, the Approach service for Stansted Airport incurred the greatest amount of NERL-attributable staffing delays in absolute terms compared to the other London airports,

there is no evidence of a systematic pattern of this over the course of RP2. Indeed, in 2015, the Approach service for London City Airport incurred a greater amount of NERL-attributable staffing delays as compared to Stansted Airport in 2016, and a significantly greater amount than for Stansted Airport in 2015. Further, when considering the NERL-attributable staffing delays per flight, it should be noted that Stansted Airport is comparable to Luton Airport and lower than London City Airport.

- 5.43 The data consistently shows little staffing-attributable delay at Gatwick and Heathrow as compared to the other airports. This in part may be explained by the greater consistency in, and predictability of, traffic at these airports. Additionally, as we discuss below, a key driver for the lack of staff-attributable delay at Heathrow is the greater availability of staff which is more consistent with Minimum Unit Requirements that result from the larger operation.

Structural / operational differences in the London Approach Service

- 5.44 In its responses to the CAA⁵⁰, NERL has asserted that there are two structural issues that mean that Heathrow Airport has a more resilient Approach service than provided for the other airports the LTMA:
- Heathrow requires ■■■ control positions due to the operational requirements for two runways, which means that there is more resilience in the system as there are more controllers at any one time on shift operating Heathrow sectors. NERL has stated also that, for the operation of a single runway, ■■■ control positions are required and that the additional position would not add to capacity.
 - As part of the Minimum Unit Requirement (MUR), Heathrow is the only approach service validation that can be held without other validations. Further it has been stated that the complexity of the Heathrow operation means it is less likely that controllers will hold validations in excess of the MUR. This is seen in the data, where

⁵⁰ See paragraphs 4.2, 4.6, 4.17, and 4.37.

only 21 per cent of Heathrow validated controllers hold additional validations (paragraph 4.37).

- 5.45 The CAA considers that this is a credible explanation for the differences in the staffing levels of the Heathrow Approach service versus those of the other London airports.
- 5.46 As noted in paragraph 4.25 and 4.34, although both Gatwick and Stansted Approaches share the same set up in terms of numbers of controller positions required, the staffing levels were greater on average at Gatwick than Stansted for the period April 2014 to October 2016. NERL has stated that these positions are filled more often due to the difference in traffic levels at the airport compared to Stansted⁵¹. Again, the CAA considers this to be a credible explanation.
- 5.47 From the points above there are clear structural differences in the operation of Stansted and other sectors. However, these differences are largely explained by the operational requirements. There may be an alternative approach to the operation of the LTMA that would remove these structural issues but it is not the CAA's role to substitute its opinion for NERL's decision-making and operational management where there is a clear and rational justification for the set up.
- 5.48 On the issue of Service Delivery Plans (see paragraphs 4.19 and 4.38), the CAA notes that NERL does receive such plans from both Heathrow Airport and Gatwick Airport but not from Stansted Airport. As explained by NERL, these plans are delivered the day before operation and feed into tactical planning and provide a more accurate picture of actual demand on the day. In its evidence NERL has stated that, in June 2016, it offered to assist STAL develop a Service Delivery Plan, but that its offer was declined. The CAA has seen no further evidence to confirm or refute this statement. Although the CAA considers NERL should be more proactive in developing such an arrangement, the CAA does not consider that the

⁵¹ Document No. 0026

absence of such an arrangement is indicative in isolation of a breach by NERL of the conditions of its Licence relating to discrimination.

Chapter 6

Preliminary conclusions, CAA observations and recommendations

Preliminary conclusions

Allegation 1 – Failure to meet demand through provision of sufficient or reasonable resources

6.1 Based on the evidence available to the CAA as described in Chapter 4, and with reference to the analysis conducted by the CAA as set out in Chapter 5, the CAA's preliminary view is that, although there is evidence of increased delay in 2016 compared to previous years, NERL did not act unreasonably in its implementation of the RP2 settlement in so far as this impacted operational staffing, or in designing and implementing the remedial measures intended to tackle the deterioration in delay performance in 2016 and the risk posed to the performance of the service for summer 2017 .

6.2 Accordingly, the CAA's preliminary conclusion is that:

- With reference to section 8(1)(c) TA00, NERL has not failed, is not failing, nor is likely to fail, in its duty to take all reasonable steps to secure that the demand for the London Approach Service is met.
- With reference to section 8(1)(d) TA00, NERL has not failed, is not failing, nor is likely to fail, in its duty to have regard, in providing, developing and maintaining the system, to the demands which are likely to be placed on it in the future in respect of the London Approach Service.
- With reference to NERL Licence condition 2.1, NERL has not failed, is not failing, nor is likely to fail, to meet its obligation to make available the London Approach Service so as to be capable of meeting on a continuing basis any reasonable level of overall demand for the service;

- With reference to NERL Licence condition 5.2, NERL has not failed, is not failing, nor is likely to fail, to meet its obligation to act at all times in a manner calculated to secure that it has available to it sufficient resources including (without limitation) financial, management and staff resources, fixed and moveable assets, rights, licences, consents and facilities, on such terms and with all such rights as shall ensure that at all times it is able to carry out the provision of the London Approach Service.

6.3 Accordingly the CAA makes no finding of actual or future contravention by NERL of its statutory or licence obligations and there is no basis for formal enforcement action under section 20 TA00.

6.4 In reaching its preliminary view set out above, the CAA has taken into account the actions that NERL has taken, and plans to take in the future, to tackle incidence of delays and staff shortages and to improve the resilience of its operations going forward, with particular focus on the London Approach Service. In reaching its preliminary view, the CAA expects that NERL will implement these actions as planned to improve its delay performance and resilience for this summer and the remainder of RP2. The CAA expects that the NERL Board assure itself that this is the case. The CAA will closely monitor the implementation and efficacy of NERL's actions.

6.5 Where events between now and the end of RP2 mean that NERL anticipates that these plans will no longer be sufficient or appropriate, or where NERL becomes aware of performance issues arising in specific areas of the operation (e.g. the London Approach Service in general or at specific airports within the LTMA), the CAA expects NERL to notify it of those issues in a timely manner. In such circumstances, the CAA would expect NERL to develop and advise the CAA of new action plans in a timely and effective manner which are sufficient and appropriate to address such events or issues with a view to maintaining the delivery of a resilient high-quality service to users.

Allegation 2 – Discrimination

6.6 Based on the evidence available to the CAA as described in Chapter 4, and with reference to the analysis conducted by the CAA as set out in Chapter 5, the CAA's preliminary view is that there are objective differences between the operational requirements of Heathrow Airport and Stansted Airport which mean that there is no inequality of treatment. Accordingly, the CAA's preliminary conclusion is that:

- With reference to NERL Licence condition 2.7, in providing the London Approach Service, NERL has not failed, is not failing, nor is likely to fail, to meet its obligation to not unduly prefer or discriminate against any person or class of person in respect of the operation of its systems, after taking into account the need to maintain the most expeditious flow of air traffic as a whole without unreasonably delaying or diverting individual aircraft or such other criteria as the Licensee may apply from time to time with the approval of the CAA.
- With reference to NERL Licence condition 2.8, in providing the London Approach Service, NERL has not failed, is not failing, nor is likely to fail, to meet its obligation to not unduly discriminate against or give preferential treatment to any person or class of persons in respect of the terms on which services are provided, to the extent that such terms have or are intended to have or are likely to have the effect of preventing, restricting or distorting competition in any market.

6.7 Accordingly the CAA makes no finding of discrimination or of actual or future contravention by NERL of its licence obligations and there is no basis for formal enforcement action under section 20 TA00.

The CAA's other observations and recommendations

6.8 The absence of any finding of actual or likely contravention does not deprive the CAA of its wider general duties under section 2 TA00. The CAA must exercise its functions in the manner it thinks is best calculated

to further the interests of users, including (inter alia) aircraft owners and operators, aerodrome owners and managers, passengers and freight customers. In the present case, those interests relate, in particular, to the availability, continuity and quality of air traffic services. The CAA must also promote the efficiency and economy of NERL's operations.

- 6.9 We have already noted that NERL did not anticipate how the underlying circumstances would change. It is not for the CAA to substitute the decision of NERL's management, the running of the company is ultimately the responsibility of the NERL Executive overseen by the NERL Board. It is important that NERL learns from these events and, at the minimum, it develops flexible mechanisms to pre-empt such a situation arising in future and/or to facilitate its rapid intervention to mitigate any adverse effects for users.
- 6.10 As set out in paragraphs 6.3 and 6.5 above, the CAA intends to take a more active role in its oversight of NERL's implementation of, and output from, its planned remedial measures with a view to improving NERL's service quality and performance and ensuring service continuity for users during this summer and the remainder of RP2. The CAA expects NERL's full and timely cooperation with this exercise.
- 6.11 In addition, for the remainder of RP2, the CAA expects NERL to be more proactive and transparent in its dialogue with the CAA on actual or potential issues that may affect its delay performance. In particular, NERL should notify the CAA when it becomes aware that potential performance issues may be likely to arise in specific areas of the operation (e.g. the London Approach Service in general or at specific airports within the LTMA).
- 6.12 Similarly, if NERL anticipates that, due to unforeseen events, its action plans may no longer be sufficient or appropriate for tackling the incidence of delays or staff shortages or ensuring operational resilience, NERL will be expected to develop, and advise the CAA of, new action plans in a timely and effective manner which will address such events or issues with

a view to maintaining the delivery of a resilient high-quality service to users.

- 6.13 On the issue of NERL's risk identification and sensitivity analysis in planning, as set out paragraphs 5.27 and 5.38 above, this investigation has brought to light a number of issues that the CAA recommends that NERL should address:
- The CAA recommends that NERL enhances its systems and processes so that it is better able to forecast potential shortfalls in supply at a more granular level (e.g. down to the Approach service at specific airports), and so that it is able to conduct a more rigorous sensitivity analysis based upon risks and issues that can impact the service, for example increased short-notice sickness, a lack of take up of voluntary overtime, and variations in expected traffic growth etc.
 - Given the sensitivity of the resilience of certain parts of the operation, in particular the London Approach Service, to the availability and flexibility of operational staff with certain skills / validations, the CAA recommends that NERL enhances its systems and processes for contingency planning to ensure that explicit consideration is given to this factor in determining the optimal level of operational staffing surplus to provide a resilient service.
- 6.14 The CAA expects NERL to engage fully with the CAA on the implementation of the recommendations in this report and to keep the CAA informed of its progress. Further, the CAA expects the NERL's Board to be actively engaged in its oversight of the business in this regard.
- 6.15 Finally, and to the extent that it would substantively improve NERL's ability to plan its resources on a tactical basis, we recommend that NERL takes a more proactive and engaging approach to developing a specific Service Delivery Plan for Stansted Airport.
- 6.16 In addition, the investigation has been helpful in identifying improvements with the CAA's own oversight of NERL within the regulatory settlement

period which it intends to address and in which it expects NERL full cooperation. As the development of RP3 has started, the CAA will also consider the appropriate level of oversight of NERL within this process, in particular in relation to NERL's regulatory reporting requirements.

Appendix A

Airspace basics

1. Air traffic control services are broadly divided into three categories:
 - En route, which controls aircraft from the completion of initial climb (from departure airport) through cruise altitude and completion of controlled descent to the initial approach fix where the service hands over to approach.
 - Approach, which is a radar service generally provided from Air Traffic Control tower at the arrival airport. It takes control of aircraft around 40 miles from the airport and sequences the aircraft before handing over to the aerodrome control. Approach also controls aircraft on departure from the airport to handover to en route.
 - Aerodrome control, which is a visual control service that controls aircraft in landing and take-off at the airport. The aerodrome service also directs aircraft around the airfield.
2. The London Approach Service is an approach service. However this is operated remotely by NERL from Terminal Control at the Swanwick Control Centre, rather than from the individual airports.
3. The London Approach Service is broadly split into two services:
 - Area service, which operates the general airspace within the London Terminal Control Area.
 - Approach service, which operates the approach into each of the airports of the London Approach.
4. Airspace can only be controlled by a licensed and validated Air Traffic Control Officer (ATCO). The ATCO licence is the minimum requirement but to be active on a particular airspace sector an ATCO requires the specific validation.

5. An ATCO starts as a Trainee Air Traffic Controller (TATC). A TATC takes over 12 months to train. Then when deployed in a unit they can take six to twelve months to validate depending on the complexity of the airspace involved.
6. NERL imposed minimum unit requirements on ATCOs working the London Approach. They must have one of the following validation sets:
 - Heathrow approach validations
 - Two approach validations on non-Heathrow airports
 - Two terminal manoeuvring area control validations

Appendix B

Validation & Analysis of NERL Data

Scope of data

1. The CAA requested the following data table from NERL for the period January 2014 to December 2016:
 - a. A list of all ATFM regulations in the UK, regardless of attribution, with associated regulated flights, delayed flights, delay minutes and details of the regulation including location, traffic volume, and attribution.
 - b. A list of all flights affected by NERL Staffing regulations, with associated flight details including departure and arrival airports, callsign, and location/traffic volume to which each flight is attributed to.

Validation exercise

2. To assure ourselves of the robustness of the data we requested the equivalent data set from Eurocontrol to perform a due diligence check on data submission. We found no significant differences in the datasets that would have materially affected our results. The following is a brief summary of our results.
3. In total, there were 3,373 regulations between 1st January 2014 and 31st December 2016.

List of all ATFM regulations in the UK:

4. Comparing against the Eurocontrol Network Manager data (the Eurocontrol data):
 - 8 of the 3,373 regulations provided by NERL were not matched. This amounted to 16 flights and 959 minutes of delay
 - 29 of the 3,373 regulations provided by NERL were matched except on 'Reason'. This amounted 1,879 regulated flights, although these were all reconcilable. There were differences of 3,314 minutes of

delay for these flights, but the differences all occurred after 4th April 2016, when Eurocontrol changed the method for calculating delays. This ties in with the fact that NERL provided data for regulations on a consistent basis, as was asked to by the CAA.

- The remaining 3,336 of the 3,373 regulations were reconciled, but the following differences were noted:
 - 4 extra flights in the Eurocontrol data for the three year period (2014 to 2016)
 - 159,000 minutes lower in the Eurocontrol data, which is expected to relate to the change in Eurocontrol's delay calculation method from 4th April 2016.

List of all flights affected by NERL Staffing regulations:

5. Comparing against the Eurocontrol data:

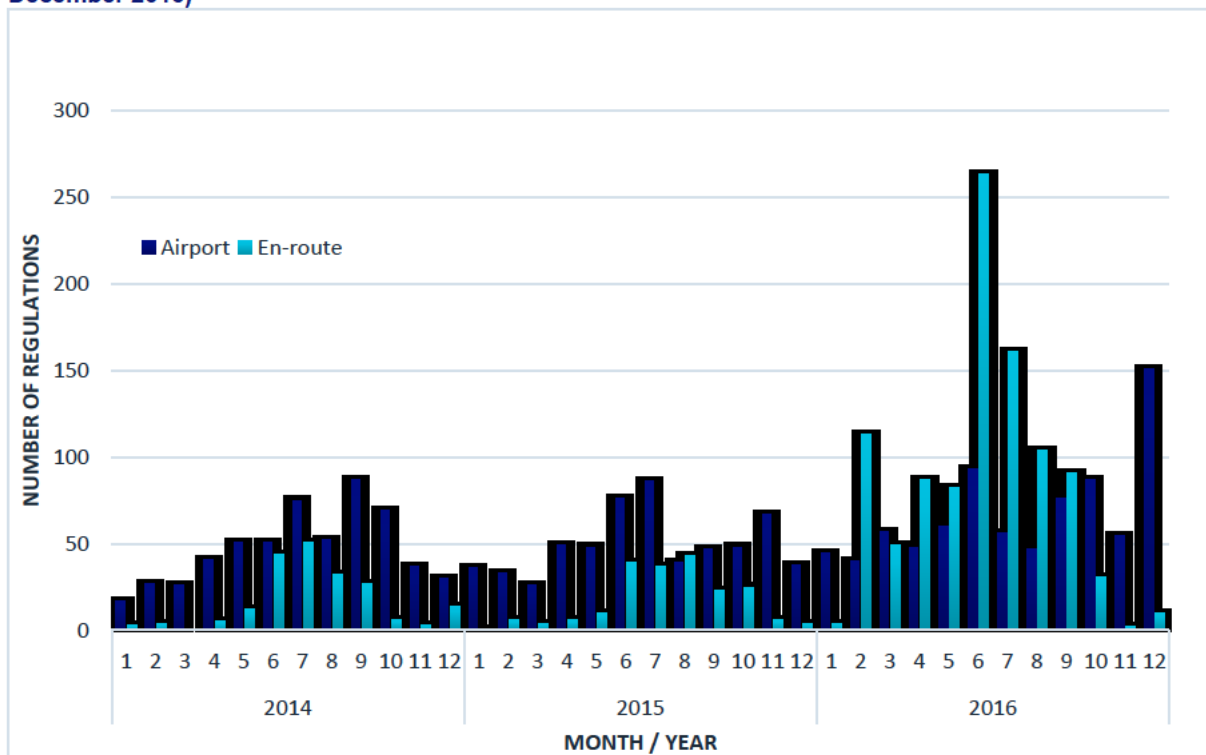
- All 14,114 flights reported by NERL as being subject to a NERL staffing regulation during 2014 to 2016 (inclusive), were reconcilable against the Eurocontrol data.
- All Traffic Volumes (TVs) were matched precisely.
- All delay minutes up until 3rd April 2016 tie up precisely. Thereafter differences in delay minutes were observed, consistent with when Eurocontrol changed the method for calculating delays. This ties in with the fact that NERL provided data for regulations on a consistent basis, as was asked to by the CAA.
- All flights were verified as having "ATC Staffing" as the cause code
- Due to limitations in the Eurocontrol data, it was not possible to verify the airport/en route attribution

Analysis of data submitted

The National Context

6. The number of regulations increased sharply in 2016 compared to 2014 and 2015.
7. Notably, the number of en route regulations saw a particularly steep rise in 2016 compared to airport regulations where a significantly more muted increase can be detected.

Figure B.1 Monthly Number of Regulations (All Reasons) by Month and Location (January 2014 to December 2016)



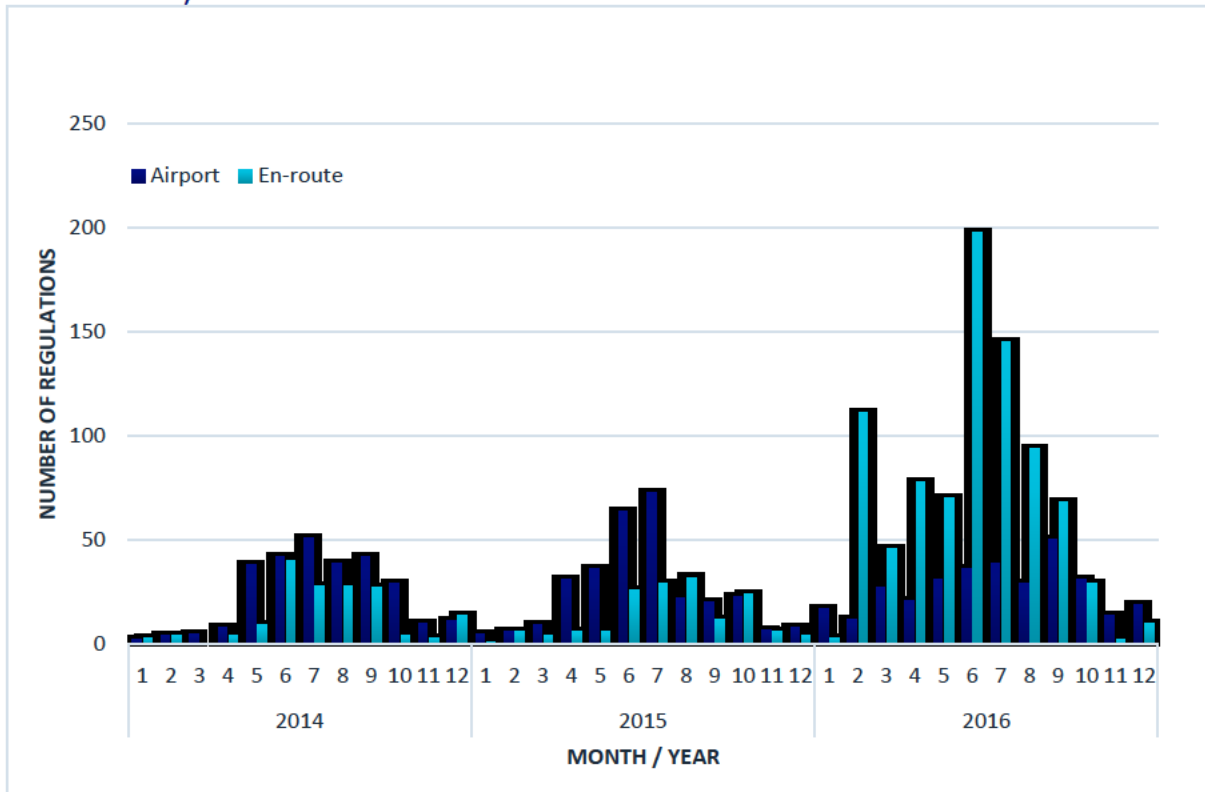
8. It is important to note that regulations applicable to weather are significant, both in terms of frequency and impact on delays. Over the course of 2014 to 2016, weather accounted the majority of all delays, in terms of minutes, caused within the UK. The table below shows that in 2014 and 2015, weather accounted for nearly 80% of all delay generated within the UK. Despite a big increase in NERL attributable delay in 2016 to nearly 600,000 minutes (compared to c. 95,000 minutes in 2015), weather still made up 58% of all delay.

Figure B.2 Weather Delay as a Share of All UK ATFM Delay, by Year

Reason	2014	2015	2016
Weather Delay (mins)	567,366	739,799	1,119,986
Total Delay - All Reasons (mins)	754,048	947,074	1,923,934
<i>Weather Share of Total Delay (%)</i>	<i>75%</i>	<i>78%</i>	<i>58%</i>
NERL Attributable Delay (mins)	71,835	95,521	599,930
Total Delay - Excluding Weather (mins)	186,682	207,275	803,948
<i>NERL Attrib Delay as % of Total Delay (Exc Weather)</i>	<i>38%</i>	<i>46%</i>	<i>75%</i>

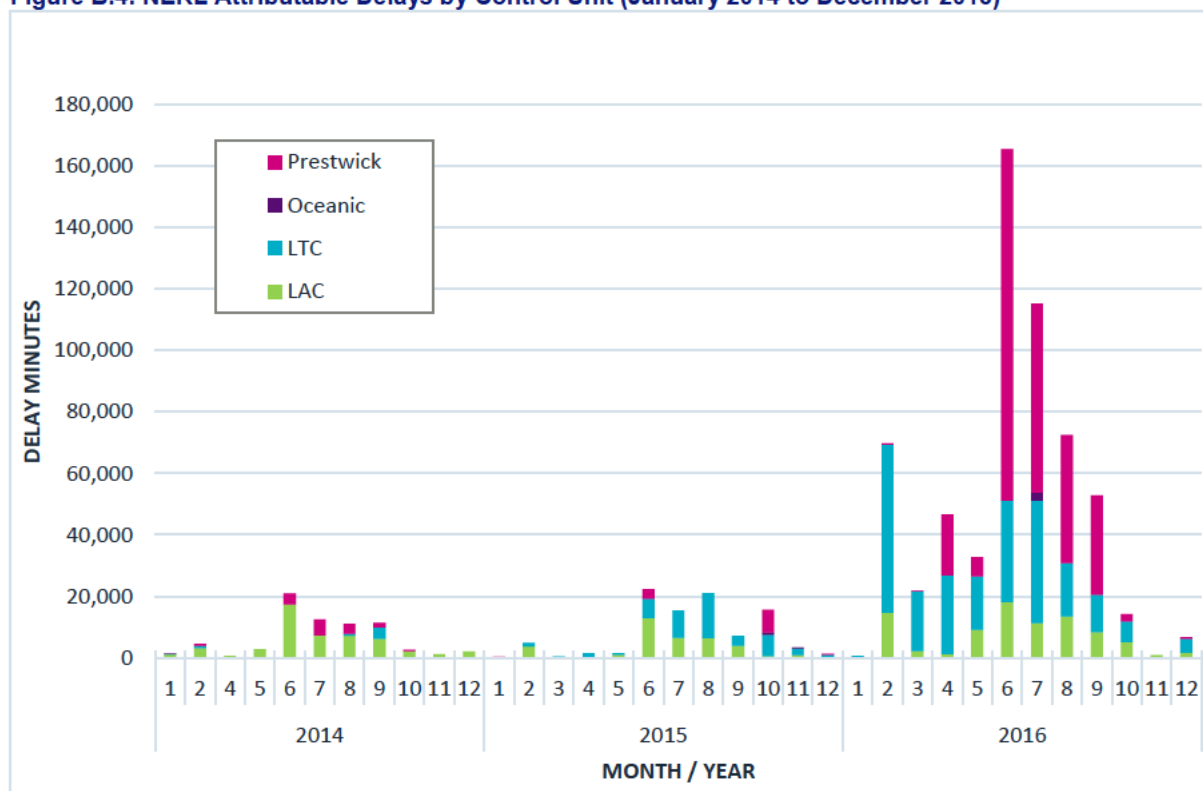
9. For ease of conducting analysis, it is therefore preferable to strip out weather regulations. Clearly, from the chart below which shows the number of regulations excluding those that are weather related, regulations at airports have been relatively stable across the three years in question. However, the increase in en route regulations throughout 2016 is particularly contrasting compared to airport regulations. Of all non-weather delay, 75% was NERL attributable in 2016, compared to 46% and 38% in 2015 and 2014 respectively.

Figure B.3 Monthly Number of Regulations (Excluding Weather) by Month and Location (January 2014 to December 2016)



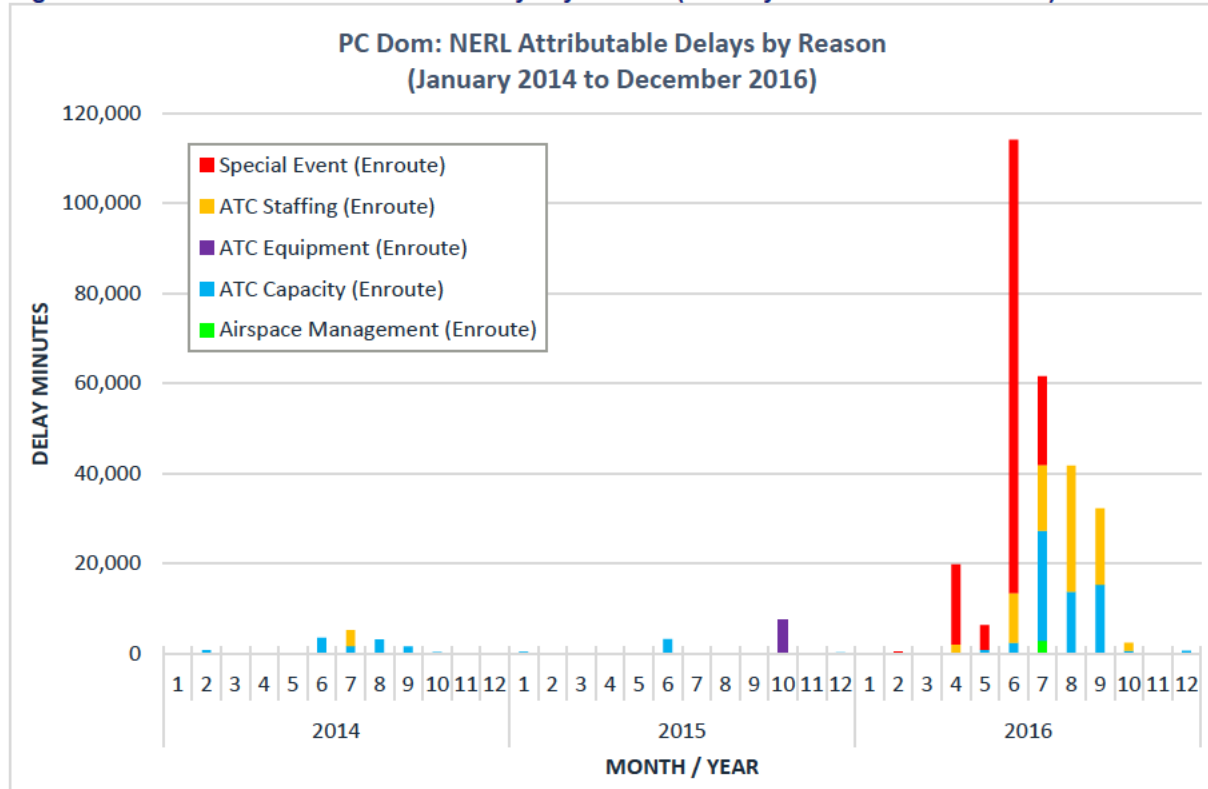
- Looking at NERL attributable delay minutes by NERL control units, Prestwick Domestic and LTC contributed the largest NERL attributable delays.

Figure B.4: NERL Attributable Delays by Control Unit (January 2014 to December 2016)



11. Looking at delays in terms of reason for each unit, the following key observations were noted:
12. Prestwick Domestic:
 - Prestwick Domestic was particularly dominated by special event delays, notably in June, prior to the new iTEC system going live at Prestwick. Regulations were put in place to allow protect the operation and allow controllers to become familiar with the new system, and these regulations were categorised as 'Special Event', recognising that these will have been shared with airports and airlines much further in advance of implementation date.
 - Prestwick Domestic also saw considerable staffing and capacity delays

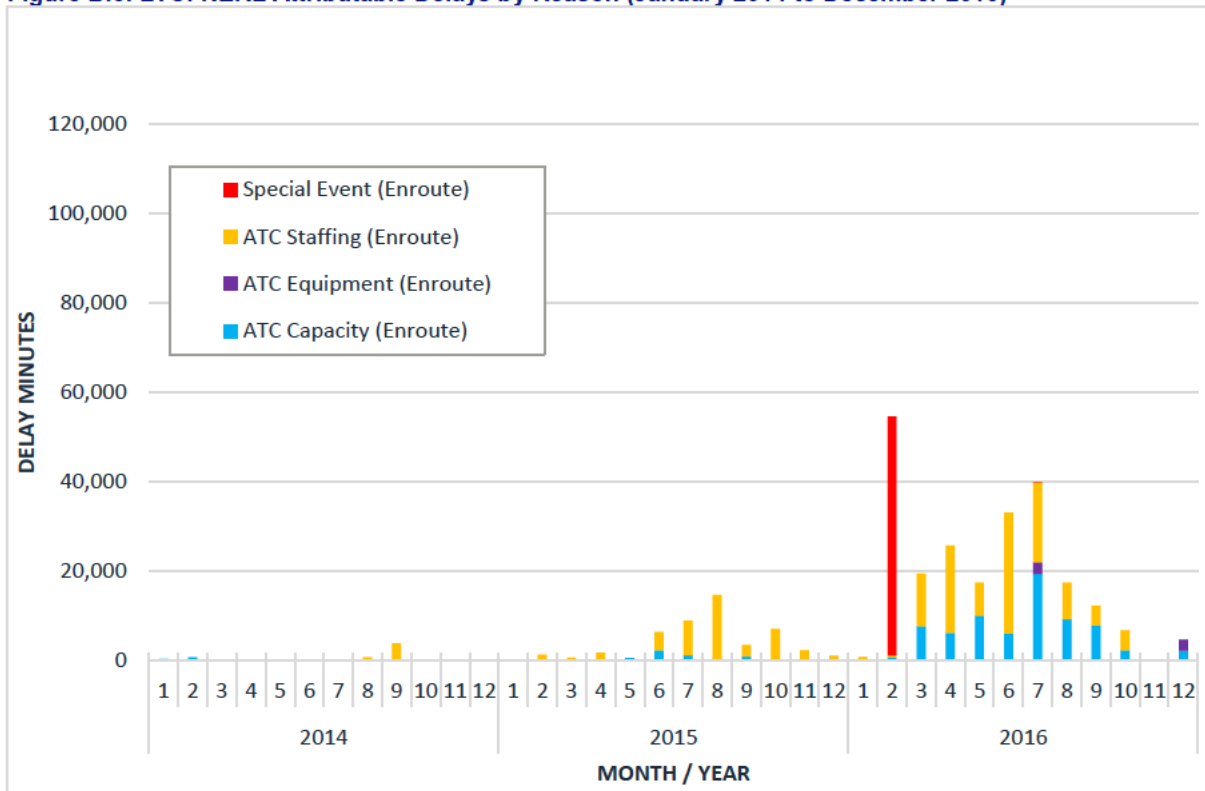
Figure B.5: PC Dom: NERL Attributable Delays by Reason (January 2014 to December 2016)



13. London Terminal Control (LTC):

- In LTC, whilst there was a pick-up in staffing delay in 2015 compared to 2014 where there was relatively little, 2016 saw considerably more staffing delay, particularly over the summer months when demand is highest.
- February 2016 was dominated by a special event, related to the introduction of LAMP Phase 1A airspace change which cause the most delay of any month in 2014-2016. As with the introduction of the new iTEC system at PC, the special event code should exhibit that airlines and airports will have been briefed in advance about the regulations put in place.

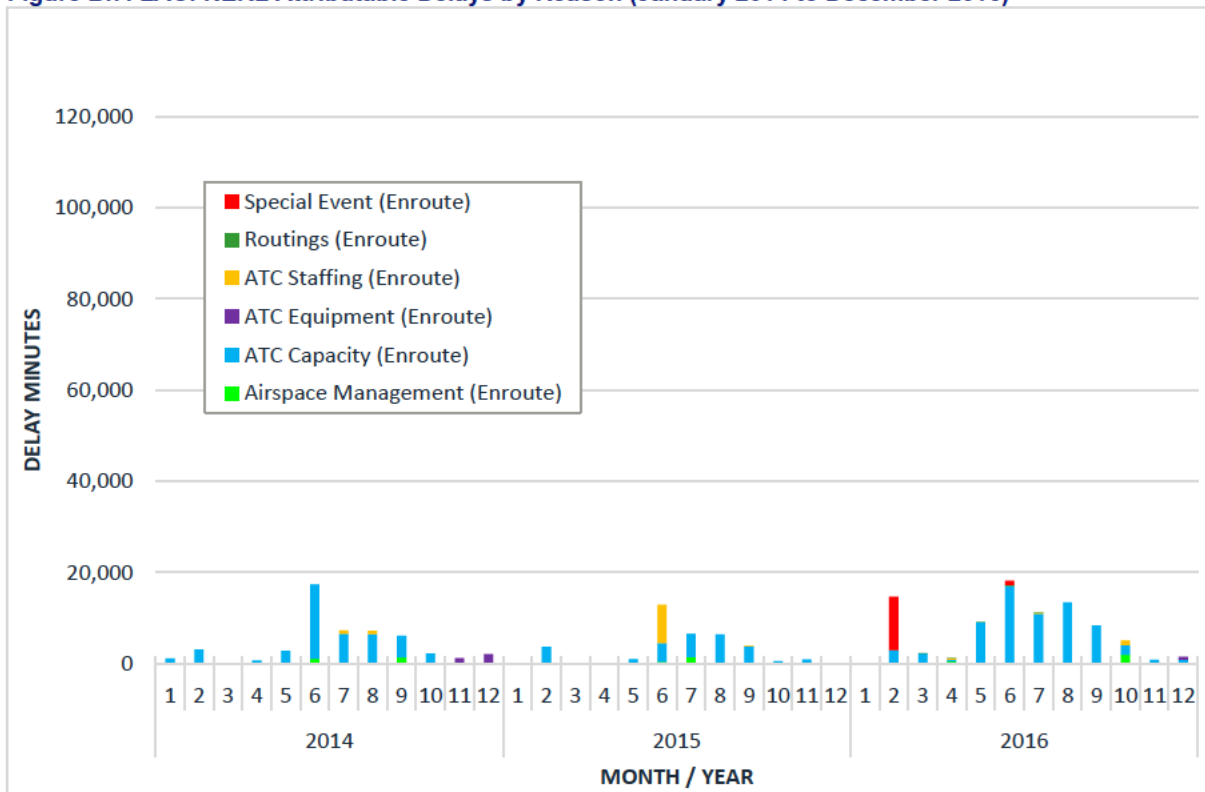
Figure B.6: LTC: NERL Attributable Delays by Reason (January 2014 to December 2016)



14. London Area Control (LAC):

- LAC has seen delays increase over 2016 compared to 2014 and 2015, but to a significantly lesser degree than seen at other units. Mainly made up of capacity delay, delays in 2016 are not significantly different to the previous two years. The uptick in ATC capacity could be related to the introduction of LAMP Phase 1A in February 2016.

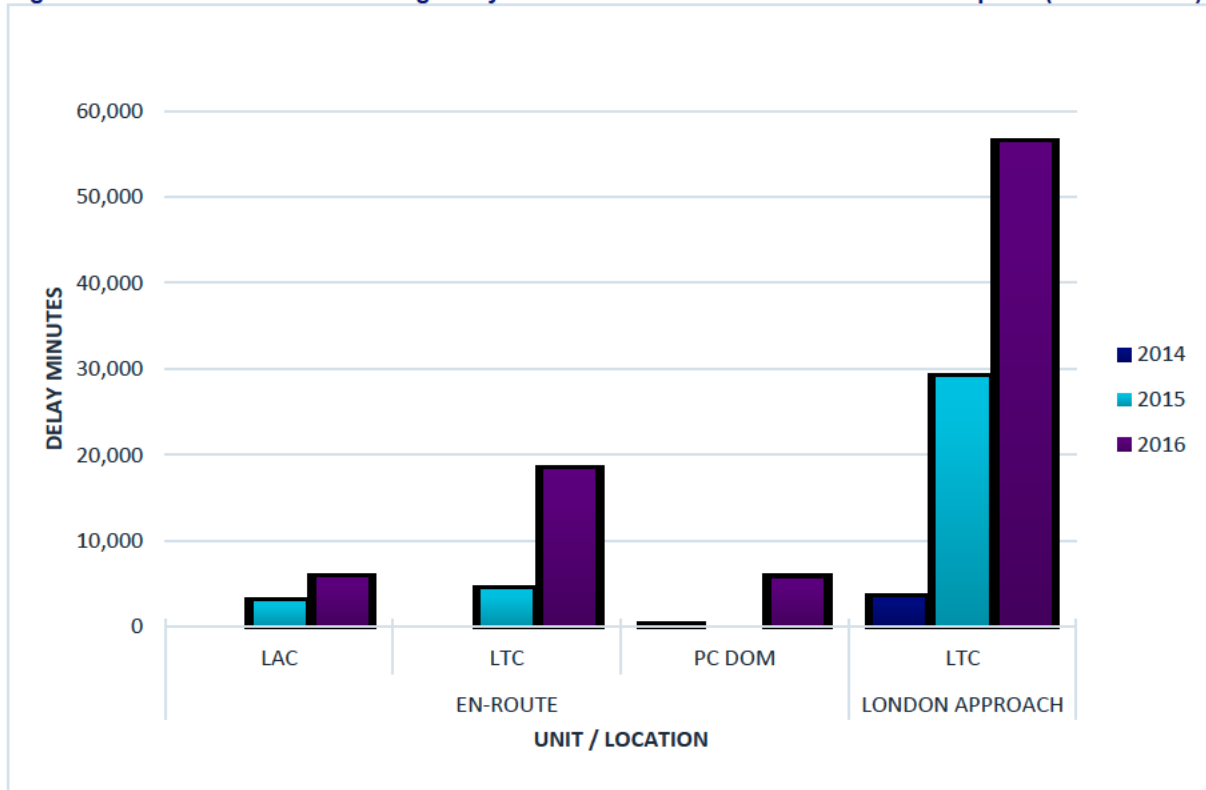
Figure B.7: LAC: NERL Attributable Delays by Reason (January 2014 to December 2016)



Focus on LTC Staffing delays

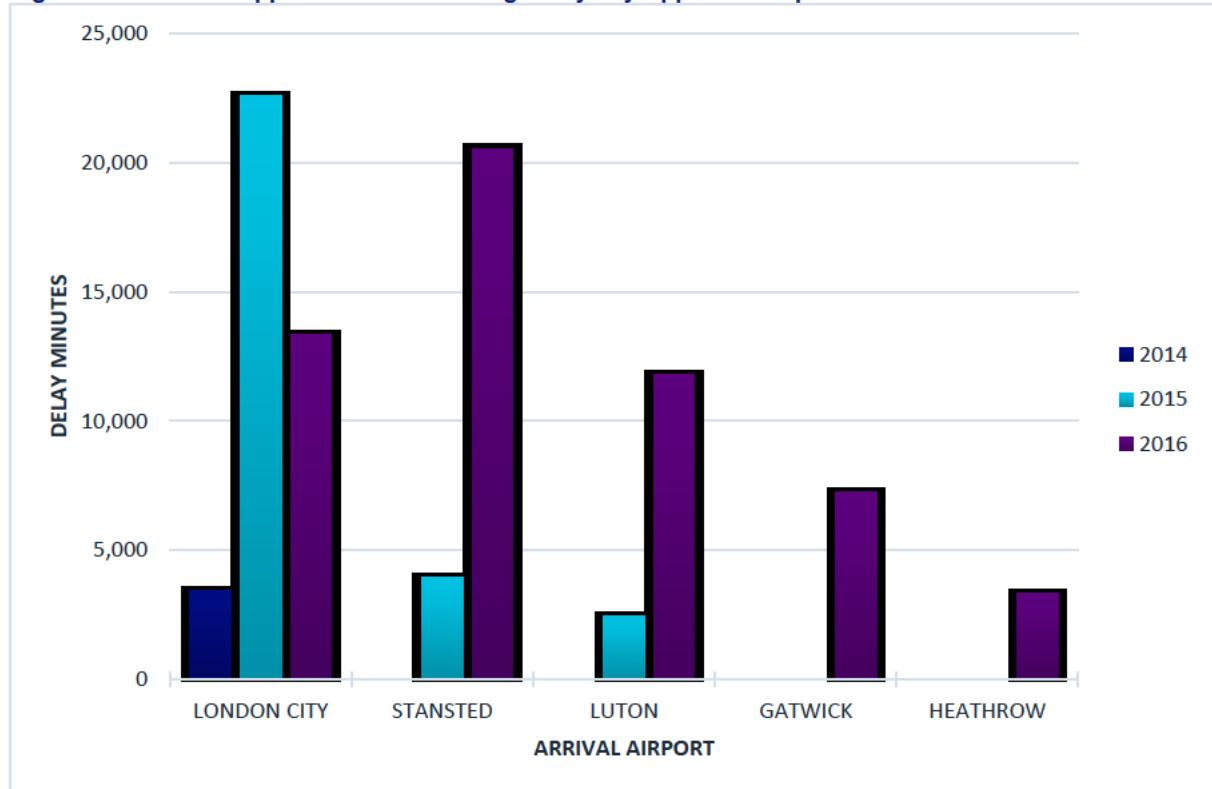
15. Of all NERL staffing delay in 2016, the majority was generated by regulations in LTC, and particularly the approach function for the London Airports. The chart below shows the breakdown of staffing delay by attributable control unit, across 2014, 2015 and 2016.

Figure B.8 Location of NERL Staffing Delay for Inbounds to the Five Main London Airports (2014 to 2016)



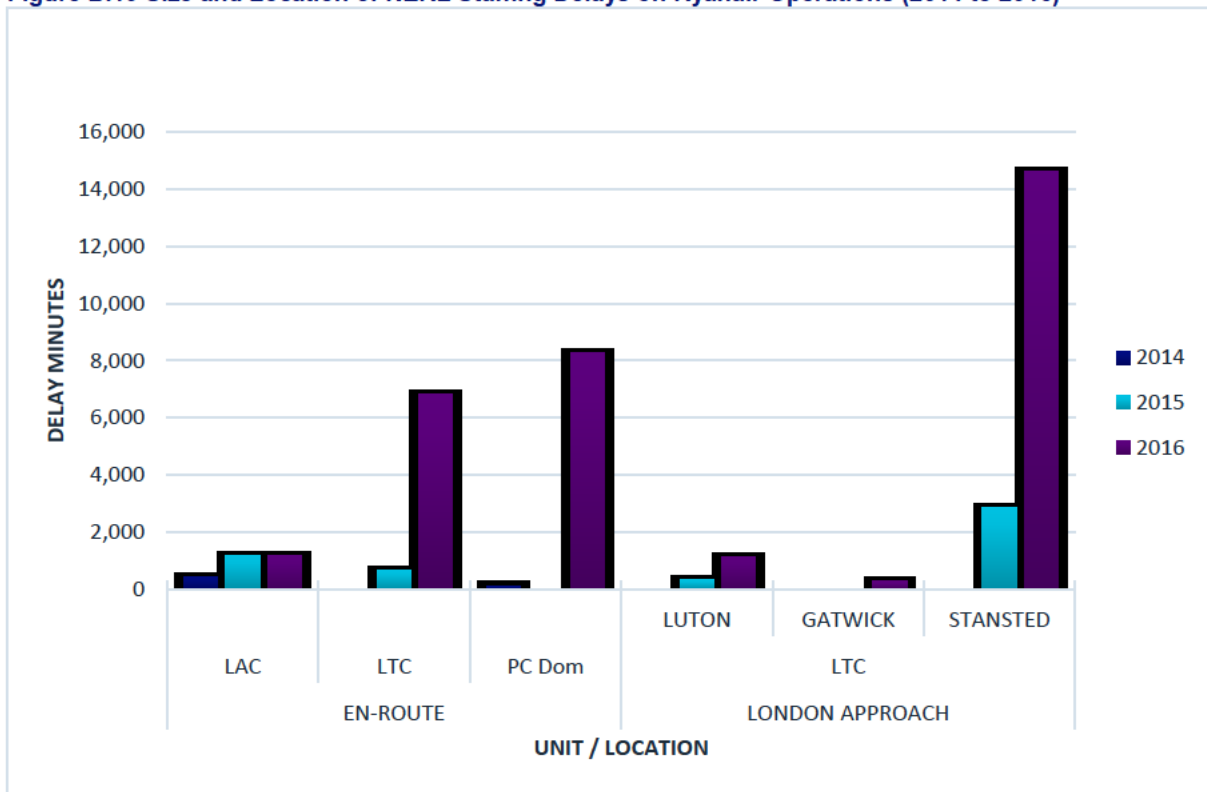
16. Looking at NERL staffing delays in London Approach, broken down further into arrival airport, it is clear that Stansted has been most impacted during 2016. It should be also noted that London City has accrued the most delay over the 2014 to 2016 period.

Figure B.9: London Approach NERL Staffing Delays by Approach Airport



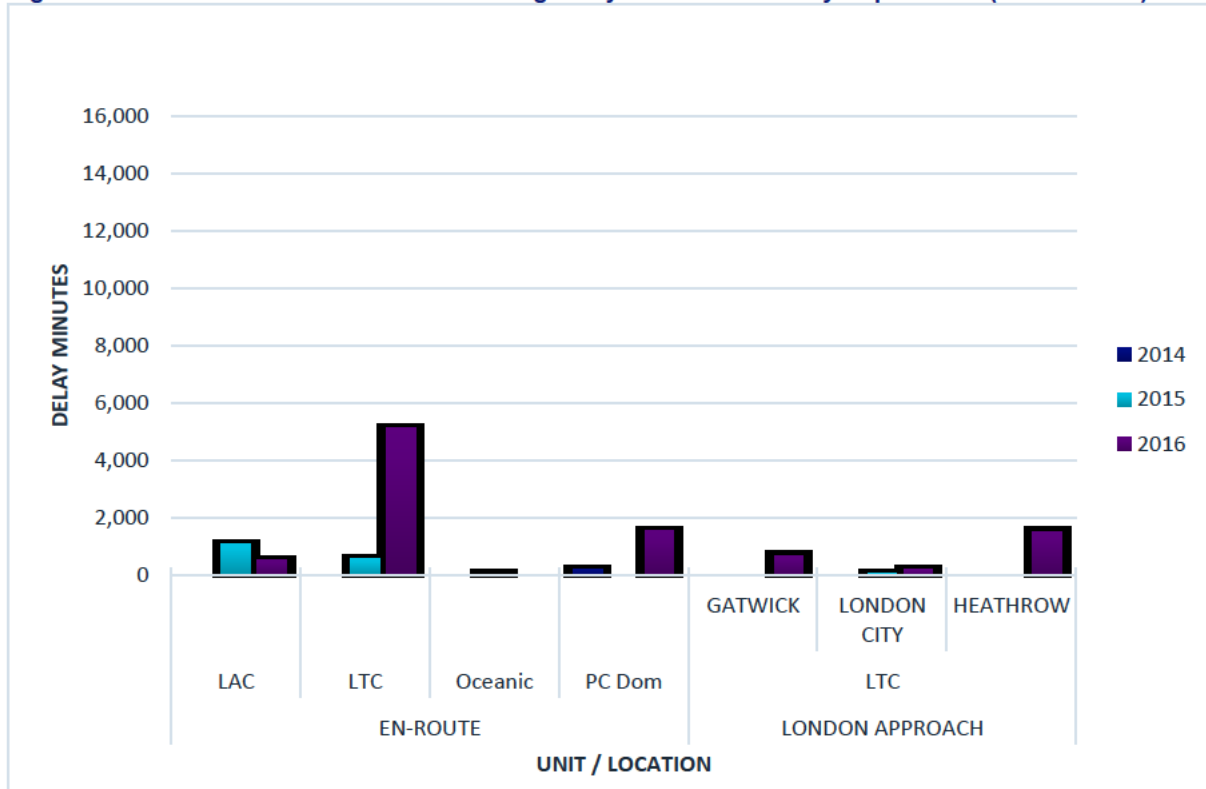
17. Ryanair has a substantial presence at Stansted. Looking at the extent of NERL staffing delays it can clearly be seen from the breakdown in the chart below that there has been a large increase in delays to Ryanair’s operation during 2016 compared to the previous two years, with Stansted Approach being largest single location of delay, accounting for 50% of all NERL staffing delay to Ryanair (other LTC sectors make up a further 25%)

Figure B.10 Size and Location of NERL Staffing Delays on Ryanair Operations (2014 to 2016)



18. Equivalent delays have been considered for British Airways, which has a large presence at Heathrow (approx. 50% of movements), for comparison purposes.

Figure B.11 Size and Location of NERL Staffing Delays on British Airways Operations (2014 to 2016)



19. It can clearly be seen that delays to Heathrow inbounds have been significantly less affected by staffing delays on Heathrow Approach. This is further evidenced by the chart above for British Airways, which highlights only 1,518 minutes of delay were generated to British Airways' operations by Heathrow Approach, which is in stark contrast to the 14,644 minutes of staffing delay to Ryanair's operations due to regulations on Stansted Approach.