

Section 16 advice to the Secretary of State for Transport on extending the length of the notice provisions for termination in the Air Traffic Services licence

CAP 1467

A large, abstract graphic at the bottom of the page consisting of overlapping, semi-transparent shapes in various shades of blue and purple, creating a dynamic, layered effect.

Published by the Civil Aviation Authority, 2016

Civil Aviation Authority,
Aviation House,
Gatwick Airport South,
West Sussex,
RH6 0YR.

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

First published 2016

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

The latest version of this document is available in electronic format at www.caa.co.uk, where you may also register for e-mail notification of amendments.

Contents

Contents.....	1
Executive summary	4
Background.....	4
Forward look	4
Comparison with other regulated industries	4
Impact of a licence extension	5
Broader impacts	6
Chapter 1.....	7
Introduction	7
Reason for conducting the study.....	7
Legal framework for the analysis.....	8
Structure of this document	9
Chapter 2.....	10
Background	10
UK domestic context	10
European context	11
The relationship between UK and EU regulation.....	14
Chapter 3.....	15
A forward look	15
The medium term	15
Looking forward to RP3.....	17
Longer term.....	20
NATS shareholders	23
Changes at an EU level.....	23

Conclusion	25
Chapter 4.....	26
Comparison with other regulated industries	26
Overview	26
Who bears risk?	29
Comparative allocation of risk	31
NATS arguments on comparative disadvantage	32
Disadvantage compared to other UK related industries	32
Disadvantage compared to European ANSP peers	32
Licence exclusivity.....	33
Conclusion	35
Chapter 5.....	36
Impact of an extension to the NERL licence.....	36
Options for amendment.....	37
Summary of findings of Europe Economics.....	37
Impact of an extension of the licence	38
Availability of long term debt	39
Lower interest rates on debt.....	41
Lower arrangement costs on less frequent refinancing	41
Effects on NERL incentives and operating costs.....	42
Conclusions.....	44
Chapter 6.....	45
Broader impacts	45
Conclusions.....	47
Appendix A	48
Potential changes to NERL licence terms of reference	48
Introduction	48

Background.....	48
Drivers.....	49
Objectives and outputs.....	49
Scope.....	50
State of play and forward look.....	50
Cross sector comparison.....	50
Impact on licence efficacy	51
Broader impacts/issues	52
Producing the report.....	52
Implementation.....	54
Required deliverables.....	54
Appendix B	55
Extract from the NERL licence	55
Appendix C	57
Comparison of grounds for early termination (without a long notice period) between regulated industries.....	57
REVOCATION OF LICENCE (EN ROUTE (UK) AREA) AND (EN ROUTE (OCEANIC) AREA) (extract from NERL licence).....	58
Appendix D	61
How NERL would be regulated if notice were ever served.....	61
Appendix E	63
Responses to points raised by NATS.....	63

Executive summary

Background

1. This report sets out the CAA's statutory advice to the Secretary of State for Transport on issues relating to a request by NATS to extend the length of the notice provisions for termination in the NATS (En Route) plc ("NERL") licence. The CAA's advice was given in October 2015.

Forward look

2. The Secretary of State asked the CAA to consider how the industry may be affected by future changes. We concluded that:
 - There is considerable scope for technological and regulatory change particularly at the European level;
 - The obligations on States and ANSPs may evolve in a number of alternative directions which are not easy to anticipate in advance; and
 - The Government may therefore need to be mindful that it does not unwittingly constrain or make more costly actions that it may need to take in the future.

Comparison with other regulated industries

3. We compared NERL's licence with those of other regulated industries and concluded that:
 - There is an evidence based justification for NERL's licence to be shorter than for those industries with much longer investment cycles;
 - NERL is not disadvantaged by its licence terms compared to other ANSPs in Europe;

- Reintroducing exclusivity for NERL is likely to have no practical effect but would give the wrong signals generally by appearing to add an artificial barrier to competition; and
- There may be some benefit in removing the current text in the ‘terms of the licence’ as it relates to a period which has now ended.

Impact of a licence extension

4. Europe Economics were commissioned to consider the financing issues relating to licence duration. They considered the impact the minimum period before which a licence can be terminated has upon the volumes and costs of debt-raising by regulated companies and found the following:
- Regulated companies do raise significant volumes (30 per cent and sometimes more) of debt that matures after the minimum termination notice period. The minimum termination notice period does not act as a hard ‘cap’ on the ability of firms to raise debts;
 - When the minimum termination notice period is longer, firms tend to raise debt with a longer maturity profile — each additional month of extension in the minimum termination notice period means average debt maturity profiles of almost one month greater;
 - Debt that is raised beyond the minimum termination notice period is materially more expensive — the cost of debt maturing beyond the minimum termination notice period is around half a percentage point greater than of debt maturing inside (other things being equal); and
 - When asset lives are longer, this tends to offset the impact of bonds maturing beyond the minimum termination notice period. If assets have a life of more than six years greater than the minimum termination notice period, that entirely offsets the yield elevation of maturation lying beyond the period.

5. We concluded that:
- Despite the difference in yields, the financing benefits to NERL of a 25 year notice period are likely to be relatively modest compared to the overall level of determined costs;
 - The effects on the incentives on operating costs are difficult to quantify but given operating expenditure is six times the cost represented by the return on capital, the Government should be mindful of the effects on these incentives from extending the licence;
 - There may be a good case to extend the notice period to 15 years to reflect the average asset lifecycle and regulatory depreciation period (although there does not seem to be a good reason why the earliest date for termination should currently be extended beyond the current time in 2031); and
 - There does not seem to be a strong case for extending the notice period beyond 15 years.

Broader impacts

6. We considered how extending the notice period of the licence might affect the Government's ability to adapt change particularly in the context of the Single European Sky. We concluded that:
- Extending the licence notice period may be seen to be adding an additional impediment to at least some paths to a more integrated Single European Sky;
 - Should the Government be obliged to change the current licensing arrangements in a shorter timeframe, extending the notice period would be likely to increase the cost of doing so; and
 - It could be expected that it would be less costly to compensate in respect of a 15 year notice period than a 25 year notice period.

Chapter 1

Introduction

- 1.1 This report sets out our advice to the Secretary of State for Transport on issues relating to a request by NATS to extend the length of the notice provisions for termination in the NATS (En Route) plc (“NERL”) licence. The CAA’s advice was given in October 2015.

Reason for conducting the study

- 1.2 In September 2011, following an application from NATS, the Department for Transport consulted on a Government proposal to amend terms 6 and 7 of the licence under which NERL, the regulated business of NATS, operates to:
- i. increase the notice period after which the licence can be terminated from 10 to 25 years; and
 - ii. remove the restriction which specifies that notice may not be served until the 20th anniversary of the grant of the licence.
- 1.3 Taken together, these changes would have had the effect of ensuring that the Secretary of State could not, under terms 6 and 7 of the licence, terminate the licence for at least 25 years following the decision to terminate and serving of notice.¹
- 1.4 The Department for Transport consulted on these issues in September 2011, but did not take action on the duration of the licence at that time.
- 1.5 In November 2014 NATS requested that the Department give a fresh review to this issue.

¹ This would not impact the current powers held by the Secretary of State to terminate the licence in the particular circumstances specified in Schedule 3 of the licence e.g. with the agreement of the licensee, where the licensee was insolvent or had breached key licence duties.

- 1.6 On 22 June 2015 the Department for Transport formally asked the CAA under section 16(1) of the Civil Aviation Act 1982 to provide further evidence and analysis to support a decision on potential changes to the duration and/or structure of the NERL licence. The Terms of Reference for this request are attached at Appendix A.
- 1.7 In order to ensure a robust analysis of the financial issues involved, the CAA commissioned additional input from consultants Europe Economics.
- 1.8 This report is the CAA's advice. The report of the consultants is being published separately.

Legal framework for the analysis

- 1.9 This report is intended to assist the functions of the Secretary of State under Part I of the Transport Act 2000 ("the Act") in his capacity as the licence authority under section 7(7). In performing his licensing functions the Secretary of State is subject to a number of statutory duties which can be summarised as:
- A primary duty to maintain a high standard of safety;
 - Secondary duties to act in a manner best calculated:
 - to further the interests of aircraft operators, aerodromes, and end consumers where appropriate by promoting competition in the provision of air traffic services;
 - to promote efficiency and economy by licence holders;
 - to secure that licence holders will not find it unduly difficult to finance activities authorised by their licences; and
 - to impose on licence holders the minimum restrictions which are consistent with the exercise of those functions.
- 1.10 This report has been prepared with these duties in mind and the CAA has also had regard to the UK's obligations under European legislation.

Structure of this document

- 1.11 The remainder of this report follows the structure set out in the Terms of Reference as follows:
- Background: A summary of the current air traffic services framework and how it may change in the future;
 - Cross sector comparison: A brief comparison of the NERL licence and those of other regulated utility providers;
 - Impact of licence extension: An outline of the likely impacts of the potential changes to the NERL licence including an assessment of the strength of the arguments put forward by NATS for (a) extending the minimum period of notice to terminate the licence and (b) reintroducing licence exclusivity in favour of NERL; and
 - An assessment of any potential broader impacts.

Chapter 2

Background

2.1 This section considers the UK and European contexts for the provision of air traffic services and the relationship between the two. It then sets out the current allocation of risk between NERL and its direct users.

UK domestic context

2.2 NATS is the UK's leading provider of air traffic services. It handles about 2.2 million flights and 220 million passengers in UK airspace. Following the Act, NATS was transferred in 2001 to a public private partnership (PPP) in which the Government had, and continues to have, a 49% stake. The remaining shares are owned by a strategic partner, The Airline Group, with a small shareholding held by LHR Airports Limited² and NATS employees. The Act requires the providers of air traffic services in the UK to hold either a licence or to be exempted from licensing. NERL is the only UK licence holder, all other air traffic service (ATS) providers currently being covered by a general exemption which runs until 2019. In preparation for the licensing regime the operations of NATS were divided into two subsidiaries:

- The en route component and closely associated services which were considered to be effectively a monopoly to be subject to a licence issued by the Secretary of State were allocated to NERL; and
- The component which provided terminal air traffic services at airports was allocated to NATS Services Limited (NSL) with the services being provided under the general exemption rather than under an economic licence, as these services were considered contestable.

2.3 This report is directed solely at the NERL licensed business.

² The owners of Heathrow airport.

- 2.4 The provisions of the NERL licence are made up of terms and conditions. Under the Act, conditions can be modified by the CAA subject either to the agreement of NERL³ or following a reference to the Competition and Markets Authority.⁴ Where provisions are expressed as terms, the Act does not expressly provide for their modification. Licence terms are a matter for the Secretary of State and not the CAA.
- 2.5 The principal terms are attached at Appendix B. The key terms for the purpose of this report are terms 6 and 7. Term 6 states:
- In so far as it authorises the provision of air traffic services in respect of the En route (UK) Area, unless revoked in accordance with the terms of Schedule 3, this Licence shall continue to have effect until determined by not less than ten years' notice in writing given by the Secretary of State to the Licensee following consultation with the CAA, such notice not to be served earlier than the twentieth anniversary of the grant of this Licence.*
- 2.6 Term 7 refers to the En Route (Oceanic) service⁵ in the same terms.

European context

- 2.7 Following the adoption of the first Single European Sky (SES) package in 2004, The European Union (EU) gained competence in air traffic management and air navigation services⁶ and began legislative and regulatory activity in this domain. In 2009, a second SES package was adopted that comprises of five main pillars (performance, safety, technology, airport capacity and the human factor) and updated the existing high-level legislative framework:

³ Section 11.

⁴ Section 12.

⁵ The En Route (Oceanic) service relates to services provided in a portion of North Atlantic airspace in collaboration with the Irish Aviation Authority (IAA) under an International Civil Aviation Organisation (ICAO) mandate. This a relatively small part of the licensed business not covered by the Single European Skies regulations.

⁶ "Air Navigation Services" have a wider definition than "Air Traffic Services". For example they include meteorological services and aeronautical information services.

- the Framework Regulation⁷ establishes the European Commission as the regulator for the civil sector and the Single Sky Committee to assist it in its regulatory activities. It also provides the basis for a performance scheme (including targets) for air navigation service providers;
- the Service Provision Regulation⁸ establishes a common certification system and charging principles for civil ANS providers;
- the Airspace Regulation⁹ which requires States to organise airspace into functional airspace blocks (FABs) to contribute to overall performance of the system. (This has subsequently been moved to the Service Provision regulation as part of the second package of Single European Sky (SESII) legislation; and
- the Interoperability Regulation¹⁰ which establishes basic requirements to ensure that Air Traffic Management (ATM) and Air Navigation and Surveillance (ATM) systems, equipment and procedures operate seamlessly.

2.8 The SES regime thus covers a number of dimensions, some technical, (requiring common standards etc) and some providing a framework of economic regulation (effectively controlling charges and setting standards for safety and service quality through a combination of a performance regulation and charges regulation for fixed five year periods).

2.9 States are required to collectively organise areas of airspace into Functional Airspace Blocks¹¹ (FABs) with the objective of reducing fragmentation and achieving improved performance. The SES

⁷ Regulation No 549/2004:
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32004R0549>.

⁸ Regulation No 550/2004:
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32004R0551>.

⁹ Regulation No 551/2004:
<http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=uriserv:l24034>.

¹⁰ Regulation No 552/2004:
<http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:32004R0552>.

¹¹ These are the currently groupings of the airspace of more than one State e.g. the UK and Ireland have formed a FAB.

Performance Scheme¹² is based around plans at a FAB level setting out targets for safety, capacity (delay), environment (flight efficiency) and cost efficiency for a fixed reference period. The current period known as RP2 (Reference Period 2) started in 2015 and lasts to 2019. Certain targets, such as en route cost efficiency, are set at a charging zone level – in effect State level.

- 2.10 These plans are drawn up by national supervisory authorities (CAA for the UK), adopted by the Member States in the FAB and are required to be approved by the European Commission.
- 2.11 Increasingly, responsibility for safety standards has been shifting to the European Aviation Safety Agency (EASA), while the role of the Network Manager has been conferred on Eurocontrol to provide greater co-ordination to pan-EU airspace management.
- 2.12 Two SES implementing regulations have a particularly direct bearing on economic regulation:
- the Performance Regulation which requires performance plans setting out performance targets for safety, capacity, environment (flight efficiency) and cost efficiency over a five year period; and
 - the Charging Regulation which sets out the principles underlying the cost base for air navigation service charges.
- 2.13 Together these closely resemble a five year price control. The CAA has adapted its approach to the regulation of NERL to align with these requirements.
- 2.14 The joint UK-Ireland FAB Performance Plan for the five years of the second SES reference period (RP2) was submitted to the European Commission in June 2014 with a further addendum in October 2014. The Plan proposed a set of performance targets for safety, capacity (delay), the environment (flight efficiency) and cost efficiency. The Commission

¹² Regulation No 390/2013 (the “Performance Regulation”):
<http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1477297198647&uri=CELEX:32013R0390>.

has since assessed these targets as consistent with relevant EU-wide targets.¹³

The relationship between UK and EU regulation

- 2.15 The economic regulation of UK air traffic services has to achieve the twin aims of meeting statutory duties under the Act and fulfilling the UK's obligations under the Single European Sky (SES) Regulations. If conflict arises between the formal legal requirements, the CAA would expect EU legislation to take precedence.¹⁴
- 2.16 The UK regulatory arrangements pre-date SES but have been adapted to be consistent with EU requirements.

¹³ Commission Decision 2015/348 of 2 March 2015:
<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015D0348&from=EN>

¹⁴ Not all of NERL's business is subject to the SES regime (e.g. the Oceanic service is not subject to SES legislation; and access to infrastructure for Military use is governed under a separate contract).

Chapter 3

A forward look

- 3.1 This section looks forward to anticipate possible changes in technology and regulation where these may have implications for the licensing regime. It considers such changes:
- for the medium term, there is a snapshot from the RP2 Performance Plan (although there may be scope for the investment programme to evolve to reflect new information); and
 - for a longer perspective over 25 to 30 years where there is a wider range of possible future scenarios.

The medium term

- 3.2 The UK-Ireland FAB Performance Plan included a clear forecast of traffic, revenues, operating costs and quantum of capital expenditure in RP2.
- 3.3 In terms of technology, a large part of change is being driven by the technological pillar of SES. The Single European Sky ATM Research (SESAR) programme has developed a number of technological advances which are moving into a deployment phase, based on a European ATM Master-plan. This Master Plan is expected to provide a roadmap for the implementation of technologies in a synchronised fashion to optimise its net benefits. (The longer term aspects of this Master Plan are discussed from paragraph 3.18 below.) In the medium term this will largely bring EU wide services up to an aligned baseline.
- 3.4 In the medium term the investment programme involves:
- a new Flight data processing system; and
 - new common workstations able to support new controller tools and ultimately 4 dimensional flight-trajectory.

- 3.5 In addition, as part of the FAB plan for RP2, NERL planned to implement major technological and airspace planning changes particularly in South-East airspace which were forecast to have very large fuel efficiency benefits to be realised by the end of RP2 (or more likely the beginning of RP3).
- 3.6 In all likelihood there will be a variation in the composition of the programme – NERL are currently discussing with users the possibility of bringing forward some of the new technology and being able to reduce the sustainment spending on legacy systems. Past experience suggests that there may also be variances in the overall spend as the five-year review period proceeds. The current regulatory approach provides a fair amount of protection to the company as the full cost of capital spending including financing is passed through to users. In practice this has tended to be to the benefit of users rather than NERL as the tendency in previous review periods has been to under, rather than over, spend the expected capital expenditure for a review period.
- 3.7 Despite the implementation of the early stages of the SESAR programme the anticipated capital expenditure programme for RP2 appears to be comfortably sustainable. As Table 1 illustrates, the regulatory asset base (RAB) of the UK air traffic services portion of NERL is expected to go down over the course of RP2. The reduction occurs because the investment in each year is less than the regulatory depreciation. For reasons discussed below in paragraph 3.13 this difference arises largely because the regulatory depreciation is high over this period rather than because the capital expenditure is particularly low.

Table 1: Projection of the Regulated Asset Base

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Closing RAB*	1,142	1,077	1,012	964.0	911.0	860.1
Total actual net capital expenditure	128.1	140.7	134.6	113.8	108.8	100.3
Allowed depreciation	-185.2	-195.9	-198.0	-193.1	-180.7	-179.8
Capex minus depreciation	-57.1	-55.2	-63.4	-79.3	-71.9	-79.5

Looking forward to RP3

- 3.8 There are some risks to NERL of a legal and political nature because Europe is looking for consistency while the UK approach has been more “bespoke”, dealing with the unique set of circumstances arising from NERL’s private sector status and the legacy of previous regulation. There is also a step change in cash flow expected in 2021 as a result of the approach taken to depreciating the assets which were transferred as a result of the Public Private Partnership.
- 3.9 While there has been considerable effort to adapt the UK regulatory regime to be consistent with SES, there are some differences from the way it is applied in other Member States. These have largely arisen as a result of the legacy of regulation of NERL for ten years or so before SES came into effect and the fact that NATS is financed on a fully commercial basis. The UK has therefore tended, where appropriate, to use the remaining flexibility in the regulations to avoid outcomes which are unnecessarily inconsistent with NERL’s financing and the legacy incentive regimes to promote cost efficiency and other user interests.
- 3.10 In this context, it should be noted that the statutory duties under the Transport Act 2000 for both the Secretary of State and the CAA include:

- to secure that licence holders will not find it unduly difficult to finance activities authorised by their licences.¹⁵

3.11 There is no equivalent provision in SES regulations. It should be noted that the degree of separation of NATS from government and its need to operate subject fully to private sector financial disciplines are unique in the EU. This form of requirement has, therefore, not been relevant generally to other States and ANSPs, but can be very significant for NATS. (It was critical, for example prior to SES, in the period following the events of 9/11 when falling traffic put NERL's finances under strain and required a re-opening of the price cap).

- The depreciation and cost of capital elements of charges are based on a RAB which is indexed by inflation each year rather than on the nominal valuations in the statutory accounts under International Accounting Standards. This RAB approach allows a consistent approach before and after the implementation of the SES Performance Scheme, avoiding double or under-recovery and is consistent with the approach generally adopted for UK utility regulation. Elsewhere in the EU an approach more closely linked to International Accounting Standards is generally applied;
- The CAA applies an approach to depreciation based upon this RAB based approach. This further diverges from the statutory accounts in that:
 - The value of the assets (in real terms) transferred to the Public Private Partnership in 2001 is all being depreciated on a straight line basis over 20 years from the date of that transfer;
 - New investment has been depreciated over the average economic life (15 years) of all assets from the point of spend. The more generally applied approach in Europe is to depreciate from the point of each asset coming into beneficial use and to be based on the life of individual assets; and

¹⁵ Section 1(2)(c) for the Secretary of State and section 2(2)(c) for the CAA.

- The CAA has applied an approach to pensions based on cash contributions (subject to UK pension legislation and practice) rather than an accounting approach based on International Accounting Standards. Although this does not change the ultimate pension liabilities as they fall due, it does tend to be more prudent and eliminates the need for accrual for differences between cash and accounting costs.

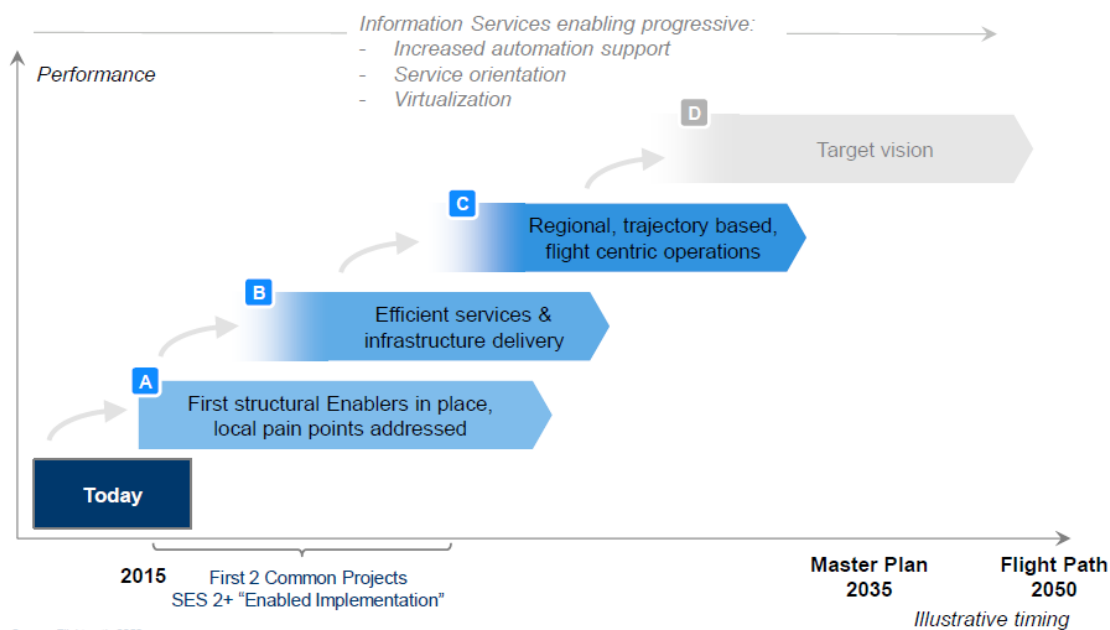
- 3.12 The UK has been explicit in these differences in its component of the UK-Ireland FAB Performance Plan. We consider that they fall within the current provisions of the EU regulations. However, it seems highly likely that, in future, the degree of latitude to apply the regulations in this way may be reduced – either by the EC taking a narrower interpretation of best practice in emerging guidance under the existing regulations, or by further amendment of the Regulations.
- 3.13 As alluded to above, the value of the RAB at the time of the Public Private Partnership transaction in 2001 is being depreciated on a straight line basis over 20 years. As a consequence there will be a significant reduction in annual depreciation 20 years later (i.e. from 2021). Absent any change to the profile of depreciation, this could clearly represent a significant downward step in the internally generated cash-flow for dividends and investment from that point onward.
- 3.14 This approach has been neutral in terms of the value of the business. However, it has had the effect of deferring the return of value to shareholders from the early years of the PPP to the latter part of this 20 year period. In recent years NERL has been paying relatively large dividends based on this revenue (rather than paying down debt which would have taken gearing down below efficient levels). NERL should be anticipating this change in five years' time and managing shareholder expectations. It may also place greater emphasis on raising additional debt (or equity) finance in line with any subsequent net increases in the RAB.

Longer term

- 3.15 Change tends to be implemented relatively slowly in air navigation services. This largely reflects the fact that it is a safety critical activity based on the co-ordination of international standards in the air and on the ground. Nevertheless, the technology and methods of operation of the industry are expected to change very significantly over the next 25 to 30 years – and to a large extent a vision and Master Plan already exist at a European level to allow this to proceed in a coordinated way.¹⁶
- 3.16 It is less clear how the organisation and governance structure of European airspace will change. Will the European project converge on a true “Single European Sky” with a single en route service provider, or a reduced number of providers operating at FAB level? Or will at least some of the intrinsic economies of scope and scale be achieved within a less centralised framework of separate service providers but with a greater degree of network coordination and technological collaboration? In either case, will there be a move towards service providers developing more efficient ways of working by commercial agreements, industrial partnerships, mergers and acquisitions or will it continue to be driven by State agreements or even collectively at the EU level? A large part of any consideration of NERL’s licence duration will depend on the extent to which the Government wants to either retain flexibility to discharge its future international obligations and how much it is prepared to constrain its future options (or to risk making them more complex and expensive to achieve).
- 3.17 The ATM Master Plan is based on European air navigation services moving in phases from the current situation of relatively limited co-ordination, inefficient routings based on fixed route structures and a high level of human intervention to a system where information is shared between service providers, conflicts are resolved as part of the planning

¹⁶ Six major Air traffic management “functionalities” are now mandated in the SESAR “Common Project Regulation” for the coming decade, with further common projects likely to emerge in the next few years.

process and aircraft can fly the optimum four dimensional flight path with minimal tactical intervention. Illustrative timing is envisaged as follows:



3.18 For users this is expected to lead to benefits in terms of safety, capacity, flight efficiency and cost efficiency but it will involve considerable additional equipment on aircraft. (The ATM Master Plan estimates that the capital costs to users are at least as great as the capital costs to ANSPs and airports). There are risks to the programme, not least because the benefits are heavily dependent on a high take up by users and for some users there will be no net benefits or the greatest net benefits would favour those users that make the investment at the last possible moment.

3.19 The ATM Master Plan identifies the cost to EU ANSPs and the Network Manager of deploying SESAR for the baseline and the first step (up to c2024) of up to €6.5 billion (2012 prices). This of itself does not appear to be a sum which would cause a massive uplift in NERL's RP3 capex plans because:

- NERL would only represent a small percentage (perhaps say 10%) of the overall cost;
- A large part of the core supporting systems are already expected to be commissioned as part of the RP2 programme; and

- Even assuming that this will need to be supplemented by sustainment of various existing communications, navigation and surveillance systems, this does not seem large compared to an existing NERL capital investment programme of about £120 million p.a.

3.20 A major change programme of this type is, however, subject to significant risks compounded by its dependence on a wide range of parties and based on international collaboration. Examples of risks are as follows:

- New IT systems generally have a poor track record of being delivered on time and within budget;
- Large parts of the programme are sequential so that delays in one component are likely to have effects on subsequent steps;
- There may be high industrial relations risk where elements appear to deskill traditional roles; and
- Benefits may be delayed by slow implementation by other ANSPs and users.

3.21 An important element of risk will be the view taken of nugatory investment and cost over-runs for the purpose of setting charges. In its RAB based approach the CAA has applied a very low risk approach for NERL, which allows the ANSP to recover (both a return of and a return on) any investment which has been adequately consulted upon with users and efficiently managed. The CAA has not made write-offs from the RAB based on whether the capital investment is subsequently used and useful or where new information suggests that the investment could have been achieved cheaper. (The CAA has set the cost of capital at each review conscious that it was applying a low risk approach to projects.) Going forward, the EC may turn its attention to guidance in this area which could conceivably reach a different position to the CAA approach.

3.22 The ATM Master Plan can be expected to lead to a greater weight on systems. This will:

- Tend to make ANS more technology-based than human-based (air traffic control officer); and
- Weight the basket of assets in use even more towards categories with relatively short economic lives for depreciation purposes.

NATS shareholders

- 3.23 While there is no explicit Government guarantee to NATS, there is clearly a perception on the part of rating agencies and lenders that lending to NATS has a somewhat lower risk than an analysis of the fundamental financial ratios alone would suggest. NATS rating tends to be better than it would be based on the stand alone fundamentals of the business.
- 3.24 There has already been a change in the nature of the original characteristics of the PPP. A significant milestone may have been reached in 2013 with the sale of shares in the Airline Group to the Universities Superannuation Scheme (USS) – a normal return seeking shareholder rather than a stakeholder with an interest in the provision of ANS. A further milestone would come were the Government to sell off a substantial portion of its shares and/or changed the shareholder agreements etc so that it had less reserve powers over how the service was run.

Changes at an EU level

- 3.25 There is clearly a presumption at the EU level that there is a large prize in terms of economies of scale and scope from achieving a Single European Sky. (It has, however, been difficult to demonstrate this, based on the cross sectional performance of large and small service providers in Europe but the EC has placed strong reliance on evidence from comparing the low costs of the US model, with its single service provider, with the high costs of the many European service providers in aggregate.)
- 3.26 Member States appear to have been more reluctant than the Commission to move a Single European Sky agenda forward quickly so the current approach to achieving scale and scope economies has been limited to:

- A common set of system architecture and shared information (SESAR);
- A single Network Manager at the EU level;
- Regional groups of States/ANSPs operating functional airspace blocks (FABs);
- Groups of ANSPs forming alliances to develop and procure equipment or to support cross-border airspace improvements; and
- The EU performance and charging schemes.

3.27 The EC appears to be keen to make swifter progress than has hitherto been achieved and has looked for more European integration. Within a 25 to 30 year timeframe there is at least the possibility that the EU institutions may finally end up with a solution which really does mean a Single European Sky – with a single service provider directed or regulated from the centre. (The Commission would of course have to overcome any reluctance from Member States but this would not seem an impossible outcome over such a long timeframe.)

3.28 In such circumstances, it may not be tenable for the UK to argue for a transition period which is 25, 15 or even 10 years before implementing a more integrated Single European Sky based on the notice period in the NERL licence. (This issue is considered in Chapter 6.)

3.29 Another thread could be the greater commercialisation of ANSPs as States reduce their role in what is a self-financing activity. This could lead to air traffic control being taken out of public ownership or at least being taken off government “balance sheets” and required to obtain finance without support. Such a commercial model could provide a more organic means to achieve economies of scope or scale with mergers and acquisitions leading to larger corporate entities which could possibly operate within a franchising type of model for airspace. Clearly, in this situation the UK may not want to insulate NATS from normal commercial pressures to efficiency, or put NATS at a disadvantage in bidding for outside business, because its licence notice periods were overly long – and could be perceived as protectionism.

- 3.30 There is also the prospect of more immediate changes to the EU regime affecting investor and financier sentiment. It seems likely that a much stricter and more consistent approach may be applied in future reference periods even within the current regulations. In particular this might require:
- Asset values and cost of capital to be based on a nominal rather than a real approach. This would bring forward the remuneration of assets (so users would pay more upfront) and the amount of investment at risk would be reduced particularly towards the end of the asset life. This will be associated with greater inflation risk; and
 - A more prescriptive approach to depreciation based on individual asset lives rather than current CAA approach of depreciating all new assets over the average life. Applying individual asset lives would put the recovery of long life assets at risk for longer but would shorten the recovery for short life assets.
- 3.31 Such constraints may present issues in the context of regulating NERL because they would change retrospectively the basis on which investment had been made. From the wider EU perspective, however, it might be perceived as creating transparency and consistency between States and ANSPs.

Conclusion

- 3.32 All of the above suggests that there is considerable scope for technological and regulatory change, particularly at the European level.
- 3.33 The obligations on States and ANSPs may evolve in a number of alternative directions which are not easy to anticipate in advance.
- 3.34 The Government may therefore need to be mindful that it does not unwittingly constrain or make more costly actions that it may need to take in the future.

Chapter 4

Comparison with other regulated industries

- 4.1 This section presents high-level benchmarking across other regulated sectors assessing how NERL's current licence, and the options considered for changes to it, compares to those of other regulated utility providers. It presents an analysis of:
- whether NATS is disadvantaged as compared to the financing outcomes achieved in other sectors, taking into account inherent differences between sectors; and
 - the degree to which this can be attributed to differences in the length of licences / notice periods as opposed to other relevant factors within the sector which can affect financing outcomes.
- 4.2 In the next chapter, the CAA draws upon the more detailed study by Europe Economics, commissioned alongside this report that analysed the effects of the minimum termination notice period on financing.

Overview

- 4.3 We have compared NERL to other regulated sectors against the following measures, as set out in the terms of reference for this study:
- Length of licence/notice period;
 - Grounds in place for early termination;
 - Level of regulatory control placed over the business;
 - Contingency mechanisms in place for poor performance/failure;
 - Ownership of assets - outright, lease, or franchise;
 - Lifespan of relevant assets;
 - Methods of infrastructure financing; and
 - Level, if any, of HMG shareholding.

4.4 The comparator regulated industries are those regulated by price control and subject to a licence regime. Table 2 summarises the key characteristics against these factors.

Table 2: Comparison between NATS and other regulated utility providers

	Length of licence / notice period	Grounds in place for early termination	Level or regulatory control placed over the business	Mechanisms in place for poor performance / failure	Ownership of assets – outright, lease or franchise	Average lifespan of relevant assets (regulatory assumption)	Methods of infrastructure financing	Level, if any, of HMG shareholding
NATS	10 years' notice (after 2021)	Yes	High	Yes	Owned	15 years	Reinvestment and debt	49% (+ Golden Share)
Airports (Heathrow)	No provision	Yes	Medium	Service quality rebates	Owned	>25 years	Reinvestment and debt	None
Network Rail	10 years' notice (after 2019)	Yes	High	Licence requires a management incentive plan (MIP)	Owned	Network depreciation over remaining life currently 30 years	Primarily debt supported by financial indemnity by HMG until 2052 with some retained earnings	100%

Electricity Distribution	25 years' notice (after 10 years fixed)	Yes	High	Licence requires distribution losses strategy	Owned	Regulatory depreciation 45 years going forward (20 years on existing assets with 8 year transition period)	Reinvestment and debt	None
Electricity transmission	25 years' notice (after 10 years fixed)	Yes	High	For outages	Owned	Regulatory depreciation 45 years going forward (20 years on existing assets with 8 year transition period)	Primarily debt (large bond component) and reinvestment	None
Gas transmission	25 years' notice (after 10 years' fixed)	Yes	High	Statutory compensation to customers under Gas Act 1986	Owned	Regulatory depreciation 45 years	Reinvestment and debt	None
Water	25 years' notice	Yes	High	For leakage	Owned	>25 years	Primarily debt (high gearing) with reinvested profits	None

4.5 A further breakdown of the grounds for early termination (without the long notice period) is set out in Appendix C.

4.6 While the NERL licence is towards the bottom end of the spectrum in terms of notice required, the Network Rail notice period is also only 10 years. To set against this, NERL's assets have a shorter average lifespan than the other mainstream utilities. NERL has only some of the characteristics of a typical network utility. It has an obligation to supply and, in practical if not legal terms, exclusive rights to provide services over a network under licence.¹⁷ Its monopoly power is therefore relatively strong for en route services. However, it has certain characteristics which make it far less like a water, gas or electricity network company. For example:

- It is relatively labour intensive;
- Its asset base consists primarily of systems and equipment rather than built infrastructure. The average economic lives of its assets are therefore significantly lower than most utilities; and
- It is subject to changing technology and possibly changing institutional arrangements – subject to strong direction from the EU.

4.7 In some respects the average life of its assets and a need for future flexibility have more in common with a public broadcasting or Lottery franchise (although of course NERL is subject to a paramount safety imperative not present in those other industries). There may therefore be significant disadvantages in locking NERL into a long notice period.

Who bears risk?

4.8 Before making comparisons of NERL's licensing regime with other industries it is important to consider how much of the business risk is borne by the company and how much is effectively borne by its users as

¹⁷ While NERL's exclusive rights to provide services in UK airspace under the licence came to an end in 2011 the nature of ensuring a safe service means that it is currently unlikely that a competing service provider could be licensed to provide the air traffic management function in the same airspace covered by the NERL licence. European legislation also assures exclusivity as *NERL is designated to provide ATS under Art 8 of the Service Provision Regulation and this is done "on an exclusive basis within specific airspace blocks" (Art 8(1))* – see 4.18 below.

this will be an important distinguishing factor over both the medium and long terms for both licensing and financing.

- 4.9 To the extent that the expectations of traffic, operating and capital expenditure are reset at each review period, long term risk in NERL's business is borne by users through the variation in charges between reviews.
- 4.10 Within a review period there is likely to be a variance of some kind in all these elements. The issue here is who will bear each component of risk for this period.
- For traffic, the Charging Regulation requires a structure of risk sharing between the service provider and airspace users with a symmetrical structure. This effectively caps NERL's exposure to volume risk;
 - For operating expenditure, the Charging Regulation allows some deferred pass-through of unforeseen variances in specified costs (referred to as costs exempt from cost-sharing). For NERL, these relate to changes in pension contributions due to unforeseen change in market conditions and radio spectrum costs (as a new cost required by law). The Regulation also eliminates NERL's risk arising from unanticipated variances in the Consumer Price Index (CPI) and exchange rates. Otherwise the risks of other opex cost variances are borne by NERL; and
 - For capital expenditure, the CAA's approach to the value of the RAB means that the return of and return on capital expenditure is fully adjusted for variances between actual spend (including financing costs) and forecast spend.
- 4.11 NERL therefore has a fair degree of protection from business risk and this is compared to other industries below.

Comparative allocation of risk

4.12 The following table provides a comparative assessment of the relative risks borne by particular regulated industries.¹⁸

Table 3: Comparative table of regulatory protection

	Uncertain demand	Uncertain input prices	Uncertain delivery/ productivity/ efficiency	Defined benefit pension schemes	Stranded network risk	Regulatory risk	Political risk
Scope for regulatory protection	Demand risk can be transferred to consumers	Input price might be mitigated by using specific price indices	A positive feature of an incentive regime	Scope for consumer funding of pension scheme deficits	May be mitigated in part by careful review of asset life policy	Formalise regulatory mechanisms and principles	Enforceable government guarantees and long term contracts
CAA Airports	★★★	★	★	★★★	★★★	★☆	★★★
CAA NATS	★★☆☆	★	★	★★☆	★★☆	★☆	★★★
Ofcom	★★☆☆	★☆	★☆	★★★	★★★	★☆	★
Ofgem	☆☆☆	★	★	☆☆☆	★★	★☆	★★★
Ofwat	★☆	★★☆	★	★☆	★★☆	★☆	★☆
Key:	★ = risk to which investors in a regulated firm are exposed			☆ = risk against which investors in a regulated firm are protected by regulation			

Source: CAA based on discussions in UKRN

4.13 We believe that NERL is relatively protected from traffic and pension risk. It has some protection from the risks of stranded assets (because regulation effectively remunerates the capital sums committed). It does, however, have a certain amount of political risk, particularly in the European context where the regime may continue to be subject to further revision for successive review periods. By its nature there may be a limit to how much this can be mitigated by the UK government or regulator. Nevertheless, on balance, we therefore consider that NERL is fairly well protected from the full weight of business risk with significant risks being allocated to its customers through economic regulation.

¹⁸ This is a summary of comparative work in progress by the UK Regulators' Network (UKRN). It is not definitive and may be subject to further modification.

NATS arguments on comparative disadvantage¹⁹

Disadvantage compared to other UK related industries

- 4.14 NERL has argued that it is at a disadvantage to other regulated utilities pointing out that water companies have had their notice periods extended from 10 years to 25 years.
- 4.15 We would observe that NERL is not alone in being subject to a 10 year notice period – Network Rail is also subject to 10 years. Moreover, the average asset lives and regulatory depreciation period of NERL's assets are very short (15 years) compared to the values typical in the water and power industries (45 years+). We do not consider it unreasonable that NERL's notice period is shorter.
- 4.16 Nor does it seem to be unusual for the notice period to be shorter than the average asset lives. For example, many assets in the energy and water sectors are much longer than 25 years. It should however be noted that in these industries both the asset lives and notice periods are longer than the typical periods for bond finance and so the fact that the asset lives are longer than the notice period may not have a material effect on their ability to attract long term debt finance. (In NERL's case, the argument for extending the licence notice period to 15 years to reflect its own investment cycle may be stronger than any arguments based on a direct comparison to notice periods for other regulated utilities.)

Disadvantage compared to European ANSP peers

- 4.17 NERL has argued that it is at a disadvantage to other air traffic service providers and particularly its European peers in that its period of notice is shorter than its investment cycle. It argues that this creates a systemic and inappropriate inefficiency and puts NERL at a disadvantage when discussing collaboration or potential future development with its peers.

¹⁹ The individual points raised by NERL in its letters of September 2011 and Nov 2014 are addressed in Appendix E.

- 4.18 This is an argument that we find difficult to recognise in practice. There are a range of situations in Europe but we would see the situation as generally characterised by:
- much closer government ownership and control of service providers; and
 - no clear equivalent of the NERL licence setting out the rights and obligations separate from government.
- 4.19 Under such arrangements we believe that there is far more flexibility elsewhere in Europe for governments to remove management, enforce a transfer of ownership, or otherwise change the way that the service is provided. Subject in some cases to enacting the appropriate legislation etc., it would be conceivable to make these changes in a very much shorter timeframe than a ten year notice period. (It could be argued that this is precisely what the UK government managed to do in transferring NATS in public ownership to the PPP subject to a licence etc.)
- 4.20 There remains the possibility that other ANSPs in Europe, as bodies owned and managed by the State, have full political and financing support from their governments. This whole package of the state effectively bearing all the residual risk of joint ventures may make them more attractive partners. However, any imbalance between NERL and other European partners is fundamental to private vs. public ownership. It is therefore unlikely to be changed significantly by a change in the terms of the licence.

Licence exclusivity

- 4.21 The licence stipulated that the Licence to NERL would be exclusive in respect of the Core Services (En Route, Oceanic, Advisory Control and London Approach) for the first 10 years after the coming into force of the licence. This exclusivity lapsed in 2011. NERL has argued that this had been to avoid an open ended exclusivity rather than a rational evaluation that a non-exclusive model would become a reality. It argued that: in practice, developments in the industry have made a model of non-

exclusivity highly unlikely, if it were practicable because SES regulations require exclusive designation of a single service provider for each distinct block of airspace. NERL admits that these rationales have an undeniable logic which can be explained to credit rating agencies, lenders and investors but they argue that ideally they would prefer the DfT to address this issue at the same time as the term of the licence.

- 4.22 The CAA agrees that there continues to be a safety and European logic for only a single service provider to provide an air traffic management service in the same airspace at the same time. The issue is effectively whether these other requirements should be supplemented by a further term in the licence to ensure that they continue to do so should these other considerations no longer apply.
- 4.23 NERL appears to concede that the fact that there is practical exclusivity is understood by its financial stakeholders so the effect of adding another layer in its licence seems likely to have little or no effect on NERL's ability to finance.
- 4.24 Nevertheless, we believe that in reintroducing exclusivity into the terms of the licence, which may have effect for an almost indefinite period into the future, there is at least the possibility that technology may change and that the licence would become a constraint when there was no other continuing logic for NERL to have exclusive rights. We are not suggesting that this is a probable outcome, certainly in the near future, but it may be a possible option should the licence continue in near perpetuity. Reintroducing such exclusivity into the licence may give the wrong signals generally by further entrenching a monopoly position without any apparent user or wider public benefit. We do not therefore believe that there is a substantive argument for reintroducing exclusivity into the licence.
- 4.25 However, the current term 3 of the licence may not be helpful in its entirety in as much as it refers to a period of exclusivity in the past. At best this is redundant and at worst it might suggest that there was some practical benefit to NERL of that exclusivity which has now been removed.

We suggest, in the interests of tidying up the licence and making it relevant going forward that this term be removed.

Conclusion

4.26 Our conclusions are:

- Comparison of the NERL licence against other regulated utility providers across a range of characteristics provides an evidence-based justification for NERL's licence to be shorter than those for industries with much longer investment cycles;
- NERL is not disadvantaged by its licence terms compared to other ANSPs in Europe; and
- Reintroducing exclusivity for NERL is likely to have no practical effect but would give the wrong signals generally by appearing to add a barrier to competition. There may be some benefit in removing the current text in the terms of the licence going which relates to a period which has now ended.

Chapter 5

Impact of an extension to the NERL licence

- 5.1 This section considers the impact of a change to the terms of the licence which has the effect of lengthening the minimum period until the licence can be revoked. In particular, it assesses the quantitative strength of the arguments put forward by NATS for extending the minimum period of notice to terminate the licence.
- 5.2 The assessment in this section considers the benefits and costs from the point of view of NATS and users. In RP3 and subsequent settlements, assuming that regulation takes full account of any expected changes arising from the change in terms, all of the net benefits and costs would accrue to users through lower or higher costs.²⁰ The nature of the “costs” involved would be the “opportunity costs” arising from:
- Any erosion of NERL’s incentives to be more efficient to avoid the threat of losing its licence because it would have possession of the licence rights for a longer guaranteed period;
 - Where circumstances arose of operation by a more efficient provider – the costs to users of delaying those efficiencies; and
 - Delaying the flexibility to change regulation – e.g. in response to regulatory developments (such as a single European sky. (This is discussed in chapter 6).
- 5.3 These potential sources of costs to users were not considered in NATS’ arguments.

²⁰ NERL would retain any benefits in the current review period and any gains which are not anticipated by the regulator prior to each subsequent review period.

Options for amendment

- 5.4 NERL has put forward two options for amending the licence:
- Extending the fixed period before which the licence could be extended to 20 years; or
 - Increasing the notice period to 25 years from the current 10 years.
- 5.5 NERL concludes that the second solution is superior to the first because it would be a permanent solution, would match the notice period to asset lives and would reduce uncertainty for current and future equity investors.
- 5.6 We agree with NERL that extending the period before which notice could be served would not provide a long term solution. It would merely serve to postpone the issue until sometime in the future.

Summary of findings of Europe Economics

- 5.7 In the study that we commissioned, Europe Economics considered the impact the minimum period before which a licence can be terminated has upon the volumes and costs of debt-raising by regulated companies. It found the following:
- Regulated companies do raise significant volumes (30 per cent and sometimes more) of debt that matures after the minimum termination notice period. The minimum termination notice period does not act as a hard “cap” on the ability of firms to raise debts;
 - When the minimum termination notice period is longer, firms tend to raise debt with a longer maturity profile – each additional month of extension in the minimum termination notice period means average debt maturity profiles of almost one month greater;
 - Debt that is raised beyond the minimum termination notice period has typically been materially more expensive – the cost of debt maturing beyond the minimum termination notice period is around half a percentage point greater than of debt maturing inside (other things being equal);

- When asset lives are longer, this tends to offset the impact of bonds maturing beyond the minimum termination notice period. If assets have a life of more than six years greater than the minimum termination notice period, that entirely offsets the yield elevation of maturation lying beyond the period; and
- It is plausible that when the proportion of a company's assets that are intangible is higher, the impact of bonds maturing beyond the minimum termination notice period is greater. Europe Economics were not, however, able to test this hypothesis with the data available, within the scope of the project.

5.8 Europe Economics also concluded:

- That they were unconvinced that the issue of NERL's remaining licence period implying more frequent re-financing, increasing execution risks was a material issue at this time over-and-above the added cost of debt described above. To the extent that companies would genuinely prefer to borrow longer than the minimum termination notice period (e.g. in order to match borrowing profiles to asset lives), a shorter cycle of shorter-term issuance and reissuance would only be undertaken if it ended up being cheaper than bearing the additional expense of borrowing beyond the minimum termination notice period; and
- It appeared that NERL's average asset lives are rather shorter than average asset lives of other regulated entities – averaging only 15 years even for the regulated fixed assets.

Impact of an extension of the licence

5.9 We have summarised the potential benefits and costs at a high level in table 4 below. (There may also be broader impacts to the Government of extending the licence. These are considered in Chapter 6.)

Table 4: Potential costs and benefits of an extension to the earliest date that licence can be revoked

Potential benefits	Potential costs
Lower arrangement costs on less frequent refinancing	Deferral of benefits from more efficient operations
Lower interest on debt	Weakening of NERL incentives generally
Downward influence on cost of equity	

Availability of long term debt

- 5.10 Europe Economics concluded that it was quite common for a regulated company to issue bonds with longer maturity periods than the minimum remaining term of the licence (typically representing some 30% of debt) but that such bonds are subject to higher rates of interest by about half a percent. Much of this debt was issued prior to 2008 and the availability may depend more on market conditions than on the precise licence terms. The remaining minimum time before the licence could be terminated does not appear to have been an absolute cap on the maximum borrowing term. However, regulated companies where the termination notice period is longer tend to raise debt with a longer maturity profile – each additional month of extension in the minimum termination notice period means average debt maturity profiles of almost one month greater.
- 5.11 It should be remembered that in the current approach all new investments are depreciated over 15 years. That means that the full economic value of the investment is returned to the company and the value is available to fund any associated loans over that period. There would therefore be the potential for a mismatch in the flow of funds if the company borrowed on longer terms.
- 5.12 While we accept that matching the notice period to the life cycle of assets would be one way to further reduce uncertainty about the remuneration of investment and facilitate financing, the evidence on asset life suggests that such an extension would not need to be as long as 25 years. Indeed, NERL has pointed out that the average life cycle of new assets is some

15 years and moreover this is the period over which regulation allows all those assets to be remunerated. We believe that any increase in the notice period beyond 15 years would not be necessary to align the term of debt with the life of the associated assets.

- 5.13 There may therefore be a reasonable case for extending the minimum notice period to 15 years from 10 years to reflect the length of the investment cycle and regulatory depreciation. While the evidence suggests that this would not be necessary to have access to financial terms longer than the minimum period of the licence it would remove a degree of uncertainty which may seem anomalous.
- 5.14 We recognise that the argument for aligning the notice period to regulatory depreciation is linked to expectations to how any regulation would deal with the depreciation of the remaining RAB during any notice period. This includes both the assets in the RAB at the time notice is served and continuing investment during the notice period. This is an issue which the CAA considered briefly in 2003 but which requires a full process to develop a mature policy. (This is discussed further in Appendix D.) The more certain that the company is to realise full value of the RAB through depreciation or the proceeds of disposals the lower the risk and the lower the cost of capital.
- 5.15 Extending the notice period to 15 years would not necessarily require an extension to the earliest time that termination could take effect as the improved incentives would come from the notice period not from an extension to the earliest time of termination. The constraint on the earliest that such termination could take effect could be specified explicitly as 2031. Maintaining this earliest termination date may go some way to mitigating any potential criticism that extending the notice period was acting to the detriment of users.
- 5.16 While increasing the notice period to 15 years in line with the depreciation period would be one means of addressing the risk that some part of investments might not be remunerated, another approach might be to develop a clearer policy on how regulation would be conducted in a notice

period – particularly if there could be unequivocal features designed to ensure that investments made before notice was made would be fully remunerated.

Lower interest rates on debt

5.17 Taken at face value a premium of half a percent on borrowing costs on debt with a term of beyond the minimum termination date would imply a relatively small penalty on overall costs on the relevant debt. The following table sets out some plausible assumptions which suggest an additional premium on costs of some £1 million per annum.

Table 5: Illustration of the effect of licence period on debt

Assumptions	
RAB	£1,100m
Gearing	60%
Debt with maturity beyond minimum termination date	30%
Premium	0.5%
Resulting annual premium on costs	c. £1m
Net present value in perpetuity (discounted at 5.83%)	c. £18m

5.18 This represents a very small percentage of overall costs or operating expenditure. It would only take a very minor reduction in incentives in current opex or a relatively short delay to the substitution of some new licensee with much lower costs to wipe out any financing benefits on this scale.

Lower arrangement costs on less frequent refinancing

5.19 Europe Economics considered the likely effects of less frequent refinancing but were unconvinced that this is a material issue at this time.

5.20 While we understand Europe Economic's argument, we do also recognise from their empirical analysis that regulated companies with a long period to the minimum point at which a licence could be terminated tend to have

a much longer average time to maturity for debt. This would certainly be suggestive of more regular refinancing. At a high level we believe that the difference in the transactions costs between difference between a 25 year cycle and a 10 year cycle for arrangement would be smaller than the £1 million p.a. above.²¹

Effects on NERL incentives and operating costs

- 5.21 These potential benefits should be considered in the context of the potential effect on NERL's incentives to cost efficiency. In making these comparisons it should be remembered that NERL has a relatively high proportion of operating expenditure compared to its cost of capital and depreciation costs.
- 5.22 While there is no empirical evidence to draw upon, it does not seem unreasonable to assume that NERL's management and staff may be more focused on satisfying stakeholders (including Government and users) where there is a chance of losing the licence than where it is more remote. This may include incentives to control costs (recognising that long term savings are ultimately passed to users through regulation) and incentives to avoid adverse reaction service issues.

Table 6: Relative scale of UKATS operating expenses and capital costs

	2014/15 (£ million)	%
Opex including cash cost defined benefit pensions	410.3	62
Depreciation	181.4	28
Imputed cost of capital at 5.86%	67.4	10
Total	659.1	100

Source: NERL regulatory accounts 2014/15 and CAA calculation

- 5.23 The table demonstrates that opex constitutes more than 60% of the overall costs of UK Air Traffic Services whereas the cost of capital represents about 10%. This suggests that we should be mindful in

²¹ On fairly extreme assumptions, annualised average fees cost of refinancing of equivalent to £1,100m RAB * 60% gearing * (0.25%-0.10%) = c. £1m.

disturbing opex incentives. For example an intervention which reduced the annual cost of capital amount by 1% would not be worth doing if it had an associated effect of opex costs being relaxed by 1/6%.

5.24 Any analysis to quantify the effects on incentives is likely to be very speculative but even small changes would have a significant impact on future costs. For illustration the following is based on fairly conservative assumptions:

- The deferral of benefits from 10 to 25 years of more efficient operations arising from a step change reduction of say 5% in current levels of opex (operator which could only be enabled by a new licensee) would have a net present value of some £117 million. Even if it were assumed that this only had a probability of say 20% the net present value involved would still be £23 million;
- Weakening of NERL incentives which prevented a rate of reduction in opex of say 0.1% per year over 25 years would have a net present value of £55 million; and
- In addition there may be reduced incentives to avoid service issues (including resilience).

5.25 While these are not intended to be definitive assumptions they do illustrate the extent to which the disbenefits of any relaxation of cost incentives could quickly outweigh any financing benefits of extending the licence.

5.26 Extending the notice period to 15 years would imply very much lower impact on future cost although it would have an impact. In particular:

- The deferral of benefits would only apply to an additional 5 rather than to an additional 15 years;
- Any weakening of incentives could be expected to be less in terms of any trend in future costs and to apply over only 15 rather than 25 years; and
- Any reduced incentives on service and related issues would also be reduced.

Conclusions

- 5.27 The financing benefits to NERL of a 25 year notice period are likely to be relatively modest compared to the overall level of determined costs.
- 5.28 The effects of the incentives on operating costs are difficult to quantify but given operating expenditure is six times the cost represented by the return on capital, HMG should be mindful of the effects on these incentives from extending the licence.
- 5.29 There may be a good case to extend the notice period to 15 years to reflect the average asset life and regulatory depreciation period. However, there does not seem to be a good reason why the earliest date for termination should currently be extended beyond the current time in 2031.
- 5.30 There does not seem to be a strong case for extending the notice period beyond 15 years.

Chapter 6

Broader impacts

- 6.1 The above analysis has considered the effect of changing the NERL licence from the point of view of NERL and its customers assuming that the current arrangements for the provision of air navigation services remain fixed. As discussed in Chapter 3, there is significant scope for the nature of the service to change – both in terms of technology and institutions – particularly if considered against a long term perspective of 30 years or so.
- 6.2 One potential consideration may be how a change in the terms of the licence, which further entrenched NERL’s monopoly position in the provision of air navigation services, would be interpreted by the European Commission and the UK’s other European partners. One possibility is that it could be interpreted to be adding an additional impediment to at least some paths to a more integrated Single European Sky.
- 6.3 A second consideration is what the practical consequences of any extension to the licence might be if there was an overwhelming reason for change sooner than would be provided for under the notice period specified in the terms. This could arise for example if the UK became obliged to make changes inconsistent with the licence regime by future international agreements or if there was an overwhelming public policy case for making early changes. There could be a number of ways that the Government would be able to achieve this:
- Recognising that the licence can be terminated at the request or with the agreement of the licensee:
 - The Government could reach a commercial settlement such that NERL would agree to the early termination of the licence;
 - The Government could purchase a controlling interest in NATS or NERL.
 - There could be some legislative approach.

- 6.4 All of these approaches would probably require the Government to service the outstanding debt finance and compensate the other shareholders for the loss of value for the period until the licence could have been terminated by notice.
- 6.5 While in principle, at any point in time, the outstanding value of the RAB should represent the value of the regulated business it seems likely that shareholders would expect some premium to this. It may also be intuitive, that the longer the remaining period of the licence that is being bought out, the larger this premium should be. (This could be rationalised on the basis that the company may expect to out-perform the regulatory assumptions made by the regulator over the remaining period of the licence. The longer the remaining term, the greater the absolute value of this difference in expectations.) One good indicator of what this premium might be for regulated industries generally at least for companies that are publicly quoted is the ratio of the market price relative to the regulatory asset base (MAR). In its PR14 review²², Ofwat provided evidence that over the period 2002-2012 the ratio for regulated industries generally averaged 1.18 i.e. the market valuation was 18% higher than the regulatory asset value. This figure may be a reasonable indication of what shareholders might expect in such circumstances.
- 6.6 It does not, however, provide any indication of what the differential might be between buying out say a 25 year notice period as opposed to a 10 (or 15) year period. It may be useful to think in terms of testing the sensitivity of these costs to various assumptions of the related premia. For example in the calculation below it is assumed that buying out a 10 year notice period would require a 10% premium on the RAB while buying out a 25 year notice period is assumed to require a 20% premium. It is further assumed that there is only a 20% probability of the government buying out the notice period.

²² Ofwat: Cost of capital for PR14: Methodological considerations: July 2013.

Table 7: Illustration of possible compensation costs from terminating the licence

Notice period brought out	10 years	15 years	25 years
RAB (£million)	£1,100	£1,100	£1,100
Premium	10%	13%	20%
Compensation if paid (£million)	£1,210	£1,246	£1,320
Probability of compensation	20%	20%	20%
Expected compensation (£million)	£242	£249	£264
Additional expected cost of extending (£million)		7.3	22

6.7 While these assumptions and these results are just illustrative they do indicate that there may be a significant compensation costs for any notice period. Intuitively, the longer the notice period the higher such costs are likely to be.

Conclusions

6.8 We concluded that extending the licence notice period may be seen as interpreted to be adding an additional impediment to at least some paths to a more integrated Single European Sky.

6.9 Should HMG be obliged to change the current licensing arrangements in a shorter timeframe, then extending the notice period would be likely to increase the cost of doing so.

6.10 We expect that it would be less costly to compensate in respect of a 15 year notice period than a 25 year notice period.

Appendix A

Potential changes to NERL licence terms of reference

Introduction

The Department requires further evidence and analysis to support a decision on potential changes to the duration and/or structure of the NATS (En-Route) plc (NERL) licence.

To further the evidence base, the CAA is requested to produce a report on the key issues under an agreed Section 16 advice arrangement. Completion of this report may require the procurement of specialist advice.

This Terms of Reference outlines the outputs required of the CAA, and should be used to inform the procurement of any necessary contractor.

Background

NERL is the regulated arm of NATS and provides en route air traffic control in the UK and Eastern North Atlantic airspace. NERL operates under licence issued by the Secretary of State on 28 March 2001 in accordance with the Transport Act 2000. Under paragraphs 6 and 7 of the Terms of the licence, the Secretary of State may serve notice of termination of the licence no earlier than 20 years after the date on which the licence was granted, with a notice period of no shorter than 10 years.

In effect this means that the earliest date on which notice can be served is 2021 and the earliest it can take effect is 2031. From 2021 NERL will effectively be operating under a licence with a ten-year rolling notice period. NATS has raised concerns that such a situation could create difficulties, particularly with regards to securing appropriate and efficient long term financing.

The issue of a licence extension/change has been under consideration for some time. In September 2011, the Department conducted a targeted call for evidence to

better understand the views of key stakeholders on the issue, a total of 11 responses were received. In addition, formal advice was provided by the then Departmental financial advisor, Bank of America Merrill Lynch (BAML).

Drivers

The primary drivers for undertaking this work now are:

- To evaluate NATS concerns regarding its ongoing ability to access long-term financing at optimum pricing, and the potential for this to affect its ability to support effectively all of the licence obligations;
- The Transport Act 2000 provision that requires the ‘Secretary of State to exercise his functions ... to ensure that the licence holder will not find it unduly difficult to finance activities authorised by its licence’; and
- The implications for NATS business, its investment requirements and the longer-term development of the UK’s en-route air traffic network which flow from the NATS licence being capable of termination on 10 years notice as from 2021.

Objectives and outputs

The primary objective for the Department is to refresh and expand the existing evidence base. Complementing internal work by the Department outside the scope of these Terms of Reference to better understand any possible legal, policy and financial implications for the Department, the report will help to inform a fully evidenced policy proposal. This report’s findings will form the basis of a future consultation, ahead of a final decision taken by Ministers and potential inclusion in new legislative proposals.

Specifically, the key intended outputs of the report are:

- **State of play and forward look:** A summary of the current ATC framework and how it may change in the future;
- **Cross sector comparison:** A brief comparison of the NERL licence and those of other regulated utility providers;

- **Impact of licence extension:** An outline of the likely impacts of the potential changes to the NERL licence. To include an assessment of the strength of the arguments put forward by NATS for (a) extending the minimum period of notice to terminate the licence and (b) reintroducing licence exclusivity in favour of NERL; and
- **Broader impacts:** An assessment of any potential broader impacts.

Scope

State of play and forward look

A brief outline/summary of:

- The current regulatory and technology framework for ATC in the UK and Europe;
- The existing evidence base, the majority of which was gathered around the time of the 2011 call for evidence, and an assessment of the degree to which it still holds true today;
- Specifically, the report should identify particular gaps or deficiencies in the current evidence base, including any areas that may require exploration as a result of the BAML report and NATS' letter of 11 November 2014. To include CAA's critical challenge re. NATS assertions re rate of return on capital, relative pricing of financing according to duration of the financing (and the relative duration of the licence), and any recommended further work; and
- Any likely developments within ATC in the UK or Europe over the next 25 to 30 years, with a particular focus on likely developments which may increase the value of retaining a shorter notice, by allowing the licence regime to be aligned more quickly with significant changes.

Cross sector comparison

A high-level benchmarking study across other regulated sectors assessing how NERL's current licence, and the options considered for changes to it, compares to those of other regulated utility providers. Information should be gathered from publicly available sources. The goal of this exercise is:

- to gather any evidence that NATS is disadvantaged as compared to the financing outcomes achieved in other sectors, taking into account inherent differences between sectors; and
- critically assess the degree to which this can be attributed to differences in the length of licences / notice periods as opposed to other relevant factors within the sector which can affect financing outcomes.

The CAA should advise on the most appropriate sectors and characteristics with which to draw comparison to NATS. This should be agreed with the Department.

It will be relevant to consider:

- Length of licence/notice period;
- Grounds in place for early termination;
- Level of regulatory control placed over the business;
- Contingency mechanisms in place for poor performance/failure;
- Ownership of assets - outright, lease, or franchise;
- Lifespan of relevant assets;
- Methods of infrastructure financing; and
- Level, if any, of HMG shareholding.

Particular attention could be paid to providing an assessment of how other regulated utilities optimise their cost of capital, and minimise their financial risk, through the raising of competitively priced, long-term debt based on the strength of their regulatory covenants.

Impact on licence efficacy

An assessment of the impact upon the efficacy of NATS' licence as a regulatory tool of the proposed changes to the duration and/or structure of the NERL licence. The benefits and risks outlined below should be assessed against a range of appropriate scenarios and set against a status quo counterfactual. The scenarios should be identified by the CAA and agreed with the Department.

Where possible, any benefits and/or detriments should be expressed in quantifiable fashion. The assessment should include, but not be limited to, the outlining of:

- The benefits of a licence extension to NATS in particular in respect of the availability and pricing of the debt financing it can obtain;
- An evaluation of the typical lifespan of the assets NATS requires to fulfil its licence obligations, the risk of obsolescence and the likely re-sale and leasing options in relation to different asset categories;
- An assessment of the strength of the arguments put forward by NATS for (a) extending the minimum period of notice to terminate the licence and (b) reintroducing licence exclusivity in favour of NERL;
- Evidence for how such benefits would/could flow through to NATS' customers and passengers; and
- Any alternative proposals/courses of action for realising comparable financial benefits, other than extending the notice period.

Broader impacts/issues

An assessment of the broader impacts, including any unintended consequences of making changes to the NERL licence, including but not limited to:

- EU level – consistency of licence changes with the Single European Sky and the associated competition policy; and
- Domestic level – any potential precedents or implications for other sectors due to changes to the licence. To include likelihood and level of potential impact.

Recommendations for any further changes to the licence that could/would be required were the Department to relinquish its shares in NATS.

Producing the report

In spite of work already being conducted in this area, the report commissioned by this Terms of Reference is a wholly new piece of work. However, the scope is tightly focused and this should be reflected in the outputs produced. The Department anticipate a concise and focused desk study that is proportionate to the quantum of work, and takes in the region of four to six weeks to complete.

The CAA are responsible for delivering a report, in a timely fashion, which satisfactorily delivers on the outputs outlined above. While the CAA retain autonomy over how this work is delivered, the Department envisages that the majority of the work can be completed by the CAA, with specialist input sought only where necessary.

The procurement of any necessary specialist support will be undertaken by the CAA, following discussion with the Department to agree the nature of the specialist skills required and the criteria on which the external specialist will be appointed. The Department is open to considering any expert input suggested by CAA. This might be financial, for instance a request to BAML to update its 2011 report (although other financial experts could be considered too if there is a business case and VFM justification). The Department would also like the CAA views on whether an independent technical expert is required to provide a report on asset requirements (or whether this is something CAA can do).

The outputs contained in this Terms of Reference can be used to form the basis of a Specification of a Requirements upon which the CAA will be required to build. Prior to tendering, the completed Specification of Requirements should be submitted to the Department for approval.

Achieving value for money while ensuring that a suitable contractor is selected is an important balance to strike. When/if procuring, CAA procurement should liaise with their counterparts in the Department to ensure that the value for money is achieved, which may include use of an appropriate framework arrangement.

Any report produced by external consultants should be included as an Appendix to the CAA report.

Implementation

Meetings – the Department expects to hold three project review meetings over the course of the project:

- a kick-off meeting on project commencement;
- a mid-stage review meeting; and
- a final meeting, one week after the receipt of the final written report, to discuss findings and answer queries.

Required deliverables

- A draft final report – submitted to the Department two weeks before the end of the project's lifespan; and
- A final written report – covering all of the findings of the report, including an executive summary and any supporting Appendices.

Appendix B

Extract from the NERL licence

PART I TERMS OF THE LICENCE

1. The Secretary of State, in exercise of the powers conferred by section 6 of the Transport Act 2000 (the “Act”) and of all other powers exercisable by him for that purpose, hereby grants to NATS (En Route) Limited (the “Licensee”) a licence authorising the Licensee:
 - (a) to provide air traffic services in and in respect of the Licensed Area designated in Schedule 1 (“the En route (UK) Area”) from the date specified in paragraph 5 and for the period specified in paragraph 6, subject to the Conditions set out in Parts II and III of this Licence and the terms in Schedule 3; and
 - (b) to provide air traffic services in and in respect of the Licensed Area designated in Schedule 2 (“the En route (Oceanic) Area”) from the date specified in paragraph 5 and for the period specified in paragraph 7, subject to the Conditions set out in Parts II and III of this Licence and the terms in Schedule 3.
2. Without prejudice to the general authorisation conferred by paragraph 1, the Licensee is hereby authorised to provide the UK En route Air Traffic Control Service and Oceanic En route Air Traffic Control Service in respect of each relevant Licensed Area, subject to the Conditions set out in Parts II and III of this Licence and the terms in Schedule 3.
3. The authorisation conferred by paragraph 1 shall be exclusive to the Licensee in respect of the Core Services for a period of ten years from the date of the coming into effect of this Licence.
4. The Conditions set out in Parts II and III of this Licence are subject to modification or amendment in accordance with their terms or with sections 11-19 of the Act, but such modification or amendment shall not have the effect of reducing to a material extent the scope of the authorisation conferred by paragraph 2. This Licence is further subject to the terms as to revocation specified in Schedule 3.
5. This Licence shall have effect from such time as property, rights or liabilities of National Air Traffic Services Limited (registered in England under number 3155567) are transferred to the Licensee by a transfer scheme made by the CAA under section 43 of the Act or a transfer scheme made by the Secretary of State under section 45 of the Act.
6. In so far as it authorises the provision of air traffic services in respect of the En route (UK) Area, unless revoked in accordance with the terms of Schedule 3 this Licence shall continue to have effect until determined by not less than ten years’ notice in

writing given by the Secretary of State to the Licensee following consultation with the CAA, such notice not to be served earlier than the twentieth anniversary of the grant of this Licence.

7. In so far as it authorises the provision of air traffic services in respect of the En route (Oceanic) Area, unless revoked in accordance with the terms of Schedule 3, this Licence shall have effect until determined by not less than ten years' notice in writing given by the Secretary of State to the Licensee following consultation with the CAA, such notice not to be served earlier than the twentieth anniversary of the grant of this Licence.

Minister of State for Transport 28 March 2001

Appendix C

Comparison of grounds for early termination (without a long notice period) between regulated industries

Sector	With agreement of licensee	Ceases regulated activity	Failure to comply with enforcement order on breach of condition	Failure to pay a financial penalty	Non-payment of licence fees	Providing false or misleading information	Serious contravention of principal duty	Unable to pay debts	Change of control	Failure to comply with direction under CA98	Orders in relation to a merger reference under EA02	Orders in relation to a market investigation under EA02
NATS	✓	✓	✓	x	✓	x	x	✓	(b)	✓	(c)	(c)
Airports	✓	✓	✓	✓	x	x	x	x	x	x	x	x
Rail	✓	✓	✓	x	x	x	x	x	✓	x	x	x
Energy	✓	✓	✓	✓	✓	x	x	✓	x	✓	✓	✓
Water	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	(d)	(d)

Notes:

- (a) Usually includes voluntary arrangements made under Insolvency Act 1986; receiver appointed; administrator appointed; resolution for winding –up order by court.
- (b) Only if change would be against interests of national security or international relations.
- (c) Current licence refers to sections of repealed Fair Trading Act 1973 but as a licence term, CAA has no powers to modify.
- (d) Relief or remedy granted by court under s94, 95 or 167 of EA02.

REVOCAION OF LICENCE (EN ROUTE (UK) AREA) AND (EN ROUTE (OCEANIC) AREA) (extract from NERL licence)

1. The Secretary of State may at any time following consultation with the CAA revoke this Licence in respect of the Licensed Area designated in Schedule 1 or the Licensed Area designated in Schedule 2 by the requisite period of notice in writing given to the Licensee in any of the following circumstances:
 - a. if the Licensee requests or otherwise agrees in writing with the Secretary of State that this Licence (in whole or in respect of either the Licensed Area designated in Schedule 1 or the Licensed Area designated in Schedule 2) should be revoked;
 - b. if any amount payable under Condition 18 of this Licence is unpaid 30 days after it becomes due and remains unpaid for a period of 14 days after the Secretary of State notifies the Licensee that the amount is overdue such notification not to be given earlier than the sixteenth day after the day on which the amount payable became due;
 - c. if the Licensee fails to comply with a final order (within the meaning of section 20 of the Act) or a provisional order (within the meaning of that section) which has been confirmed under that section and which relates to the provision of air traffic services in respect of the Licensed Area designated in Schedule 1 or the Licensed Area designated in Schedule 2 (as the case may be) and such failure is not rectified to the satisfaction of the Secretary of State within three months after the Secretary of State has given notice in writing of such failure to the Licensee provided that no notice under this subparagraph shall be given by the Secretary of State before the expiration of the period within which an application under section 23 of the Act could be made questioning the validity of the final or provisional order or before any such application, if made, is finally adjudicated upon;

- d. if the Licensee fails to comply with any order made by the Secretary of State under section 56, 73, 74 or 89 of the Fair Trading Act 1973 or with any court order made on application by the CAA or the Director General of Fair Trading under Section 34 of the Competition Act 1998 which relates to the provision of air traffic services authorised or required by this Licence;
- e. if the Licensee ceases to carry on its business as a provider of air traffic services in respect of the En route (UK) Area or the En route (Oceanic) Area (as the case may be);
- f. if the Licensee:
 - i. is deemed to be unable to pay its debts (within the meaning of section 123(1) or (2) of the Insolvency Act 1986 or is otherwise insolvent or has any voluntary arrangement proposed in relation to it under section 1 of that Act or makes any composition or scheme of arrangement with its creditors (other than for the purpose of reconstruction or amalgamation upon terms and within such period as may previously have been approved by the CAA);
 - ii. has a receiver (which expression shall include an administrative receiver within the meaning of section 29 of the Insolvency Act 1986) of the whole or any part of its assets or undertaking appointed;
 - iii. becomes subject to an air traffic administration order under section 28 of the Act or if a petition is presented to the court in respect of such an order;
 - iv. passes a resolution for winding up; or
- g. if:
 - i. the Licensee has given notification to the Secretary of State under Condition 19 of this Licence and the Secretary of State has notified the Licensee in writing within 21 days of receiving

such notification that he is minded to revoke this Licence on the grounds that, in his opinion, the change, acquisition, transaction or arrangement so notified is or would be against the interests of national security or relations with the government of a country or territory outside the United Kingdom; or

- ii. the Licensee commits any breach of Condition 19; and
- iii. in either case the proposed change or arrangement has taken place.

2. The requisite period of notice shall be:

- a. for the purposes of paragraphs 1(f) and 1(g), 24 hours; and
- b. for all other purposes, 30 days.

3. The provisions of section 100 of the Act shall have effect for the purposes of this Schedule as if set out herein and as if for the words “this Part” there were substituted “this Schedule”.

4. Without prejudice to sections 11 and 23(1) of the Interpretation Act 1978:

- a. this Schedule shall be interpreted and construed in like manner as an Act of Parliament passed after the commencement of the said Act of 1978, and
- b. expressions used in this Schedule which are also used in Part I of the Act shall, except where the context otherwise requires, have the same meanings as in that Part.

Appendix D

How NERL would be regulated if notice were ever served

1. As the earliest that the licence could be terminated under the current terms is 2031 this has not figured as an immediate issue. Up until now this has been further into the future than the fifteen years of the regulatory depreciation period so has not affected the business case for investments that have been made. It has not therefore been necessary to deal the specifics of how NERL would be regulated following notice being served.
2. Under the current licence terms, going forward from 2016 onwards, there is at least the possibility of the licence being terminated within the asset life of new capital investment. It may not appropriate here to specify how regulation would take place in the event of notice being served when there has been no process to develop that policy beyond what was published in 2003.²³ It seems highly likely that, consistent with the Secretary of State's and CAA's duties, an important consideration would be to ensure that it is not unreasonably difficult for NERL to continue to provide its licensed activities. There do, however, appear to be a range of policy levers e.g.:
 - To incentivise the continued maintenance and enhancement of the service (as it seems unlikely that the service could be allowed to stagnate for a period of 10+ years);
 - To allow the licensee to write off outstanding RAB value over the remaining life of the asset, manage a transfer of the undepreciated RAB value to an incoming new incumbent or require NERL to absorb the loss – or some combination of these. (The extent of any loss would also depend on whether NERL would be able to recover any resale value on these assets.)

²³ It was alluded to at a relatively high level at the time of the reopening of the price cap and refinancing in 2003 (referred to as the composite solution) following 9/11. NATS' Application to Re-open the Eurocontrol Charge Control: CAA Decision: March 2003

3. In quantifying the impact of a change in the terms of the licence on NERL and its users in the next section it would be necessary to make assumptions about the extent to which there would be remaining value which had been in the regulatory asset base which would not be recoverable at the end of the notice period.

Appendix E

Responses to points raised by NATS

The following table addresses points raised by NATS in response to the 2011 consultation and in a letter to the Department for Transport in letters dated 11 November 2014. (Many of the points are made by NATS in the same terms in both).

Ref.	Point raised by NATS	CAA response
2011 Para 4 2014 Para 6	NERL's core Licence obligations are to deliver the range, availability, continuity, cost and quality of air traffic services thereby maintaining a critical part of the UK's national transport infrastructure. NERL is only able to discharge these obligations if it undertakes long term R&D and investment programmes. Many of the assets associated with these programmes are long lived with average asset lives of around 15 years after commissioning, which in itself can take up to 5 years. Under the economic regulatory regime, NERL recoups the cost of these investments, with a return to cover the financing, over regulatory depreciation periods which are currently limited to a maximum of 15 years.	We agree that under the current regulatory regime all investment is fully depreciated over 15 years from the point of spend and that this provides a significant reference point for considering NERL's financing needs. This does, however, call into question the need for financing which is longer than this regulatory depreciation period.
2011 Para 5	While the average life of equipment is 15 years many of NERL's existing	Context.

	<p>assets are around 25 years old. Examples include the current radars, DVORs and DMEs (distance measuring equipment) and the current flight data processing system (NAS) which has been in service for 36 years. While new systems may not have such a long life it is currently envisaged that the replacement flight data processing system will be in place for 20 years as will the new voice communication system installed in 2006 and the DVOR replacement¹. EDDUS (the electronic data display update system) that went live in 1993 will be in service until 2018 (i.e. 25 years). Further, the new Prestwick centre, which opened in January 2010, is expected to be on NERL's asset register for 40 years.</p>	
<p>2011 Para 6 2014 Para 7</p>	<p>NERL's strategy to date has been to match these requirements for long term assets with long term financing. This provides certainty of funding and lowers the financing risk of NERL's investment programmes.</p>	<p>We would argue that the nature of regulatory depreciation means that the cash generation associated with particular assets all takes place over 15 years. This lowers financial risk and obviates the need to obtain long term finance to match the life of assets.</p>
<p>2011 Para 13</p>	<p>Additionally, there are periods when market conditions make it more cost effective to issue longer term debt.</p>	<p>We agree that there may be periods when market conditions make it more effective to issue</p>

2014 Para 7		longer term debt. However, to have a significant effect it would require an implicit assumption that NERL's financial management can outperform the markets as represented by the yield curve.
2011 Para 13 Additional text	Further enabling NERL to reduce its borrowing costs and hence its cost of capital.	See above.
2011 Para 7 2014 Para 8	Without the ability to issue long term debt, NERL would be constrained in making economic and efficient long term decisions for its R&D and investment programmes.	Current regulatory depreciation over 15 years provides near certainty of the return of value over this period. This does not seem to currently present a constraint.
2014 Para 8 Additional text	Additionally it may be viewed as a less reliable partner by its collaborative partners.	Current regulatory depreciation over 15 years provides near certainty of the return of value over this period. This does not seem to suggest that NERL would be less reliable as a collaborative partner at least for work covered by the licensed business.
2011 Para 8 2014 Para 9	At the time of the Composite Solution in 2003, NERL secured long term funding of £600m at an interest rate of 5.25%. The borrowing term of 23 years, which includes progressive amortisation of	The current financing expires before 2031.

	principal including £86m in CP3, extends to 2026. This is five years before 2031 which is the potential earliest Licence termination date.	
2011 Para 9 2014 Para 10	As time progresses and the 20 year 'fixed' period of NERL's Licence runs its course, the company is only able to guarantee to its lenders a maximum of 10 years of operational revenues, since 10 years' notice of termination can be given at any time after that 'fixed' period expires. Market practice for long term debt such as bonds is for creditors to be granted the ability to protect themselves against the risk of non-repayment of debt principal and interest as soon as notice of termination is given. This protection can take various forms:	We acknowledge that there would be potential issues with debt finance with a term beyond the minimum remaining issues of the licence. Empirical evidence suggests that regulated companies have raised finance in this situation but that it is more expensive (yields about 0.5% higher).
2011 Para 9.i 2014 Para 10.i	Relatively benign forms such as a regime that would ensure the company would set aside an element of profit over the 10 year period to ensure it would be able to discharge its obligations (to the extent NERL could not otherwise discharge them at the end of the Licence period; e.g. from the proceeds of sale of the relevant assets to a successor licensee) – potentially constraining dividend payments;	These relatively benign forms could be assisted by clearer expectations of what approach to regulation would apply following notice of termination.

<p>2011 Para 9.ii 2014 Para 10.ii</p>	<p>more aggressive forms such as a demand for immediate repayment of principal upon the service of notice (or perhaps requiring collateral which would be costly to set aside).</p>	<p>We understand the current financing allows lenders to take this approach. (It is not clear that lenders would use these rights with the current terms of the licence given that the financing expires before any revocation of the licence under 10 years notice could take effect.)</p> <p>This does however raise the issue of whether the regulator should allow such conditions in any future financing given that it could make it difficult for the company to finance its licensed functions in some circumstances.</p>
<p>2011 Para 10 2014 Para 11</p>	<p>Depending on the approach provided for, the financial position of the company and the attitude of lenders at the time, funding of these requirements may necessitate increasing prices to customers to cover NERL's increased cost of capital and a negotiation of new borrowing facilities on more onerous terms. The option in 9.ii. above creates for the company a requirement for immediate short to medium term refinancing with associated risk.</p>	<p>We have considered the effects of increased costs.</p> <p>We acknowledge there may be some financing risk if the company borrow for longer terms than the remaining period of the licence if lenders have rights to immediate repayment.</p>

<p>2011 Para 11 2014 Para 12</p>	<p>It is also reasonable to assume that decreasing predictability in NERL's Licence retention and associated uncertainty may also have an adverse credit rating impact with the higher cost that this will bring. Moreover, NERL may find itself constrained to issuing 10 year bonds (possibly with some amortisation) going forward on a rolling basis.</p>	<p>We have taken account of higher costs based on the empirical work by Europe Economics.</p> <p>Europe Economics demonstrate that regulated companies have been able to issue bonds longer than the remaining licence period – so there does not need to be a constraint.</p>
<p>2011 Para 12</p>	<p>A longer notice period would also enable NATS to compete for funds at the long end of the market. This would mitigate risks inherent in shorter dated maturities such as event risk or the risk of disruption in the debt markets that affect both the availability and cost of future financing. It would also avoid the significant costs and fees that would result from the need to frequently refinance shorter term debt.</p>	<p>The advice from Europe Economics suggests that the notice period would not be an absolute cap on borrowing for a term longer than the notice period although the costs of doing so would be higher.</p> <p>We acknowledge that long term finance does fix rates for a longer period thus reducing exposure to rates increasing generally or event risk causing disruption to debt markets.</p> <p>We are not convinced of the argument that there are significant costs of refinancing additional to the premium of borrowing beyond the notice period (for the reasons put forward by Europe Economics).</p>

<p>2011 Para 13</p>	<p>Additionally, there are periods when market conditions make it more cost effective to issue longer term debt, further enabling NERL to reduce its borrowing costs and hence its cost of capital.</p>	<p>See above.</p>
<p>2011 Para 14</p>	<p>In addition to the considerations above, the CAA will want to ensure that it does not become unduly difficult for NERL to finance activities authorised by its licence. This includes ensuring that NERL remains solvent and that any proposals for the protection of bondholders' repayments do not put at risk NERL's solvency, access to NERL's en route assets or might potentially prejudice NERL's ability to perform its licence obligations or the smooth transfer of the licence from NERL to another party.</p>	<p>This seems to be a reasonable summary of potential regulatory issues.</p>
<p>2011 Para 15 2014 Para 14</p>	<p>The potential for the notice period to give rise to issues was recognised as early as 2003 when CAA included a high level statement of regulatory policy in its decision on the reopening of NERL's price cap. That statement recognised in principle that NERL would not be able to raise necessary funding unless the position of investment straddling the notice period was</p>	<p>This reflects the CAA statement in 2003.</p> <p>On the basis of the evidence from Europe Economics and experience of regulated companies raising finance we would not now be so negative that NERL would not be able to raise funding which straddled the notice period.</p>

	adequately addressed (bearing in mind the potential that assets might transfer to a successor licensee).	We do, however, recognise that clarifying the treatment of funding during any notice period could mitigate any uncertainties and risks for lenders.
2014 Para 14 Additional text	CAA deferred any decision until a later date on the basis of the length of the then unexpired minimum term of the licence.	Agreed.
2011 Para 16	It should be noted that in 2007 NERL sought to put in place new bonds. In the event, the transaction was put on hold as a result of the instability that subsequently arose in the financial markets. At the time, the potential 'overrun' past the earliest termination date of 2031 would have been c.6 years for a 30 year bond. The approach contemplated to deal with this issue was to provide for the possibility of an agreed regime with provision for some automatic consequences (such as a dividend block and potential "trigger event") if such a regime could not be agreed in practice. This exercise proved to be complex and highlighted the challenges in pursuing this route.	There is a prior question of whether it is appropriate to borrow for as long as 30 years against assets which under current regulatory arrangements will be depreciated over 15 years. We have no comments on this particular attempt to refinance in 2007.
2011 Para 17	NERL management still has a requirement for the optimal amount of long term bond financing when	There is a prior question of whether it is appropriate to borrow for as long as 30 years

<p>2014 Para 16</p>	<p>the market pricing is acceptable. However, as time passes, the potential 'overrun' period grows longer. With the requirement to refinance the amortisation of NERL's £600m bond which commences in March 2012, NERL needs to tackle the licence term issue now or will be restricted to utilising shorter term facility options which may come at a higher all-in-cost.</p> <p>The Company remains focused on implementing the optimal amount of long term bond financing when the market pricing is acceptable. However, as time passes, the potential 'overrun' period grows longer. With the requirement to refinance the amortisation of NERL's £600m bond which commences in March 2012, NERL needs to tackle the licence term issue now.</p>	<p>against assets which under current regulatory arrangements will be depreciated over 15 years.</p> <p>We agree with the NATS wording in 2011 that any requirement for long term finance is not absolute and there would be alternatives of shorter term financing – whether in terms of shorter dated bonds or other borrowing facilities.</p>
<p>2014 Para 17</p>	<p>It is perhaps obvious that any equity holder in a business with a potentially fixed lifespan, as represented by the licence, will take this into account when sanctioning investment decisions of the business. In NERL's case, as the potential maximum remaining licence term decreases from</p>	<p>We agree this is a consideration.</p> <p>Clarifying the treatment of funding during any notice period could mitigate any uncertainties and risks for shareholders.</p>

	currently 20 towards 10 years, this will come increasingly into focus and creates the potential for tensions between shareholder interest and NERL's obligations to long term investment projects...	
2014 Para 17	...In addition, any potential for a fire sale of NERL's assets following a creditor-mandated liquidation would also be regarded as value-destructive, and correspondingly raise NERL's cost of equity (which would ultimately have to be borne by customers).	We believe this to be an unlikely proposition because in most such circumstances creditors would be prevented from taking control of assets by special administration. While this would not protect shareholders directly it would serve as a disincentive for creditors to seek liquidation of NERL.

	<p>Investors in equity (currently and/or future) are likely to consider it important to enable a financing structure with the expected lifespan of investment (with a margin of safety). This is relevant also in the circumstances of NERL's gearing cap (as set out in the licence) that may constrain debt without further equity investment.</p>	<p>We would argue that the relevant lifespan of the investment is the period of regulatory depreciation – i.e. 15 years. As this is from the point of spend rather than the asset coming into beneficial use we are not convinced that there is a requirement for a substantive margin of safety.</p> <p>There may be circumstances in the future when the gearing cap might act as a constraint on further investment without the raising of new equity but this would require growth in the regulatory asset base. The size of the RAB is however currently following a downward trend and NERL's finance is currently comfortably within its gearing cap so this does not appear a likely issue for the foreseeable future.</p>
<p>2011 Para 18 Almost identical wording: 2014 Para 20</p>	<p>Under the current licence term, NERL will be at a comparative disadvantage to its peer group of national en route air traffic service providers. Comparable ATS providers (and in particular NERL's European peers) do not face the possibility that their operational</p>	<p>We do not agree with this argument.</p> <p>We believe that there is far more flexibility elsewhere in Europe for governments to remove management, enforce a transfer of ownership or otherwise change the way that the service</p>

	<p>authorisation might be removed on a period of notice that is shorter than their typical investment/financing cycle. This creates a systemic and inappropriate inefficiency and so puts NERL at a disadvantage when discussing collaboration or potential future developments with its peers.</p>	<p>is provided. Subject in some cases to enacting the appropriate legislation etc., it would be conceivable to make these changes in a very much shorter timeframe to a ten year notice period.</p>
<p>2011 Para 19 2014 Para 21</p>	<p>Other economically regulated utilities (e.g. water companies) have had the minimum notice period in their licences increased from 10 to 25 years reflecting representations that this would "assist companies' long-term planning, deliver a lower cost of capital and better reflect the lives of the assets of the industry". NERL's proposals would bring it into line with other utilities putting NERL's ability to raise cost effective finance on the same footing...</p>	<p>Water companies are characterised by assets with very long lives and long regulatory depreciation periods. NERL is quite different. NERL is not alone in having a 10 year notice period.</p>
<p>Additional wording: 2011 Para 20</p>	<p>...and allowing it to compete for long-dated and possibly cheaper funding.</p>	<p>See response to 2011 para 13.</p>