LECG

Consultancy support for CP3

Assessment of NERL's back-office costs

A report for the CAA

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Table of contents

Section 1 Executive summary 5

Introduction 5
Approach 5
Findings 6
Summary of benchmarking results 11
Report structure 12

Section 2 Introduction and scope of work 13

Background 13
Overview of NATS 13
Overview of the economic regulation of NERL 15
Terms of reference 15
Information used 16
Limitations to our work 16
Structure of this report 17

Section 3 Approach 18

Introduction 18
Scope of benchmarking 18
Benchmark datasets 19
Data collection, consistency and verification 21
Benchmark metric calculations 22
Efficiency calculations 22
Recent and future cost trends 23

Section 4 Finance 25

Introduction 25
Benchmark datasets 25
Scope of benchmarking 26
Overall benchmarking results 28
Finance sub-process benchmarking 31
Recent and future trends 36
Conclusion 39

Section 5 Information Solutions 41

Introduction 41
Benchmark datasets 41
Scope of benchmarking 42
Overall benchmarking results 44
IS sub-process benchmarking 48

Recent and future trends 51
Conclusion 56

Section 6 Human resources 58
Introduction 58
Benchmark datasets 58
Scope of benchmarking 59
Overall benchmarking results 62
HR sub-process benchmarking 65
Recent and future trends 68
Conclusion 71

Section 7 Facilities management 73
Introduction 73
Benchmark datasets 73
Scope of benchmarking 74
Overall benchmarking results 76
Recent and future trends 80
Conclusion 82

Glossary

The following terms are used in this report.

Term	Definition
ATCO	Air traffic controller
BCO	British Council for Offices
CAA	Civil Aviation Authority
CP2	Control Period 2, which runs from 2006 to 2010
CP3	Control Period 3, which runs from 2011 to 2015
CTC	Corporate and Technical Centre facility in Fareham
Deloitte	Deloitte & Touche LLP
FM	Facilities management
FTE	Full time equivalent
GBP	Global Best Practices
GDNs	Gas Distribution Networks
HR	Human resources
IPD	Investment Property Databank
IS	Information solutions
In-scope processes	The sub-processes included in the benchmarked cost for each back-office function.
KPMG	KPMG LLP
LACC	Swanwick air traffic control centre
LTCC	West Drayton air traffic control centre
MACC	Manchester Area Control Centre
MoD	Ministry of Defence
NERL	NATS (En Route) plc's
NERL CP3 business plan	NERL draft baseline business plan for CP3

Term	Definition
NERL Service Lines	Collectively, Oceanic, Eurocontrol, London Approach, MoD Contract, North Sea Helicopters, NERL Services to NSL and Other External
NSL	NATS (Services) Limited
NTUS	NATS Trade Unions
Out-of-scope processes	The sub-processes excluded in the benchmarked cost for each back-office function.
PwC	PricewaterhouseCoopers
SCOACC	Scottish and Oceanic Control Centres at Prestwick
UKATS	UK Air Traffic Services

Section 1

Executive summary

Introduction

1.1 The Civil Aviation Authority ("CAA") is performing a review of the costs, efficiency and business plans of NATS (En Route) plc ("NERL"), as an input into setting the third price control for NERL ("CP3").

1.2 As part of this process, the CAA has engaged LECG to benchmark four of NERL's back-office cost functions, finance, information solutions ("IS"), human resources ("HR") and facilities management ("FM"). We have been asked to restrict our analysis to costs associated with non-operational activities.

1.3 This report presents the results of our analysis. This report has been written solely for the use of the CAA. We are aware that the CAA will rely, in part, on our findings and recommendations, as set out in this report. We are also aware that this report will be published as part of the CAA consultation processes.

Approach

1.4 The purpose of this study was to determine the relative efficiency of NERL's back-office costs over CP3. We have derived our findings by benchmarking NERL to comparable firms and industries. In calculating efficiency ratios (and hence implied savings), it can appear that benchmarking produces, as in this report, very precise results. In practice, however, benchmarking figures should be used more as a guide to, or indicator of, the direction and extent of any efficiency, rather than as the 'right' answer.

1.5 We understand that the conclusions presented in this report will form part of the CAA's overall assessment, which will consider the scope for efficiency savings using a variety of methods. None of these methods, including this benchmarking study, by itself provides a precise picture of the scope for savings over the forthcoming price control, and each requires a degree of judgement to be exercised when determining the implications for NERL. All methods face some limitations. Hence, the results of any benchmarking analysis can only ever be taken as a broad indication of relative efficiency.

1.6 However, by approaching the efficiency assessment from a number of different directions, the CAA will avoid placing undue weight on any one piece of analysis. We understand that the CAA will look at a broad range of evidence and will set cost allowances based on the overall picture that emerges. This will help to minimise the extent to which the overall conclusions might otherwise be subject to error.

1.7 For each of the back-office functions, finance, HR and IS, we present a range of savings opportunities. The use of third party evidence to determine a point estimate for efficiency may not take into account the range and variability of factors relevant to an exercise of this sort. As a result, we consider that it is more appropriate to reflect our results as a range, the bounds of

which represent possible views as to the minimum and maximum levels of efficient back-office costs. The bounds of our range are represented by two scenarios.

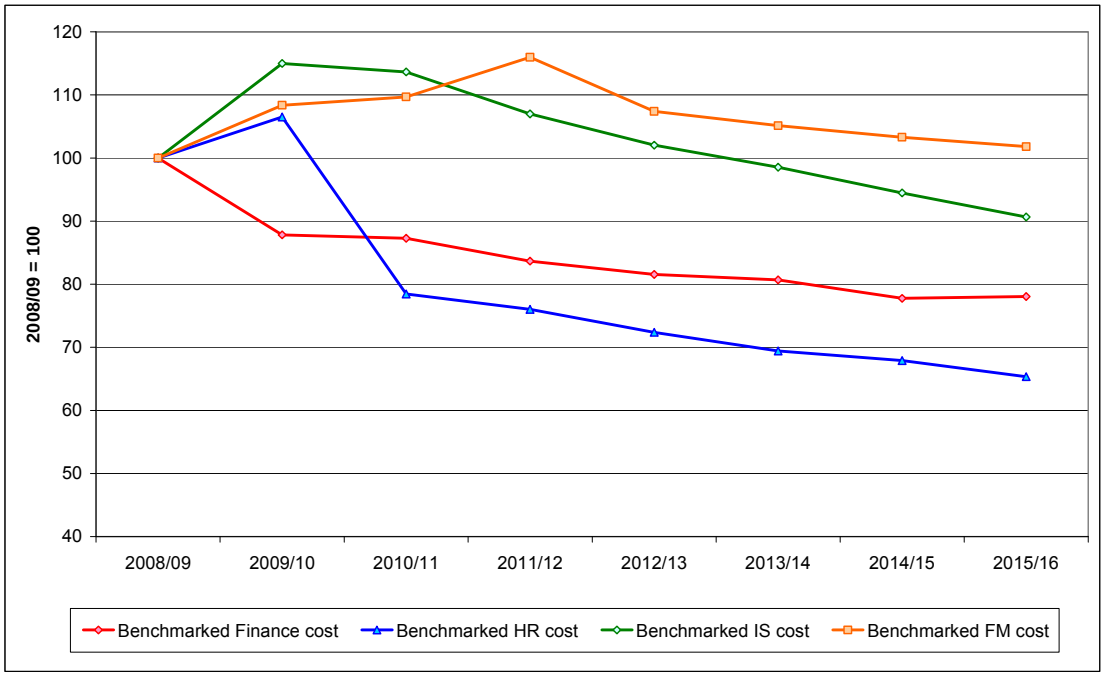
1.8 In our low savings scenario, we compare NERL's performance to the median benchmark performance. This scenario represents our principal view of available cost savings, in accordance with the CAA's position that NERL should at least be above the median company. In our high savings scenario, we compare the NERL's performance to a more challenging (i.e. upper quartile) benchmark. This scenario represents a stretch target and is likely to be towards the top end of the range of achievable cost savings. We consider that our approach is consistent with similar studies recently completed in the UK in other regulated industries. These targets were agreed in advance with the CAA.

1.9 We note that there still may be reasons why NERL is unable to meet the median benchmark, due to differences in comparability between datasets or due to real constraints to achieving additional cost reductions. Benchmarking is also limited in the sense that it does not tell us how quickly savings can be realised. It simply tells us there is a gap. Hence, in deriving our conclusions, we have considered the results of our analysis in the context of NERL's own plans and forecasts for CP3.

Findings

1.10 The chart below shows the CP3 cost trend for each benchmarked function, with 2008/09 set as the base year. The cost trend is derived from the draft baseline business plan for CP3 ("NERL CP3 business plan").

Figure 1: Summary of forecast back-office function costs for CP3



Source: NERL CP3 business plan. Note: Real trend in constant 2008/09 prices. IS costs have been normalised, as discussed in Section 5.

1.11 It is clear from our analysis, that NERL is forecasting significant savings over CP3. In the following sections, we summarise our findings on relative efficiency for each back office function. We consider these trends in reaching our conclusions.

Finance

1.12 Our benchmarking results suggest that NERL's finance function is efficient, relative to the benchmark (i.e. it is "relatively efficient"), for a company of its size. Our findings are provided in Section 4 and summarised in the table below.

Table 1: Summary of savings implied by overall finance benchmarks

	Implied low savings (£'000)	Implied high savings (£'000)	Implied low savings	Implied high savings	CP3 planned savings
Finance cost as a percentage of revenue	-	597	-	20%	22%
Finance FTEs as a percentage of total FTEs	-	-	-	-	16%

Source: See Section 4. Note: The implied savings are not cumulative (i.e. they are based on different benchmarks).

1.13 NERL's total finance cost is lower than our preferred median benchmark, which implies NERL is already relatively efficient. However, NERL also plans to reduce costs by a further 22% between 2008/09 and the end of CP3.

1.14 Our benchmarking of finance sub-processes shows that many of NERL's sub-processes perform better than the median benchmark. For some sub-processes, there appears to be scope to reduce costs. These processes include financial budgeting and analysis, travel and related expenses, and fixed-assets accounting. NERL has also identified cost saving opportunities in these areas.

1.15 Regulatory costs, which we benchmarked separately, are found to be relatively efficient. NERL's regulatory costs are lower than the available benchmarks. Over CP3, NERL forecasts an increase in regulatory costs (i.e. a 13% peak-to-peak real increase, or an increase of £50k per year) due to higher expected consultancy costs at the next price control review. Even with this increase, NERL's costs are relatively efficient.

1.16 In conclusion, NERL's finance costs in 2008/09 appear to be at a relatively efficient level. In addition, NERL plans to reduce these costs further during CP3.

IS

1.17 NERL's IS costs, after normalisations, in 2008/09 appear high for a company of its size against the revenue benchmark. However, NERL's IS costs appear low when compared against the median cost per IT user benchmark. Our findings are provided in Section 5 and summarised in the table below.

Table 2: Summary of savings implied by overall IS benchmarks

	Implied low savings (£'000)	Implied high savings (£'000)	Implied low savings	Implied high savings	CP3 planned savings
IS cost as a percentage of revenue	2,553	5,808	27%	61%	9%
IS cost per IT user	-	4,264	-	45%	-

Source: See Section 5. Note: The savings figures are not cumulative (i.e. they are based on different benchmarks). CP3 savings are stated after normalising certain IS costs, as explained in Section 5.

1.18 NERL would need to achieve savings of 27% to meet the median revenue benchmark. This result is broadly supported by the GBP £500m to £1bn revenue group benchmark, although NERL outperformed the median UK company benchmark. NERL has argued that using the global benchmark does not recognise that NERL's UK government security requirements prevent it from economically sourcing the global best price, as global companies can. This might skew the comparison of NERL's performance. Whilst this may be the case, we believe that less reliance can be placed on the UK company benchmark, as the dataset contains only 17 companies.

1.19 We also found that against the IS cost per IT user benchmark, NERL outperformed the median benchmark (i.e. that it was efficient against the selected benchmark). We note that against the "stretch" upper quartile benchmark, additional savings appear to be achievable. However, this stretch target appears too high to form a robust estimate of achievable savings. In fact, NERL would need to terminate a number of its essential outsourced infrastructure contracts to achieve the level of savings implied under the stretch target.

1.20 Hence, our findings are mixed and this suggests that the revenue benchmark and the upper quartile cost per IT user benchmark should be used with caution.

1.21 A possible explanation for the mixed indicators could be that NERL has a more intensive use of IT than many of the companies in the revenue benchmark dataset. NERL has an enterprise wide focus on employee self-service (e.g. for time capture, expense claims, leave and sickness recording, service requests) and a high proportion of its workforce use IT. In addition, NERL may be less able to benefit from cheaper IS labour rates in the global market due to limitations of their outsourcers to supply IS staff with the requisite level of security checks.

1.22 NERL has conducted a review of the IS function and believes that total operating cost can be reduced by £7m (in nominal terms) in aggregate during CP3. In 2008/09 prices, NERL expects that total IS costs will fall from £11.1m to £8.9, a fall of 20%. In addition, NERL has identified savings of £3m in capital expenditure during CP3.

1.23 NERL identified that in 2008/09 IS costs included a number of one-off costs and costs that were abnormally high. Consequently, in line with PwC's benchmarking guidelines, we normalised a number of costs in 2008/09. To ensure we then compared costs on a like-for-like basis, we also normalised these costs over CP3. On this basis, NERL expects normalised costs to fall from £9.5m to £8.6m, which equates to a 9% saving between 2008/09 and the end of CP3.

1.24 Based on the available evidence, we consider that there may be limited scope for NERL to reduce its IS costs by much more than is already anticipated in its business plan for CP3.

Over the longer term (i.e. after CP3), there is some evidence to suggest that further savings might be available.

HR

1.25 Our benchmarking results suggest that NERL's HR function costs in 2008/09 are high for a company of its size. A similar conclusion was reached in the Saratoga report during the CP2 review. Our findings are provided in Section 6 and summarised in the table below.

Table 3: Summary of savings implied by overall HR benchmarks

	Implied low savings (£'000)	Implied high savings (£'000)	Implied low savings	Implied high savings	CP3 planned savings
HR Cost as a percentage of revenue	1,286	3,551	29%	79%	35%
Direct labour cost per HR FTE	-	1,018	-	40%	14%
HR FTEs as a percentage of total FTEs	74	699	3%	28%	33%
Recruiting cost per new hire	1,460	1,832	79%	99%	58%

Source: See Section 6. The savings figures are not cumulative (i.e. they are based on different benchmarks).

1.26 NERL would need to achieve savings of 29% to meet our preferred median revenue benchmark. This finding is broadly supported by the other revenue benchmarks we have considered. Higher savings would be required against the upper quartile benchmarks.

1.27 Whilst savings of this level appear high, NERL itself is suggesting savings of around 35% by the end of CP3. NERL has identified cost savings in a number of areas, most notably in recruitment.

1.28 Recruiting costs represent 41.2% (in 2008/09) of the HR costs we have benchmarked. NERL spends more on recruitment compared to the benchmarks we have considered (see table above). We understand that NERL receives a high number of applications per air traffic control vacancy each year. It is thought that these applicants require more detailed and in-depth screening and testing compared to other companies.[1]

1.29 Our analysis found the recruitment cost per new hire for non-ATCO recruits was higher than for the combined recruitment process. This indicates that, despite the more complex process, ATCO recruitment is relatively more efficient than non-ATCO recruitment. By outsourcing the non-operational staff recruitment process and by rationalising the ATCO recruitment processes, in aggregate, NERL expects to achieve a 58% reduction in recruiting costs over CP3. Non-ATCO recruitment contributes the majority of these saving, 72%. The total recruitment saving represents a significant proportion of the HR cost reduction planned for CP3.

[1] NERL considers that the additional cost of recruiting ATCOs can have a knock-on effect to reduce overall training costs as it can restrict the number of potential recruits who do not make it through the ATCO training college.

1.30 NERL has also identified significant savings in its compensation design and administration processes. NERL also believes that the activity levels involved in restructuring the pension scheme and redundancy conditions will reduce over time.

1.31 Our direct labour metric implies that NERL does not overpay HR staff.

1.32 In conclusion, the NERL CP3 business plan identifies a 35% HR cost reduction, which is higher than the implied savings suggested by our preferred benchmarking of 29%. On that basis, NERL becomes relatively efficient by the end of CP3, even with higher ATCO recruitment costs.

FM

1.33 Since CP2, NERL has vacated several of its more inefficient properties and it has moved to less expensive locations. In real terms, however, FM costs are expected to increase between 2008/09 and 2011/12, driven by various restructuring costs and increased energy costs. After 2011/12, the benefits of NERL's restructuring start and costs fall through to the end of CP3. In real terms, FM costs increase by 2% between 2008/09 and the end of CP3.

1.34 Our benchmarking suggests that "theoretically" savings of between £921k and £2m could be achieved in the FM function. However, it is not clear to what extent these savings can actually be realised. Our findings are provided in Section 7 and summarised in the table below.

Table 4: Summary of savings implied by overall FM benchmarks

	Implied savings (£'000)	Implied low savings	CP3 planned savings
Total FM costs per FTE	2,059	17%	-2%
Total FM costs per m²	921	8%	-
Floor space per FTE	2,045	17%	-

Source: See Section 7. Note: Negative savings mean cost increases. The savings figures are not cumulative (i.e. they are based on different benchmarks). Benchmark results for individual properties are summarised in the conclusions of Section 7.

1.35 NERL's LACC property is the single biggest contributor to NERL's apparent relative inefficiency. However, NERL's ability to reduce this property's cost is restricted by factors outside of management's control. [redacted] The rateable value of the building is high [redacted] NERL is pursuing this matter with the relevant authorities and has appealed the basis for the calculation.

1.36 NERL also appears to be relatively inefficient in terms of its space utilisation (i.e. an implied saving of around £2m). Theoretically, NERL could try to increase the number of people it employs at each premise, or to try to reduce surplus space. However, we understand that NERL may be limited in realising the full extent of these savings due to the architectural designs of certain buildings (e.g. LACC). Where possible, we understand that NERL is working to increase its utilisation (e.g. the closure of Hurn and Manchester and the relocation of employees to the Corporate and Technical Centre ("CTC") and Prestwick respectively).

1.37 An additional constraint on cost reduction at air traffic control centres is that security restrictions make it almost impossible to let space to third parties to improve space utilisation.

1.38 On that basis, we believe that NERL's scope to achieve further reductions in cost is limited.

Summary of benchmarking results

1.39 The table below summarises the results from our benchmarking and shows the theoretical level of savings available to NERL across each of the benchmarked functions. The last column shows the savings that NERL has already built into their CP3 forecast. All figures are shown in 2008/09 prices.

Table 5: Summary of savings implied by overall functional benchmarking

	Implied low savings (£'000)	Implied high savings (£'000)	Implied low savings	Implied high savings	CP3 planned savings
Finance					
Finance cost as a percentage of revenue	-	597	-	20%	22%
Finance FTEs as a percentage of total FTEs	-	-	-	-	16%
IS					
IS cost as a percentage of revenue	2,553	5,808	27%	61%	9%
IS cost per IT user	-	4,264	-	45%	-
HR					
HR Cost as a percentage of revenue	1,286	3,551	29%	79%	35%
Direct labour cost per HR FTE	-	1,018	-	40%	14%
HR FTEs as a percentage of total FTEs	74	699	3%	28%	33%
Recruiting cost per new hire	1,460	1,832	79%	99%	58%
FM					
Total FM costs per FTE	2,059	-	17%	-	-2%
Total FM costs per m²	921	-	8%	-	-
Floor space per FTE	2,045	-	17%	-	-

Source: See Sections 4 to 7.

1.40 The theoretical savings implied above must be read in conjunction with the rest of this report. The term "savings" is a theoretical term, which does not mean that savings can necessarily be

realised. We show in this report that NERL faces a number of practical restrictions to making saving above the levels planned for CP3.

1.41 Overall, we would conclude that NERL's back office function appear to be relatively efficient. This conclusion is strengthened when total benchmark costs are considered, allowing for the potential trade-offs between support service cost categories (e.g. the relative efficiency of finance offsets inefficiencies elsewhere).

Report structure

1.42 In Section 2, we summarise our terms of reference in more detail. We summarise the information we have relied upon in developing the conclusions contained within this report and we summarise certain scope limitations. In Section 3, we provide a high-level overview of the approach we have adopted. In Sections 4 to 7, we summarise our analysis on a function-by-function basis.

Section 2

Introduction and scope of work

Background

2.1 In this section, we provide the background to the work we have performed, our terms of reference, as well as setting out certain limitations to the scope of our work.

2.2 The CAA is performing a review of the costs, efficiency and business plans of NERL, which will be an input into setting the third price control for NERL.[2] As part of this process, the CAA has engaged LECG to benchmark four of NERL's back-office cost functions, covering finance, IS, HR and FM.

2.3 We have been asked to restrict our analysis to costs associated with non-operational activities within NERL's regulated business.

Overview of NATS

2.4 NATS operates UK and North Atlantic en route air traffic control services through its regulated subsidiary, NERL. It provides additional airport air traffic control and other commercial services through its subsidiary, NATS (Services) Limited ("NSL").[3]

2.5 A summary of the NATS' group structure is set out in the figure below.

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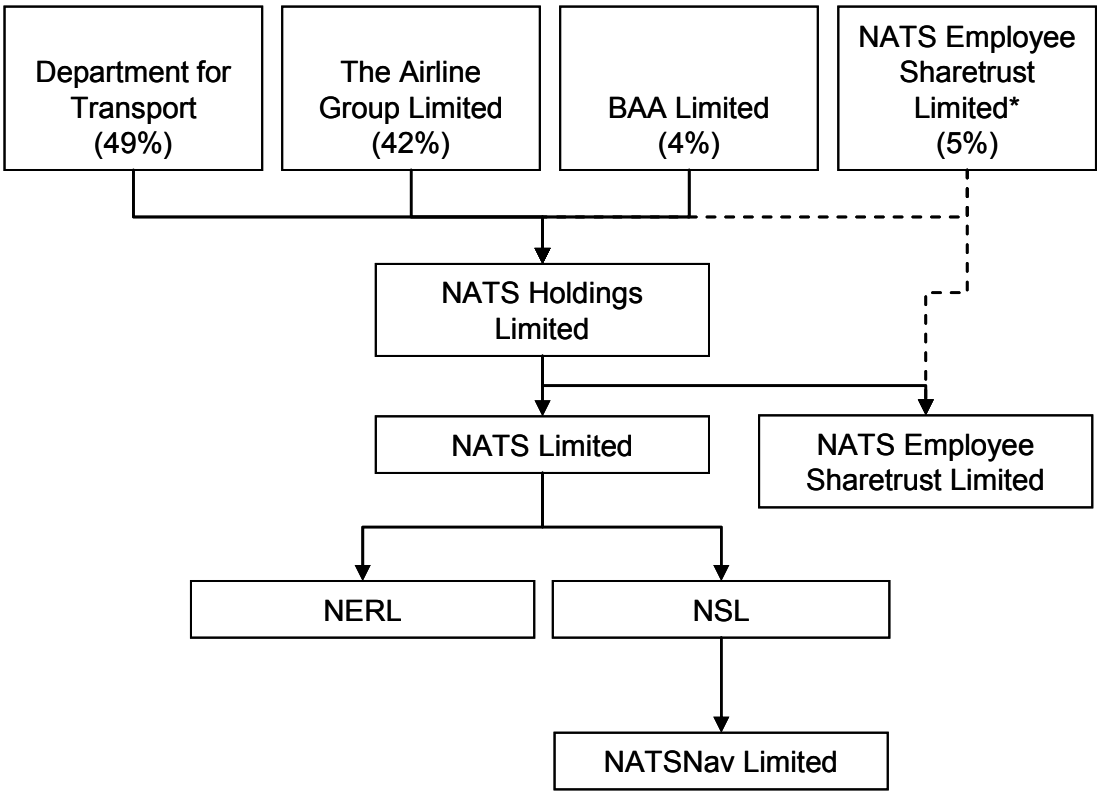
[2] CP3 runs from 1 January 2011 through to 31 December 2015 for NATS' Eurocontrol business and 1 April 2011 through to 31 March 2016 for NATS' Oceanic business. The prior control period, Control Period 2 ("CP2"), runs from 1 January 2006 to 31 December 2010 for Eurocontrol and 31 March 2011 for Oceanic.

[3] NATS Holdings Limited, Annual Report and Accounts 2008, page 22.

Figure 2.1: NATS' ownership and corporate structure



* Held on trust

Source: "Introduction to NATS (En Route) plc. Presentation for LECG – Cost Allocation Study", 28 April 2009, slide 5.

2.6 For internal reporting purposes, NERL reports under a number of different service lines. We summarise the principal activity performed by each service line below:

- Oceanic provides, *inter alia*, the air traffic control function for the Shanwick area of international airspace;
- Eurocontrol provides, *inter alia*, en route air traffic services for non-military aircraft flying in UK airspace;
- London Approach provides, *inter alia*, the terminal approach service for Heathrow, Gatwick and Stansted;[4]
- MoD Contract provides a number of services for the Ministry of Defence ("MoD"), including surveillance services from NATS' assets, navigation aids, and centre facilities and systems;
- North Sea Helicopters provides air traffic control services to helicopters travelling to and from the North Sea oil rigs;
- NERL Services to NSL performs all of the services covered by intercompany agreements with NSL. These services include, for example, the approach control service for London Luton airport; and

[4] This service line is not responsible for the terminal approach service to London Luton and London City airports. NSL is contracted to provide this service to these airports.

- Other External covers the other activities that NERL is permitted to carry out under Condition 5 of NERL's Licence. It comprises NERL's direct sales to external customers and includes NERL's site sharing and onward routed radar services. The Licence limits (i.e. caps) these other activities to 3% "of the aggregate turnover of the En Route Businesses".[5]

2.7 We understand that there is a multi faceted relationship between NATS and the MoD to ensure that a common body of airspace works in an effective and flexible way for civil and military users. NATS and the MoD operate a joint and integrated approach to air traffic management between civil and military sectors at, the heart of which are co-located military and civil controllers in each of NATS' air traffic centres. NATS provides services covering the provision of surveillance services from NATS assets (i.e. primary and secondary radars), navigation aids, and centre facilities and systems. Conversely, the MoD provides some services to civilian flights operating in uncontrolled airspace.[6]

2.8 In the remainder of this report, we refer to the above listed service lines collectively as the "NERL Service Lines".

2.9 NSL's principal activities relate to the provision of airport air traffic services at UK and overseas airports, and the sale of its expertise and capabilities to UK and overseas customers.[7] The latter includes air traffic consultancy, training services and airport data management.

2.10 We have been asked to focus our analysis on NERL's back-office costs. Where necessary we have removed NSL costs and revenues from the data we have been given.

Overview of the economic regulation of NERL

2.11 The CAA is responsible for the economic regulation of NERL. The CAA separately regulates NERL's Oceanic business and elements of the UK Air Traffic Service ("UKATS") business. The Oceanic business is subject to a price cap form of regulation. The regulated elements of the UKATS business relate to the Eurocontrol and London Approach service lines, and these are subject to a revenue cap form of regulation. Eurocontrol and London Approach are regulated under a single till approach, which takes into account the costs and revenues of all UKATS Service Lines.

2.12 The allowable revenue under the UKATS revenue cap is split between the Eurocontrol and London Approach service lines. We understand that currently the determination of this split is at NATS' discretion, subject to the condition that the revenue allocated to the London Approach service line should not lead to charges being set at levels that are materially less cost reflective. North Sea Helicopters is also a regulated service under the NERL Licence.

Terms of reference

2.13 LECG's terms of reference were set out in the CAA's document "Terms of Reference 09/04/2009 Ref. 1387 (Services Order 8)". These terms of reference are summarised below.

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5 "Introduction to NATS (En Route) plc. Presentation for LECG – Cost Allocation Study", 28 April 2009, slide 12. "Air traffic services licence for NATS (En Route PLC): This consolidated version includes all modifications as at 5 April 2007", CAA, 2007.

6 "CP3 price control review for NERL – CAA consultation", October 2008, pages 59 to 60.

7 "NATS (Services) Limited Financial Statements for the year ended 31 March 2008", page 1.

2.14 This study will be completed in two phases.

> *"Phase 1 will be a high-level scoping phase to identify the components of NERL's back office costs that are relevant to compare with other organisations. Under this phase the Contractor must also research and review the applicability of existing data sources relevant to this assignment including studies considered by NERL's own management and may include the CANSO HR metrics survey, the PWC finance benchmarking results and evidence from the Gartner IT metrics. The output of this phase will be a scoping report identifying areas where benchmarking is likely to be productive, assessing whether, and to what extent, existing data sources meet the requirement and identifying any information gaps including proposals on how these will be filled.*
>
> *Phase 2 will involve benchmarking or augmenting existing benchmarking of relevant costs using methodologies that have been agreed against the databases and comparator sectors and groups following the scoping phase."*

2.15 In discussions with the CAA, it was agreed that our analysis would focus on the following back office functions: finance, IS, HR and FM. Our methodology is summarised in full in Section 3.

Information used

2.16 LECG has relied on the information provided by NERL and the CAA. This is normal in reviews of this nature.

2.17 The findings presented in this report are based largely on our review and consideration of the information provided by NERL in response to our specific data requests. During our review, we worked with the CAA to gather the information necessary to complete our agreed scope of work. In so doing, we sought to ensure that all information requests were made on a timely and reasonable basis, prioritised and documented. We sought to agree the timing of NATS' responses in advance.

2.18 A significant amount of data was requested. We acknowledge that considerable information demands have recently been placed on NATS. Consequently, it was unable to respond to the information requests as efficiently as would otherwise be possible.

Limitations to our work

2.19 We have checked the internal consistency of data supplied to us by NERL and the comparators listed in this report. However, nothing in this report should be taken to imply that we have conducted any procedures or investigations in an attempt to verify or confirm, by means of reviewing source documentations or processes, the accuracy of the data underlying each of NERL's processes, beyond that specifically described in the report. Our work does not constitute an audit.

2.20 This report has been written solely for the use of the CAA and it presents the findings of our benchmarking analysis. We are aware that the CAA will rely, in part, on our findings and recommendations as set out in this report and that it will be published as part of the CAA's consultation processes.

2.21 Our work is limited to forming a view on the efficiency of certain back-office functions within NERL relative to a range of benchmarks. We have not been asked to determine efficiency on

wider basis. We understand that the CAA will consider the findings of all their consultants, NERL's responses in consultations and bilateral meetings, and its industry knowledge to determine total allowable costs. Therefore, the findings presented in this report do not necessarily represent the CAA's final determination of the allowable back-office costs over the price control period.

Structure of this report

2.22 The rest of our report is set out as follows:

- in Section 3 we summarise our benchmarking approach;
- in Section 4 we present our findings in relation to NERL's finance function;
- in Section 5 we present our findings in relation to the NERL's IS function;
- in Section 6 present our findings in relation to the NERL's HR function; and
- in Section 7 present our findings in relation to the NERL's FM function.

Section 3

Approach

Introduction

3.1 This section describes our approach to benchmarking NERL's business support and corporate costs. We have been asked to review finance, HR, IS and FM. We refer to these functions collectively as the back-office functions. The primary focus of our work was to benchmark back-office costs by comparing them to external third party benchmarks.

3.2 In calculating efficiency ratios and implied savings, it can appear that benchmarking produces, as in this report, very precise results. In practice, however, benchmarking figures should be used more as a guide to, or indicator of, the direction and extent of any efficiency rather than as the 'right' answer.

3.3 We understand that the efficiency conclusions presented in this report will form part of the CAA's overall assessment, which will consider the scope for efficiency savings using a variety of methods. None of these methods, including this benchmarking study, by itself provides a precise picture of the scope for savings during the forthcoming price control, and each requires a degree of judgement to be exercised when determining the implications for NERL. All methods face some limitations. The results of any benchmarking analysis can only ever be taken as an indication of relative efficiency.

3.4 However, by approaching the efficiency assessment from a number of different directions, one avoids placing undue weight on any one piece of analysis. We understand that the CAA will look at a broad range of evidence and will set cost allowances based on the overall picture that emerges. This will help to minimise the extent to which the overall conclusions might otherwise be subject to error.

Scope of benchmarking

3.5 Our benchmarking focused on NERL's back-office costs relating to non-operational activities as reported in the management accounts. The individual sub-processes comprising each of the back-office functions were reviewed for inclusion in the benchmarking analysis.

3.6 The processes that are included in our analysis are referred to as "in-scope processes". These processes matched the processes in the benchmark dataset. Where processes are excluded, we have verified the reasons for their exclusion. Such reasons include, *inter alia:*

- one-off process costs which are not reflective of NERL's on-going operating costs (e.g. cost of relocating personnel due to site closures);
- unique process costs which are driven by the particular nature of NERL's business operations (e.g. insurance costs and security costs). These costs would not be comparable to a benchmark dataset; and

- costs not included in the external benchmark dataset. Hence, costs are excluded to ensure that the benchmarking is performed on a like for like basis.

3.7 Following our review of each of the functions, the in- and out-of-scope costs were agreed with the CAA. The table below provides a breakdown of each back-office cost, split into "in-scope" and "out-of-scope".

Table 6: In-scope and out-of scope benchmarked costs for NERL's back-office functions

(£'000)	Finance 2008/09	HR 2008/09	IS 2008/09	FM* 2007/08	Total
Total cost	**17,542**	**33,722**	**11,089**	**11,859**	**74,211**
In-scope processes[#]	7,648	4,482	9,466	11,859	33,456
Out-of-scope processes	9,893	29,239	1,623	-	40,756

Source NERL response to LECG data request. Note: ([#]) Finance in-scope processes include regulatory costs, which were benchmarked separately. (*) FM costs are those provided by NERL to IPD for its benchmarking report.

3.8 We discuss the specific reasons for excluding out-of-scope costs for each back-office function later in this report.

Benchmark datasets

3.9 NERL uses PwC's global best practices benchmarking tool to benchmark NERL's finance, HR and IS costs and IPD to benchmark its FM function. PwC and IPD used their own proprietary datasets to calculate relevant benchmark ratios. We have assessed the benchmark data for comparability with NERL and where appropriate used it in our report.

PwC benchmarking of finance, HR and IS functions

3.10 As part of their Global Best Practices ("GBP") service offering, PwC conducts a survey of companies, each of which contribute their cost and other benchmark information. Companies complete the survey for one or more subset of processes constituting each function. For each sub-process PwC provides a detailed definition of the relevant costs, including an example of the relevant and non-relevant costs. NERL has confirmed that the costs provided to us for each sub-processes match PwC's processes definitions. Our review confirms that this appears to be the case.

3.11 A number of criteria segment the overall GBP dataset of companies, which allows us to select the most appropriate comparator set for an individual company. These criteria are:[8]

- all companies;
- industry;
- geography;
- revenue range; and
- headcount range.

[8] "Before you begin", GBP, http://globalbestpractices.pwc.com/.

3.12 Although any combination of these criteria can be used to segment the dataset, some combinations greatly reduced the number of peer companies within the chosen segment. NERL has selected the following three datasets:[9]

- Worldwide companies with revenues between £500m to £1bn;
- UK/N&W European companies with no specific revenue range; and
- Worldwide companies with no specific revenue range.

3.13 In benchmarking finance, HR and IS we have selected the most appropriate dataset for each function, based on the average size of the companies included.

3.14 We have used revenue and total FTEs as the main indicators of a company's size.

Third party benchmarking of regulatory sub-process

3.15 Through various regulatory reviews, LECG has collected data on regulation costs incurred by various regulated companies. We reviewed the various regulation cost datasets available to LECG. These are presented in more detail in Section 4.

3.16 Of the available datasets, we determined that the most appropriate dataset to benchmark NERL's regulation costs against comprised the four UK regulated gas distribution companies ("GDNs"). Whilst not a perfect comparator, GDNs have the following characteristics which make it the most appropriate for these purposes:

- their average turnover is close to NERL's revenue of £612m, indicating that the organisations are of similar size. Other regulated companies are significantly larger than NERL;
- the GDNs and NERL are regulated by an independent UK regulatory authority;
- both NERL and the GDNs currently face five yearly price controls. Both have annual regulatory reporting requirements; and
- the GDN data is the most recently available.

IPD benchmarking of FM function

3.17 NERL commissioned IPD to perform a benchmarking study of NERL's FM function ("IPD 2009 report").[10] Unfortunately, the annually updated IPD dataset for 2008/09 was not finalised at the time of this study. Consequently, the 2007/08 study has been used.

3.18 To collate its data, IPD conducts an annual survey of companies' FM costs. The resulting dataset is segmented according to three criteria to create a unique benchmark dataset for each property in the benchmarked company's portfolio:

- office type,
- office centre type; and
- geographic location.

3.19 A set of cost and space efficiency metrics has been calculated for each dataset. Each benchmarked property is compared to the benchmark dataset's average value for each

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[9] NERL commissioned PwC to benchmark the finance, HR and IS functions. NERL provided the results to LECG for the analysis presented in this report.

[10] "Key Office Report: NATS", IPD, May 2009.

metric. We have been permitted to use the IPD metrics for our analysis. We have not been permitted by the IPD to publish these metrics, as they are considered commercially sensitive and confidential.

3.20 The benchmark data compiled by the IPD for each property takes into account the factors driving costs in a particular region (such as regional rent and rate variations). This makes the data more relevant than using data collated using a national survey or sample.

Data collection, consistency and verification

3.21 LECG issued an initial data request to NERL to obtain:

- the necessary financial information (including costs, FTE and revenue data);
- sub-process descriptions;
- a reconciliation of the back-office function costs to management accounts;
- the benchmarking reports (PwC and IPD reports) commissioned by NERL; and
- the forecast data and the NERL CP3 business plan.

3.22 We have tried to ensure that the information gathered is presented on a consistent basis. A significant element of our work has been to assess the validity and the consistency of the data provided to us. However, we recognise that where the costs of certain activities are recorded may differ between organisations. As such, the results of the benchmarking analysis need to be corroborated with further analysis.

3.23 For example, we have also examined the sub-processes contained within each back-office function cost category. We have also verified costs and process definitions through a series of supplementary questions and discussions with NERL. However, the results of any benchmarking analysis can only ever be an indication of relative efficiency.

3.24 Our draft reports were reviewed by the CAA and by NERL for factual accuracy. We expected this review to highlight any further data inconsistencies or other factual inaccuracies. We have updated our reports to address comments from NERL and the CAA where appropriate.

Revenue used in the benchmarking analysis

3.25 Many of the metrics used in this report are based on costs expressed as a function of revenue, in line with many regulatory precedents and third party benchmarks. In accordance with our instructions, we have benchmarked NERL's back-office function costs excluding cross-charges for services provided to NSL. To calculate a "cost as a percentage of revenue" metric we have used the corresponding "NERL only" revenue.

3.26 At a sub-process level, however, NERL could not provide costs breakdowns excluding NSL charges for finance and FM. Consequently, NERL's and NSL's joint revenue is used for these sub-process revenue metrics.

3.27 The table below shows these revenue figures used in our benchmarking calculations.

Table 7: 2008/09 revenue figures for benchmarking metrics

(£'000)	2008/09
NERL's and NSL's revenue	767,300
NERL's revenue	611,677

Source: NERL response to LECG data request. Note: Reconciled to management accounts.

Benchmark metric calculations

3.28 The base year for most of our benchmark metric calculations is 2008/09. Using the 2008/09 data, we recalculated the benchmark metrics. This often led to different results to those calculated by PwC because:

- we used figures from NERL's finalised 2008/09 accounts whereas PwC used preliminary figures;
- our analysis excluded costs relating to services provided to NSL at a function level (and where NERL was able to provide the information at a sub-process level). PwC calculated the metrics on data which included the cross-charges to NSL; and
- we made adjustments to ensure that NERL's in-scope processes matched the PwC sub-process definitions. For example, we included the costs of internal audit within the finance costs benchmarked. This had been excluded in the data provided to PwC by NERL.

3.29 We then compared NERL's recalculated metrics to the benchmark metrics. This allowed us to determine whether NERL appeared efficient relative to the benchmark.

3.30 The base year for the FM calculations is 2007/08. This is because the IPD report compared NERL's 2007/08 costs to their 2007/08 benchmark dataset. In general, if we had compared NERL's 2008/09 costs, we would not expect the results of the benchmarking to be significantly different.

Efficiency calculations

3.31 For each of the back-office functions, finance, HR and IS, we present a range of savings opportunities. The use of third party evidence to determine a point estimate for efficiency may not take into account the range and variability of factors relevant to an exercise of this sort. As a result, we consider that it is more appropriate to reflect our results as a range, the bounds of which represent possible views as to the minimum and maximum levels of efficient back-office costs. The bounds of our range are represented by two scenarios.

3.32 In our low savings scenario, we compare NERL's performance to the median benchmark performance. This scenario represents our principal view of available cost savings, in accordance with the CAA's position that NERL should at least be above the median company. In our high savings scenario, we compare the NERL's performance to a more challenging (e.g. upper quartile) benchmark. This scenario represents a stretch target and is likely to be towards the top end of the range of achievable cost savings. We believe that our approach is consistent with similar studies recently completed in the UK in other regulated industries. These targets were agreed in advance with the CAA.

3.33 The third party studies we have identified present their benchmarking metrics in a number of different forms. Most data is presented in terms of the median or upper quartile, but sometimes averages are presented. Benchmarks presented as a median or upper quartile are generally preferred to benchmarks presented as an average, as they are less skewed by outliers in the underlying dataset.

3.34 The savings opportunity calculation for NERL's FM function uses a single benchmark, the average, rather than a median to upper quartile range, as each individual site is compared to a customised dataset relevant to the specific property.

3.35 We note that there still may be reasons why NERL is unable to meet the median benchmark, due to differences in comparability between datasets or due to real constraints to achieving additional cost reductions. Benchmarking is also limited in the sense that it does not tell us how quickly savings can be realised. It simply tells us there is a gap. Hence, in deriving our conclusions, we have considered the results of our analysis in the context of NERL's own plans and forecasts for CP3.

Recent and future cost trends

3.36 For each function, we have considered NERL's performance in CP2. We have also considered NERL's reported level of efficiency at the last price control.

3.37 For the CP2 review, the CAA commissioned KPMG and Saratoga to benchmark NERL's back-office cost function. KPMG benchmarked NERL's finance, IS and FM functions (the "KPMG 2004 report") and Saratoga benchmarked NERL's HR function (the "Saratoga 2003 report").[11]

3.38 We have performed a high-level review of the changes that have occurred since the CP2 review. Our review is qualitative in nature. We have not performed a quantitative analysis of historical cost trends due to data consistency issues. NERL has recently migrated to a new SAP system. This system change has restricted the dataset to two years of consistent historical data (i.e. 2007/08 and 2008/09).

3.39 Our qualitative review includes a summary of the recent major changes and cost reduction programmes for each of the benchmarked back-office functions.

3.40 We also reviewed future cost trends for each function and its material sub-processes. NERL has provided an annual dataset for each of the in-scope process costs. This information is based on the forecast produced for the NERL CP3 business plan.

3.41 NERL presents its business plan and forecasts on a nominal basis. In response to a subsequent LECG data request, NERL provided their annual inflation assumptions, which we have used to recalculate the cost trends in constant 2008/09 prices. The table below shows the relevant assumptions that have been used.

[11] "Benchmarking the corporate function costs of NATS", KPMG for the Civil Aviation Authority, 2004. "HR Index benchmark report: NATS", EP-First and Saratoga, 2003.

Table 8: CP3 annual inflation assumptions for the NERL CP3 business plan

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Mid-financial year average inflation		-1.80%	1.90%	2.90%	3.50%	3.40%	3.60%	3.20%
Inflation index	100	98	100	103	107	110	114	118

Source: NERL response to LECG data request. Note: Used by NERL to inflate capex, non-staff costs and non-regulated revenues in the March 2009 NERL CP3 business plan.

3.42 We reviewed the real cost trends for each of the back office functions to inform our view on the extent to which any implied savings opportunities identified in our benchmarking review have been captured in the NERL CP3 business plan.

Section 4

Finance

Introduction

4.1 In this section, we discuss our benchmarking of NERL's finance function. Specifically, we consider:

- the datasets we have used to benchmark finance function costs;
- the nature of NERL's finance costs and the scope of our benchmarking exercise;
- our benchmarking results for the overall finance function;
- our benchmarking results for selected finance sub-processes; and
- recent cost trends and NERL's forecast for CP3.

4.2 At the end of the section, we draw our analysis together and present our conclusions.

Benchmark datasets

4.3 NERL's finance costs have been benchmarked against three PwC GBP datasets. The table below summarises the characteristics of these three datasets.

Table 9: GBP finance benchmark datasets

	Number of firms	Average turnover	Average FTEs
GBP 2009 £500m to £1bn revenue	23	£682m	4,556
GBP 2009 UK	68	£648m	6,414
GBP 2009 Worldwide	361	£2,115m	9,065

Source: PwC Global Best Practices.

4.4 NERL's revenue and FTEs are most closely aligned with the £500m to £1bn revenue dataset.[12] We have used this dataset as the main benchmark to measure the efficiency of NERL's finance function. This choice of benchmark is also consistent with the nature of the finance function, which is largely determined by the size of a company.[13]

4.5 We have sought to corroborate our results using the other two datasets.

4.6 We have benchmarked NERL's regulatory cost separately using the benchmark metrics presented below.

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12 Source: PwC Global Best Practices and NERL response to LECG information request. NERL's revenue was £612m and its FTEs were 3,958 in 2008/09.

13 We note that the number of firms included in this dataset is smaller than in the other GBP datasets and therefore we have corroborated our findings against the other two GBP datasets.

Table 10: Regulatory cost as a percentage of total operating cost

Sources	Actual metric
Four UK gas distribution networks ("GDNs")	0.17% to 0.21%
National Grid (Deloitte, 2005/06)	0.11%
National Grid (Deloitte, 2004/05)	0.07%
Royal Mail (LECG, 2003/04)[14]	0.04%
Network Rail (OXERA, 2003/04)	0.38%
NGC 2000/01 (Arthur Andersen, 2001)	0.24%
Transco 2001 (Arthur Andersen, 2001)	0.47%

Source: Deloitte, OXERA, LECG, Arthur Andersen, LECG analysis.

4.7 We have excluded Royal Mail's, National Grid's and Network Rail's figures on the basis that the companies are significantly larger than NERL and because the available metrics include other non-regulation costs. The Transco benchmark should not be used, as this was deemed inefficient by Andersen. Therefore, we believe that the GDNs provide the best benchmark.

4.8 The table below summarises the characteristics of the four companies that together form the benchmark dataset for regulatory costs.

Table 11: GDN benchmark dataset

	Number of firms	Average turnover	Average FTEs
GDNs 2008/09 – 2012/13	4	£727m	2,666

Source: GDN data from LECG's NGGD, NGN, SGN and WWU benchmarking reports produced for Ofgem.[15] Note: The calculation of the average benchmark is discussed in the relevant sections of the LECG reports for Ofgem.

4.9 The GDNs provide the best available benchmark for reasons summarised in Section 2.

Scope of benchmarking

4.10 The total finance function can be broken down into sub-processes, which can be split into in-scope and out-of-scope categories.

4.11 The table below provides a high-level breakdown of this split.

[14] Royal Mail's Strategy and Regulation department was charged with "*quality of service measurement and the relationship with Postcomm*", amounting to £2.3m in 2003/04. Royal Mail's total controllable and non-controllable letter related operating costs for 2003/04 equalled £6,095m. "Future efficient costs of Royal Mail's regulated mail activities - Appendix 16", LECG, 2 August 2005. Royal Mail, "Regulatory Accounts", 2003/04.

[15] "Benchmarking National Grid Gas Distribution's business support services", LECG, report for Ofgem, 2007; "Benchmarking Northern Gas Networks' business support services", LECG, report for Ofgem, 2007; "Benchmarking Scotia Gas Networks' business support services", LECG, report for Ofgem, 2007; and "Benchmarking Wales and West Utilities' business support services", LECG, report for Ofgem, 2007.

Table 12: Overall scope of finance function

	NERL 2008/09 (£'000)	% of finance cost
Total finance cost	**17,542**	**100.0%**
In-scope processes*	2,968	16.9%
Regulatory costs#	4,681	26.7%
Out-of-scope processes	9,893	56.4%

Source: NERL response to LECG data request. Note: All charges to NSL are excluded. (*) In-scope processes include £44k of headquarters costs and £176k of notional IT costs that are not allocated to finance in the management accounts but were included in the in-scope process costs. (#) This figure includes CAA charges. We benchmarked only NERL's controllable regulatory costs (i.e. excluding CAA charges as described in the relevant section below). We have adjusted this line item to include staff costs. Before 2009/10, salary and pension costs for regulatory staff had not been included in the finance category.

4.12 For benchmarking purposes, we have adjusted NERL's total finance cost to exclude charges to NSL. At a sub-process level, however, we have not excluded charges to NSL because NERL was unable to perform this task easily and within the timeframe of this engagement. This approach is unlikely to affect our overall conclusions as we only use the sub-process analysis to corroborate our findings.

4.13 The out-of-scope processes represent 56.4% of the overall finance function cost. These processes are listed below.

Table 13: Out-of-scope finance process costs

	NERL 2008/09 (£'000)	% of cost
Out-of-scope processes	**11,044**	**100.0%**
Insurance	6,205	56.2%
Project accountants	1,382	12.5%
Corporate Finance/Management Accountant	776	7.0%
Divisional Management	748	6.8%
Treasury	566	5.1%
NERL Management Accountants (Commercial Decision)	426	3.9%
Treasury management	443	4.0%
Route charges	335	3.0%
Corporate managers	150	1.4%
Other out-of-scope processes	12	0.1%

Source: NERL response to LECG data request. Note: All process level costs include charges to NSL.

4.14 The out-of-scope processes were also excluded during the CP2 price control benchmarking review, except for the exclusion of the treasury process. It is difficult to benchmark treasury costs across organisations as each treasury department can be organised differently due to the nature and complexity of each company's operations and its approach to treasury risk

management. We explain below why insurance and project accountants, comprising the majority (i.e. 69%) of the out-of-scope process costs have been excluded.

- *Insurance*: there is limited scope to benchmark insurance due to the unique nature of and risks associated with NERL's business operations. Insurance costs account for 56.2% of the out-of-scope processes.
- *Project accountants:* these costs relate to accountants supporting large capital expenditure project. Although their salary costs are recorded as a finance cost initially, their costs are capitalised through a recharge as part of project cost.

4.15 One reason that certain costs have been excluded is because they are not included in the external benchmark dataset. We understand that treasury management costs are included in a separate PwC benchmark tool, to which NERL does not subscribe.

4.16 Together, in-scope processes and regulatory costs account for 43.6% of the total finance function cost. We have benchmarked regulatory cost separately as it is a cost unique to regulated companies.

4.17 The 10 sub-processes comprising the in-scope finance costs are listed below.

Table 14: In-scope finance process costs

	NERL 2008/09 (£'000)	% of cost
In-scope finance processes	**3,495**	**100.0%**
Financial budgeting and analysis	1,556	44.5%
Accounts payable	413	11.8%
Close-the-books/financial reporting	368	10.5%
Payroll	233	6.7%
Accounts receivable	234	6.7%
Internal audit	214	6.1%
Travel and related expenses	156	4.5%
Fixed-assets accounting	125	3.6%
Tax	121	3.5%
Billing	75	2.1%

Source: NERL response to LECG data request. Note: All sub-process level costs include charges to NSL. These in-scope processes match the processes included in the benchmark dataset.

4.18 The in-scope sub-processes are discussed in more detail below.

Overall benchmarking results

4.19 In this section, we present our main benchmarking results for NERL's finance function. The following section focuses on the sub-processes.

4.20 Our overall benchmarking results include the following metrics: "cost as a percentage of revenue", "finance FTEs as a percentage of total FTEs" and the percentage of personnel with certifications. The table below summarises the costs and metrics used in our benchmark calculations.

Table 15: Finance benchmarking variables

Benchmark variables	NERL 2008/09
NERL & NSL revenue (£'000)	767,300
NERL revenue (£'000)	611,677
NERL FTEs	3,958
Finance department cost (£'000)	2,968
Finance direct labour cost per FTE (£'000)*	65
Finance FTEs#	51

Source: NERL response to LECG data request. Note: (*) Total finance department direct labour costs including out-of-scope processes (£6.5m) divided by total finance FTEs including out-of-scope processes (100). (#) Finance FTEs exclude two NSL FTEs.

4.21 The savings opportunity implied by comparing NERL's finance cost as a percentage of revenue to the median and upper quartiles respectively are shown in the table below.

Table 16: Finance cost as a percentage of revenue

	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 £500m - £1bn revenue	0.49%	0.99%	2.04	-
GBP 2009 UK	0.49%	1.03%	2.13	-
GBP 2009 Worldwide	0.49%	1.08%	2.23	-
Upper quartile				
GBP 2009 £500m - £1bn revenue	0.49%	0.39%	0.80	597
GBP 2009 UK	0.49%	0.67%	1.39	-
GBP 2009 Worldwide	0.49%	0.59%	1.21	-

Source: GBP and NERL response to LECG data request. The shaded rows highlight our favoured benchmark.

4.22 NERL appears efficient when compared to the median of all three datasets. To achieve the upper quartile benchmark set by the GBP £500m to £1bn revenue group, NERL would need to realise efficiency savings of around £597k. We note that NERL outperforms the upper quartile of the two other remaining datasets.

4.23 Of course, it is always difficult to allocate costs at a sub-process level. In trying to match its costs to the benchmark definition provided by GBP, it is possible that NERL could have wrongly allocated some costs to the out of scope processes. This would result in NERL appearing very efficient against the benchmark. However, excluding costs for insurance[16], if the majority of the remaining out of scope processes were to be included within the finance costs being benchmarked, NERL would still appear efficient against the benchmark dataset.

[16] We believe due to the nature of insurance costs, it should be easy for NERL to allocate insurance costs correctly (i.e. they are easily identified and classified).

4.24 The table below presents our results using the finance FTEs as percentage of total FTEs metric.

Table 17: Finance FTEs as a percentage of total FTEs

	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving	Average finance staff cost saving (£'000)
Median					
GBP 2009 (£500m - £1bn)	1.28%	3.42%	2.67	-	-
GBP 2009 UK	1.28%	1.69%	1.32	-	-
GBP 2009 Worldwide	1.28%	3.22%	2.51	-	-
Upper quartile					
GBP 2009 £500m - £1bn revenue	1.28%	1.32%	1.03	-	-
GBP 2009 UK	1.28%	1.19%	0.93	4 FTEs	233
GBP 2009 Worldwide	1.28%	1.71%	1.33	-	-

Source: GBP and NERL response to LECG data request. Note: The shaded rows highlight our favoured benchmark. Average finance staff cost saving is calculated as implied FTE saving multiplied by the average finance FTE cost from Table 15 (3.58 FTEs times £65.21k).

4.25 Against most benchmarks, and our preferred dataset, NERL again appears efficient.

4.26 The table below considers the percentage of finance personnel with degrees or certifications for management and non-management personnel.

Table 18: Percentage of finance personnel with degrees/certifications

	Management	Non-management
NERL 2008/09	78.6%	22.2%
GBP 2009 £500m - £1bn revenue	85.7%	51.2%
GBP 2009 UK	79.2%	29.8%
GBP 2009 Worldwide	86.6%	57.0%

Source: GBP and NERL response to LECG data request. Note: The shaded row highlight our favoured benchmark.

4.27 Although NERL's managers are generally well qualified compared to the median, people below the level of manager appear to have considerably lower certification levels, except when compared to the UK group.[17] Differences in the labour market could account for this if, for example, UK employers gave their personnel more on-the-job training. This may explain why NERL appears efficient, but the analysis is far from conclusive.

[17] Relatively less well qualified people work in transaction processing.

Finance sub-process benchmarking

4.28 We have benchmarked finance costs as a percentage of revenue for each of the sub-processes. We compare costs to the median benchmark in the table below using our preferred dataset.

Table 19: Finance sub-process costs as a percentage of revenue

	NERL 2008/09	£500m to £1bn median	Implied saving (£'000)
Finance cost including charges to NSL	**0.46%**	**0.99%**	-
Financial budgeting and analysis	0.20%	0.13%	544
Accounts payable	0.05%	0.06%	-
Close-the-books/financial reporting	0.05%	0.11%	-
Payroll	0.03%	0.07%	-
Accounts receivable	0.03%	0.06%	-
Internal audit	0.03%	0.04%	-
Travel and related expenses	0.02%	0.01%	62
Fixed-assets accounting	0.02%	0.01%	15
Tax	0.02%	0.02%	-
Billing	0.01%	0.03%	-

Source: GBP and NERL response to LECG data request. Note: NSL revenue is included in the revenue figure to be consistent with the inclusion of charges to NSL in the process costs.

4.29 We present the full benchmark metrics for each of the three material processes (one of which appears inefficient) together with those sub-processes which may be inefficient below. These processes are:

- financial budgeting and analysis;
- accounts payable;
- close-the-books/financial reporting
- travel and related expenses; and
- fixed-assets accounting.

4.30 These processes account for 75% of benchmarked finance costs.

Financial budgeting and analysis

4.31 Our benchmarking results for the financial budgeting and analysis process are shown below.

Table 20: Financial budgeting and analysis cost as a percentage of revenue

	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 £500m - £1bn revenue	0.20%	0.13%	0.65	544
GBP 2009 UK	0.20%	0.21%	1.03	-
GBP 2009 Worldwide	0.20%	0.13%	0.62	587
Upper quartile				
GBP 2009 £500m - £1bn revenue	0.20%	0.06%	0.27	1,129
GBP 2009 UK	0.20%	0.09%	0.46	839
GBP 2009 Worldwide	0.20%	0.06%	0.30	1,094

Source: GBP and NERL response to LECG data request. The shaded rows highlight our favoured benchmark.

4.32 To achieve the benchmarks set by the £500m to £1bn revenue group, NERL would need to realise efficiency savings of between £544k and £1,129k. This range is corroborated by the all except one of the other benchmarks (i.e. NERL's costs are lower than the UK median).

4.33 NERL ascribed the relatively poor performance of the financial budgeting and analysis process to the fact that they plan both on a demand and supply basis and analyse data by business area. In addition, NERL considers their planning horizons to be longer than most businesses due to the five-year price control cycle.

Accounts payable

4.34 Our benchmarking results for the accounts payable process are shown below.

Table 21: Accounts payable cost as a percentage of revenue

	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 £500m - £1bn revenue	0.054%	0.057%	1.05	-
GBP 2009 UK	0.054%	0.114%	2.13	-
GBP 2009 Worldwide	0.054%	0.107%	1.99	-
Upper quartile				
GBP 2009 £500m - £1bn revenue	0.054%	0.043%	0.79	85
GBP 2009 UK	0.054%	0.066%	1.22	-
GBP 2009 Worldwide	0.054%	0.057%	1.05	-

Source: GBP and NERL response to LECG data request. The shaded rows highlight our favoured benchmark.

4.35 The benchmarks imply possible savings in the range zero to £85k. Although the lower value is corroborated by the UK and Worldwide benchmarks, the upper quartile value is higher than the other datasets. Considered overall, the suggested level of savings is immaterial.

4.36 The table below shows our benchmarking results for accounts payable based on its main cost driver, vendor invoices.

Table 22: Additional accounts payable benchmark metrics against the median

	NERL 2008/09	£500m to £1bn revenue	UK	World
Cost per vendor invoice processed (£)	24	5	4	5
Annual invoices processed per FTE	2,358	10,484	7,823	7,796
Voucher processing error rate	49%	4%	6%	2%

Source: GBP and NERL response to LECG data request. The shaded column highlights our favoured benchmark.

4.37 Although NERL's accounts payable process performs well against the cost as a percentage of revenue metric above, it is below the median when the number of vendor invoices is considered as cost driver. The high processing error rate relative to all three benchmark datasets indicates that there may be efficiency gains available in the accounts payable process. NERL's management indicated that this error rate relates to known flaws in the end-to-end "Purchase to Pay" SAP process and not data errors. NERL management told us that they are addressing this issue to remedy the volume of rework required in this process.

Close-the-books/financial reporting

4.38 Our benchmarking results for the close-the-books/financial reporting process are shown below.

Table 23: Close-the-books/financial reporting cost as a percentage of revenue

	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 £500m - £1bn revenue	0.048%	0.111%	2.32	-
GBP 2009 UK	0.048%	0.186%	3.87	-
GBP 2009 Worldwide	0.048%	0.204%	4.25	-
Upper quartile				
GBP 2009 £500m - £1bn revenue	0.048%	0.065%	1.36	-
GBP 2009 UK	0.048%	0.094%	1.95	-
GBP 2009 Worldwide	0.048%	0.084%	1.76	-

Source: GBP and NERL response to LECG data request. The shaded rows highlight our favoured benchmark.

4.39 NERL outperforms the upper quartile against all three benchmark datasets.

Travel and related expenses

4.40 Our benchmarking results for the travel and related expenses process are shown below.

Table 24: Travel and related expenses cost as a percentage of revenue

	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 £500m - £1bn revenue	0.020%	0.012%	0.60	62
GBP 2009 UK	0.020%	0.019%	0.92	13
GBP 2009 Worldwide	0.020%	0.017%	0.85	24
Upper quartile				
GBP 2009 £500m - £1bn revenue	0.020%	0.006%	0.30	109
GBP 2009 UK	0.020%	0.007%	0.36	100
GBP 2009 Worldwide	0.020%	0.007%	0.36	100

Source: GBP and NERL response to LECG data request. The shaded rows highlight our favoured benchmark.

4.41 To achieve the benchmarks set by the £500m to £1bn revenue group, NERL would need to realise efficiency savings of between £62k and £109k. The upper value is corroborated by all datasets but the lower value is higher than the saving suggested by both the UK and Worldwide benchmarks.

4.42 We have considered travel and related expenses costs expressed as a function of the number of expense reports, as present below.

Table 25: Additional travel and related expenses performance against the £500m to £1bn revenue benchmark

	NERL 2008/09	Median	Upper quartile
Cost per expense report (£)	5.56	9.85	5.12
Reports processed per travel and related expenses FTE	8,252	3,600	6,667

Source: GBP and NERL response to LECG data request.

4.43 NERL outperforms the median benchmark for both metrics. The cost per expense report is only 9% above the upper quartile while NERL's travel and related expenses FTEs process more expense reports than the upper quartile. According to NERL, relocation related expense claims have generated an increase in expense reports driving up this process' costs. As the relocation schemes are finalised, travel and related expenses costs are forecast to reduce.

Fixed-assets accounting

4.44 Our benchmarking results for NERL's fixed-assets accounting process are shown below.

Table 26: Fixed-assets accounting cost as a percentage of revenue

	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 £500m - £1bn revenue	0.016%	0.014%	0.88	15
GBP 2009 UK	0.016%	0.018%	1.07	-
GBP 2009 Worldwide	0.016%	0.018%	1.07	-
Upper quartile				
GBP 2009 £500m - £1bn revenue	0.016%	0.007%	0.43	71
GBP 2009 UK	0.016%	0.009%	0.53	58
GBP 2009 Worldwide	0.016%	0.008%	0.47	66

Source: NERL response to LECG data request and GBP. The shaded rows highlight our favoured benchmark.

4.45 The £500m to £1bn revenue benchmarks imply a range of savings between £15k and £71k for the fixed-assets accounting process. The upper value is corroborated by the other datasets.

4.46 Against the median benchmark, the implied cost savings are immaterial. On that basis, NERL incurs a relatively efficient level of costs.

Regulatory costs

4.47 To adjust for variations in regulatory costs across the price control (costs change significantly year to year based on the review cycle) we have calculated an average cost over CP3 (i.e. 2011/12 to 2015/16). The table below shows the breakdown of regulatory costs into its key components: CAA charges, a consultancy provision and regulation department costs.

Table 27: Breakdown of regulatory costs over the CP3 price control period

(£'000)	2011/12	2012/13	2013/14	2014/15	2015/16	Average (CP3)
Regulatory cost	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
CAA ERG charges	792	819	842	1,898	1,297	1,129
CAA SRG charges	4,326	4,473	4,603	4,713	4,831	4,589
Consultancy provision	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Regulation department	275	279	314	326	335	306
Regulatory cost (excluding CAA charges)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: NERL response to LECG data request and GBP.

4.48 To be consistent with the benchmark datasets, we have excluded the regulatory fees paid to the CAA and have focused on the "controllable" costs of NERL, which comprise consultancy provision and the regulation department's own costs.

4.49 The available benchmarks are expressed in terms of regulatory cost as a proportion of total operating costs. Operating costs, like revenue, are a measure of a company's size. The table below shows the metrics used in our calculations.

Table 28: Regulatory cost benchmarking variables

Benchmark variables	NERL CP3 average (£'000)
Regulatory cost	404
NERL operating cost	418,974

Source: NERL response to LECG data request. Note: Operating and regulatory costs are averaged over a five-year period to take account of the price control cycle. Regulatory cost excludes CAA charges.

4.50 NERL's regulatory costs benchmarked against the selected datasets are shown below.

Table 29: Regulatory cost as a percentage of operating cost averaged over five years

	NERL CP3 average	GDNs benchmark	Efficiency ratio	Implied saving
Median	0.096%	0.210%	2.18	-
Upper quartile	0.096%	0.170%	1.76	-

Source: NERL response to LECG data request and LECG benchmarking calculations for Ofgem price control.

4.51 NERL performs better than the median benchmark as it incurs relatively low regulatory costs.

Recent and future trends

4.52 Differences between the finance function benchmarked at the CP2 review and this study limit our ability to draw conclusions about NERL's efficiency gains over the period.

4.53 The finance function has been involved in a number of major projects over the course of CP2, including:

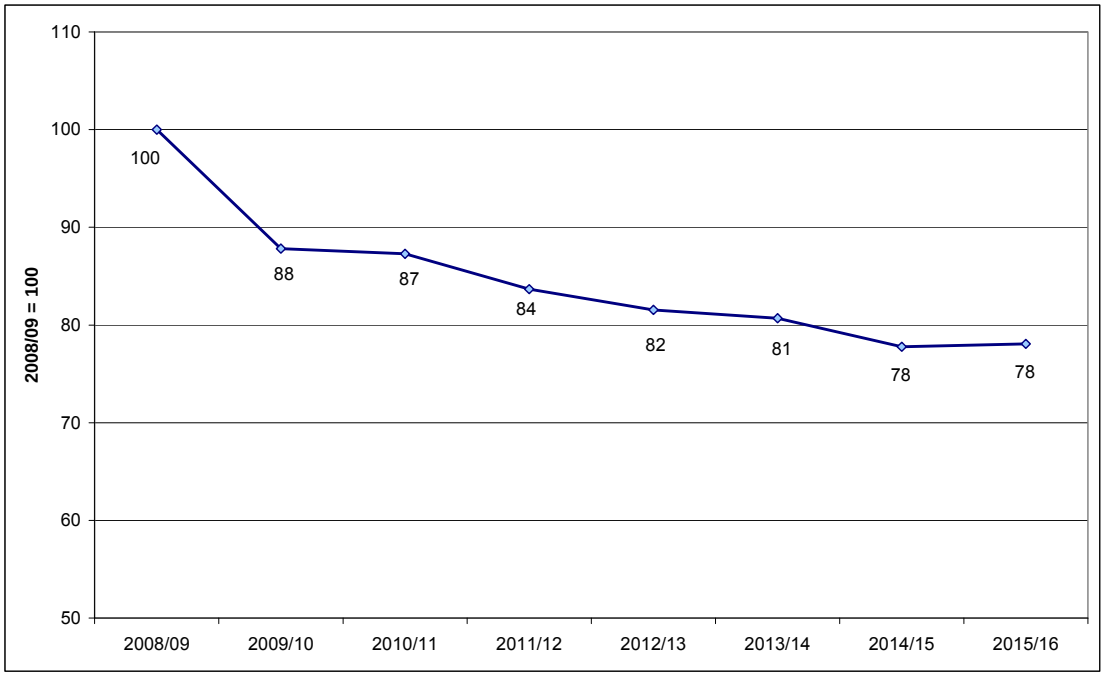
- finance has been at the centre of the enterprise-wide implementation of a new SAP system and has improved the accountability structure for its financial reporting and performance review in response to criticism received at the CP2 review;
- NERL now provides financial analysis for rating agencies and does financial modelling for lenders;
- the finance function produced models to support the negotiated grades pay agreements and other changes to terms and conditions relating to, for example, redundancy and relocation;
- as in the case of the HR function, the pension scheme restructuring placed an additional burden on the finance function during CP2; and
- NERL developed a number of bid models for commercial assessment and was involved in a number of major European projects (e.g. SESAR, ESSP).[18]

[18] Single European Sky ATM Research and European Satellite Service Provider.

4.54 Of the projects above, the implementation of the SAP system and the work around the restructuring of the pension scheme would have caused an increase in finance costs in CP2. These project costs are expected to diminish over the coming years.

4.55 The CP3 cost trend for the in-scope finance function costs is shown below, with 2008/09 set as the base year. The cost trend is expressed in real terms.

Figure 2: CP3 real cost trend for the benchmarked finance function (excluding regulatory costs)



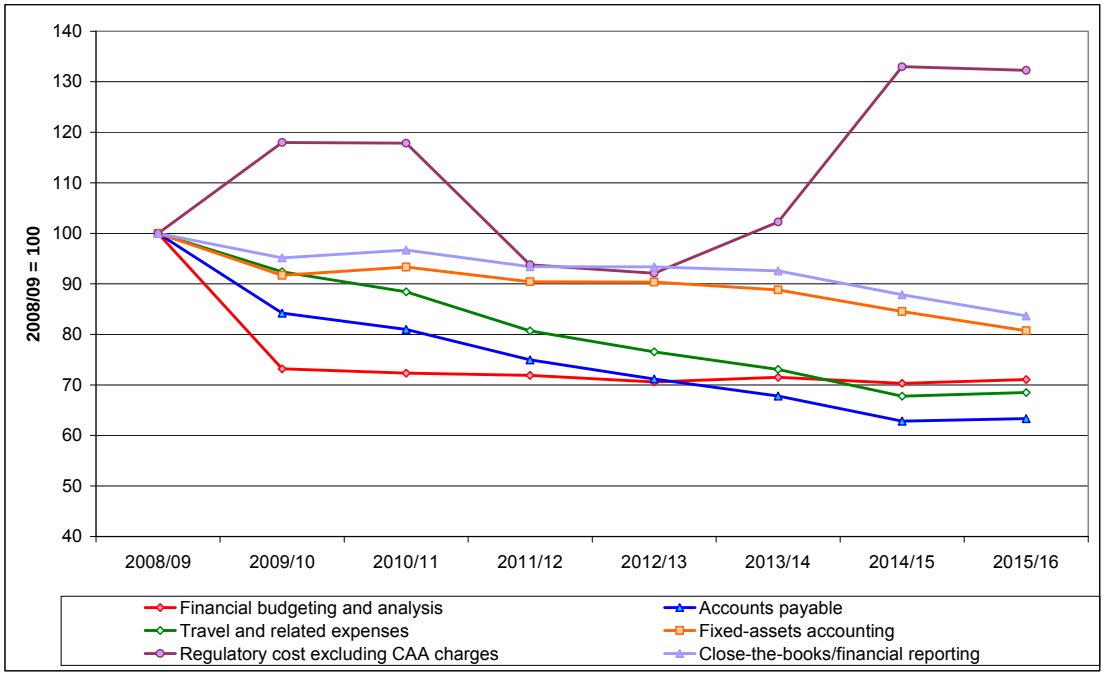
Source: NERL CP3 business plan. Note: Real trend in constant 2008/09 prices.

4.56 NERL's finance function costs, excluding regulatory costs and out of scope processes, are expected to drop by 13% by the end of CP2. Finance costs are expected to fall by a further 9% by the end of CP3 compared to 2008/09 in real terms.

4.57 Out of scope costs increase initially by 9%, and then finish CP3 at 2008/09 cost levels in real terms.

4.58 The cost trend for the finance sub-processes are shown in the following figure.

Figure 3: CP3 real finance process cost trend



Source: NERL CP3 business plan. Note: Real trend in constant 2008/09 prices.

4.59 Financial budgeting and analysis and accounts payable show the greatest savings in the current year and together with travel and related expenses will be between 29% and 37% below current cost levels, in real terms, at the end of CP3. The reduction in travel and related expenses is related to the decrease in the number of relocation related expense claims being processed.

4.60 Close-the-books/financial reporting and fixed-assets accounting will end CP3 slightly below current cost levels.

4.61 Regulatory costs, excluding charges to the CAA, follow a cyclical trend with two peaks. Initially costs increase by 18%, then decrease to below current levels. The trend finishes CP3 with a 32% increase. According to NERL, the increase in the peak is in part due to discounts that NERL managed to negotiate in consultancy costs during the current price control review, thus lowering the initial peak's costs. The forecast for the next price control review does not include these discounts. NERL's regulation department costs contribute a smaller part of the increase, mostly due to the contractual salary increase of the unionised FTE. If we compare the peak cost in 2014/15 to the benchmarks, instead of the average CP3 costs, then NERL's regulatory costs are still lower than the median.

4.62 NERL plans to cut headcount by 16% over the course of CP3 (i.e. a reduction from 100 to 84). The planned changes include:

- productivity efficiencies from process and system improvements;
- cost efficiencies in finance shared services - some initiatives are already underway [redacted];
- [redacted]; and
- business rationalisations through the Overhead Value Analysis process (OVA), [redacted].

Conclusion

4.63 Our benchmarking results suggest that NERL's finance function is relatively efficient for a company of its size. A summary of our benchmarking results, against our preferred datasets is shown in the table below. We also compare any implied savings against planned savings in CP3.

Table 30: Summary of savings implied by finance benchmarks

	Implied low savings (£'000)	Implied high savings (£'000)	Implied low savings %	Implied high savings %	CP3 planned savings % (real terms)[#]
Finance cost as a percentage of revenue	-	597	-	20%	22%
Finance FTEs as a percentage of total FTEs	-	-	-	-	16%*
Financial budgeting and analysis cost	544	1,129	35%	73%	29%
Accounts payable cost	-	85	-	21%	37%
Close-the-books/financial reporting cost	-	-	-	-	16%
Travel and related expenses cost	62	109	40%	70%	31%
Fixed-assets accounting cost	15	71	12%	57%	19%
Regulatory cost excluding CAA charges cost	-	-	-	-	-13%[$]

Source: NERL, GBP and LECG calculations. Note: The savings figures are not cumulative. Positive numbers are savings. Negative numbers are cost increases. Savings % are calculated using the relevant benchmarked cost (e.g. accounts payable savings as a percentage of 2008/09 accounts payable process costs. ([#]) Savings are calculated by comparing the annual cost in 2015/16 with that in 2008/09. (*) Overall finance function is expected to reduce headcount by 16% from 100 in 2008/09. ([$]) Peak to peak savings.

4.64 NERL's total finance cost is lower than our preferred median benchmark, which implies NERL is already relatively efficient. However, NERL also plans to reduce costs by a further 22% between 2008/09 and the end of CP3.

4.65 Our benchmarking of finance sub-processes also shows that many of NERL's sub-processes perform better than the median benchmark. For some sub-processes, there appears to be scope to reduce costs. These processes include financial budgeting and analysis, travel and related expenses, and fixed-assets accounting. NERL has also identified and budgeted significant cost saving opportunities in these areas.

4.66 Regulatory costs, which we benchmarked separately, were found to be relatively efficient. NERL's regulatory costs are much lower than the relevant benchmarks. Over CP3, NERL forecasts an increase in regulatory costs (i.e. a 13% peak-to-peak real increase, or an increase of £50k) due to higher expected consultancy costs at the next price control review. Even with this increase, NERL's costs still appear to be relatively efficient.

4.67 In conclusion, NERL's finance costs in 2008/09 appear to be at a relatively efficient level. In addition, NERL plans to reduce these costs further during CP3.

Section 5

Information Solutions

Introduction

5.1 In this section, we discuss our benchmarking of NERL's IS function. Our work relates to non-operational systems (i.e. excluding the IS costs of running the air traffic control systems).

5.2 We consider the following five areas:

- the datasets we have used to benchmark IS function costs;
- the nature of NERL's IS costs and the scope of our benchmarking exercise;
- our benchmarking results for the overall IS function;
- our benchmarking results for selected IS sub-processes; and
- recent cost trends and NERL's forecast for CP3.

Benchmark datasets

5.3 NERL's IS costs have been benchmarked against three PwC GBP datasets. The table below summarises key characteristics of the three datasets used in the benchmarking analysis.

Table 31: GBP IS benchmark datasets

	Number of firms	Average turnover	Average FTEs
GBP 2009 Worldwide	572	£536m	3,489
GBP 2009 £500m to £1bn revenue	59	£742m	4,445
GBP 2009 UK	17	£1,097m	4,174

Source: PwC Global Best Practices.

5.4 NERL's revenue and FTEs are most closely aligned with the worldwide group of companies.[19] We have used this dataset to measure the relative efficiency of NERL's IS function. This choice of benchmark is consistent with the nature of NERL's IS support function in that a significant proportion of the function is outsourced to global companies [redacted].[20] NERL is supported from various locations around the world and consequently it can

[19] Source: PwC Global Best Practices and NERL. NERL's revenue was £612m and its FTEs were 3,958 in 2008/09.

[20] [redacted]

benefit from lower international IS labour rates. Many other global companies adopt this model.

5.5 NERL considers that using the global benchmark does not recognise the fact that NERL's UKG security requirements prevent it from economically sourcing the global best price, as global companies can. This might skew the comparison of NERL's performance.

5.6 Consequently, we have sought to corroborate our benchmarking results using the other two GBP datasets, where appropriate. However, less reliance can be placed on the UK company benchmark as the dataset contains only 17 companies. In addition, the average turnover for these companies is much higher than NERL, making this dataset less comparable to NERL.

Scope of benchmarking

5.7 The IS function has been broken down into in-scope and out-of-scope categories. The table below illustrates the high-level breakdown of this split.

Table 32: Overall scope of IS function benchmarking

	2008/09 (£'000)	% of IS cost
Total IS cost	**11,089**	**100%**
In-scope processes	9,466	85%
Out-of-scope processes	1,623	15%

Source: NERL response to LECG data request. Note: All costs exclude charges to NSL. Total cost has been reconciled to the management accounts.

5.8 The in-scope processes relate only to the support of non-operational IS systems and comprise 85% of the total IS department costs. We consider that this is consistent with the 2004 benchmarking exercise.[21] We have also adjusted NERL's IS costs to exclude charges to NSL.

5.9 The out-of-scope processes represent 15% of the overall IS function. LECG has had a number of detailed discussions with NERL regarding the scope of the benchmarking. NERL has argued that certain costs should be excluded from the benchmarking. In certain areas, we have agreed with NERL, however, in other areas we have disagreed based on PwC's benchmarking guidelines. In some areas, we believed it was more appropriate to average costs over CP3, to obtain a better indication of a normal level of costs. We applied this normalisation to the 2008/09 benchmark costs and the CP3 costs for our forward trend analysis.

5.10 After examining the nature of the costs and after obtaining clarifications about the composition of the benchmark datasets from PwC, LECG has excluded the processes listed below from the scope of the benchmarking.

[21] KPMG 2004, pp. 23-24.

Table 33: Out-of-scope IS process costs

	NERL 2008/09 (£'000)	% of cost
Out-of-scope processes	**1,623**	**100.0%**
SAP Change Fund	571	35.2%
Printer Consumables	268	16.5%
BAS	263	16.2%
IS Production Hardware Purchases	250	15.4%
IS Production Software Purchases	214	13.2%
Other one-off costs	108	6.7%
MSR's for Production	-51	-3.1%

Source: NERL response to LECG data request. Note: All costs exclude charges to NSL.

5.11 The particular reasons for excluding each of the out-of-scope processes are as follows:

- *SAP Change fund*: NERL incurred significant costs in 2008/09 relating to the transition to the new SAP delivery model. NERL expects to incur similar costs, albeit at a significantly reduced level during CP3. As such, we have normalised the level of these costs to the average level of costs incurred over the period between 2008/09 to 2015/16. This adjustment provides a better reflection of the on-going level of costs incurred by the IS function.
- *Printer Consumables*: NERL confirmed that these costs relate exclusively to consumables, such as toners, fuses and other consumables for printers. PwC advised that items classed as office supplies are excluded from the benchmark dataset. Therefore, to be consistent with the GBP data, these costs were excluded.
- *BAS support costs:* NERL has estimated that [redacted] of the full complement of BAS applications exists to provide support to the ATC or Operational Engineering activities (core business). The specific applications that these costs relate to are [redacted] and [redacted] These costs are excluded to ensure consistency with the benchmark datasets.
- *IS Production Hardware Purchases; IS Production Software Purchases and MSRs for Production*: We have adjusted this cost to normalise to the on-going cost levels incurred by the IS function. The average costs incurred over the period 2008/09 to 2015/16 have been included in the benchmarking. PwC has confirmed that this is consistent with the benchmark dataset.
- *Other one-off costs*: There were certain small costs incurred by NERL in 2008/09 which are one-off in nature and are not representative of the on-going costs of the IS function. These items included costs for ISP link upgrades, IS production systems and programme design.

5.12 NERL also considers the remaining in-scope costs include an element of operational cost [redacted] These costs were identified late in the process of finalising this report. As such, they have not been excluded from our analysis. Excluding these costs would improve NERL's relative efficiency, but not materially.

5.13 The four sub-processes comprising the in-scope IS costs are listed below.

Table 34: In-scope IS function process costs

	NERL 2008/09 (£'000)	% of total
In-scope processes	**9,466**	**100.0%**
Technical & user support	5,068	53.5%
Applications development	3,176	33.6%
IS policy & admin costs	1,010	10.7%
Network services	212	2.2%

Source: NERL response to LECG data request. Note: All process level costs exclude charges to NSL.

5.14 The metrics we have used to benchmark costs relate to the key drivers of IS costs (i.e. company size, for which revenue serves as a proxy, and the number of IT users). Our results do not include an IS FTE benchmark due to the heavily outsourced nature of the IS function. We believe that using this benchmark would produce biased results.

Overall benchmarking results

5.15 In this section we present our main benchmarking results for NERL's IS function. The following section focuses on the IS sub-processes. The table below summarises the costs and metrics used in our benchmark calculations.

Table 35: IS benchmarking variables

Benchmark variables	NERL 2008/09
NERL revenue (£'000)	611,677
NERL FTEs	3,958
IS department cost excluding NSL charges (£'000)	9,466
IS FTEs	33
IT users*	3,930

Source: NERL response to LECG data request. Note: (*) IT users include only NERL employees, not third party personnel.

5.16 The savings opportunity implied by comparing NERL's IS cost as a percentage of revenue to the median and upper quartiles are shown in the table below.

Table 36: IS cost as a percentage of revenue

	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 Worldwide	1.55%	1.13%	0.73	2,553
GBP 2009 £500m - £1bn revenue	1.55%	1.02%	0.66	3,209
GBP 2009 UK	1.55%	2.55%	1.65	-
Upper quartile				
GBP 2009 Worldwide	1.55%	0.60%	0.39	5,808
GBP 2009 £500m - £1bn revenue	1.55%	0.66%	0.43	5,415
GBP 2009 UK	1.55%	0.75%	0.49	4,850

Source: GBP and NERL response to LECG data request. Note: The shaded rows highlight our favoured benchmark.

5.17 To achieve the benchmarks set by the worldwide group, NERL would need to realise efficiency savings of between £2.6m and £5.8m. This range is corroborated by the £500m to £1bn revenue benchmarking dataset. The UK benchmark does not support the lower savings estimate (i.e. NERL's IS function outperforms the UK median). However, this measure appears to be an outlier when compared to the other two GBP measures. As noted above, NERL considers that using the global benchmark does not recognise the fact that NERL's UKG security requirements prevent it from economically sourcing the global best price, as global companies can. This might skew the comparison of NERL's performance.

5.18 The table below presents our benchmarking results using the IS cost per IT user metric.

Table 37: IS cost per information technology user

	NERL 2008/09 (£)	Benchmark (£)	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 Worldwide	2,409	2,846	1.18	-
GBP 2009 £500m - £1bn revenue	2,409	4,573	1.90	-
GBP 2009 UK	2,409	5,328	2.21	-
Upper quartile				
GBP 2009 Worldwide	2,409	1,324	0.55	4,264
GBP 2009 £500m - £1bn revenue	2,409	2,161	0.90	973
GBP 2009 UK	2,409	2,154	0.89	1,001

Source: GBP and NERL response to LECG data request. Note: The shaded rows highlight our favoured benchmark.

5.19 NERL outperforms the median benchmark but is relatively inefficient compared to the upper quartile benchmark. Hence, the savings implied by the worldwide group are between zero and £4.3m. The upper limit of this range appears high compared to the two other benchmark groups, and hence should be considered with caution.

5.20 This finding contrasts with the findings above. NERL considers that this difference is due to NERL's relatively high IT intensity. This is explained by NERL's enterprise wide focus on employee self-service (for time capture, expense claims, leave and sickness recording, service requests), the employee "pull" of corporate centralised data and the high proportion of its workforce who use IT (in an ATC business which is heavily IT driven and with a workforce engaged in complex change delivery/management). In comparison, circa 69% of the companies in the benchmarking group are from industries which may have a significant proportion of its workforce who are relatively low IT users (mining, manufacturing, construction).

5.21 We have not benchmarked NERL's IS cost per IS FTE due to its relatively high level of outsourcing. As such, this metric would be a poor indicator of efficiency. However, the table below illustrates NERL's performance against a number of other non-cost benchmark indicators.

Table 38: IS non-cost benchmark indicators

	NERL 2008/09	Upper quartile	Median
Users supported per IS FTEs			
GBP 2009 Worldwide	120	42	25
GBP 2009 £500m - £1bn revenue	120	63	38
GBP 2009 UK	120	37	21
Training hours per IS professional			
GBP 2009 Worldwide	82	56	40
GBP 2009 £500m - £1bn revenue	82	39	35
GBP 2009 UK	82	65	40
IS turnover rate			
GBP 2009 Worldwide	23%	0%	5%
GBP 2009 £500m - £1bn revenue	23%	3%	6%
GBP 2009 UK	23%	3%	5%

Source: GBP and NERL response to LECG data request.

5.22 The following observations can be drawn from the above:

- the relatively high ratio of users to IS FTEs is to be expected given the large proportion of outsourced IS costs;
- NERL's IS personnel incur a higher number of training hours than the upper quartile benchmark which could be driven by higher IS turnover rates. According to NERL, training hours also include time spent on IS centres of excellence which focus on staff development as part of their terms of reference; and
- high staff turnover could be linked to the move to the new SAP service delivery model.

5.23 We have also benchmarked IS remuneration against the UK dataset. NERL's IS staff are UK based. We consider the UK benchmark is the most appropriate data set when considering salary levels which are largely determined by competition in the national market.

Table 39: IS remuneration by position benchmarked against UK dataset

(£'000)	NERL 2008/09	Median	Upper quartile	Premium over median	Premium over upper quartile
Applications development					
Project leaders	55	51	40	8%	37%
Technical & user support					
Management	55	49	36	11%	54%
IT policy/administration					
Chief Information Officers	136	130	81	5%	69%
IT policy/administrative managers	81	58	54	39%	50%
IT policy/administrative support staff	20	24	18	-15%	10%

Source: GBP and NERL response to LECG data request.

5.24 NERL's IS personnel appear to be paid more than the median and upper quartile benchmarks across the board, except for the lowest paid IT policy/administration support staff. This could be due to the higher level of outsourcing of technical services, which might leave in-house personnel with more managerial responsibilities (and hence corresponding higher pay).

IS sub-process benchmarking

5.25 The table below summarises the proportion of labour and non-labour cost for each of the sub-processes.

Table 40: Split of in-scope IS process costs into labour and non-labour costs

2008/09	Total	Direct labour	Non-labour
In-scope processes	**100%**	**24%**	**76%**
Technical & user support	54%	9%	45%
Applications development	34%	6%	27%
IS policy & admin costs	11%	10%	1%
Network services	2%	0%	2%

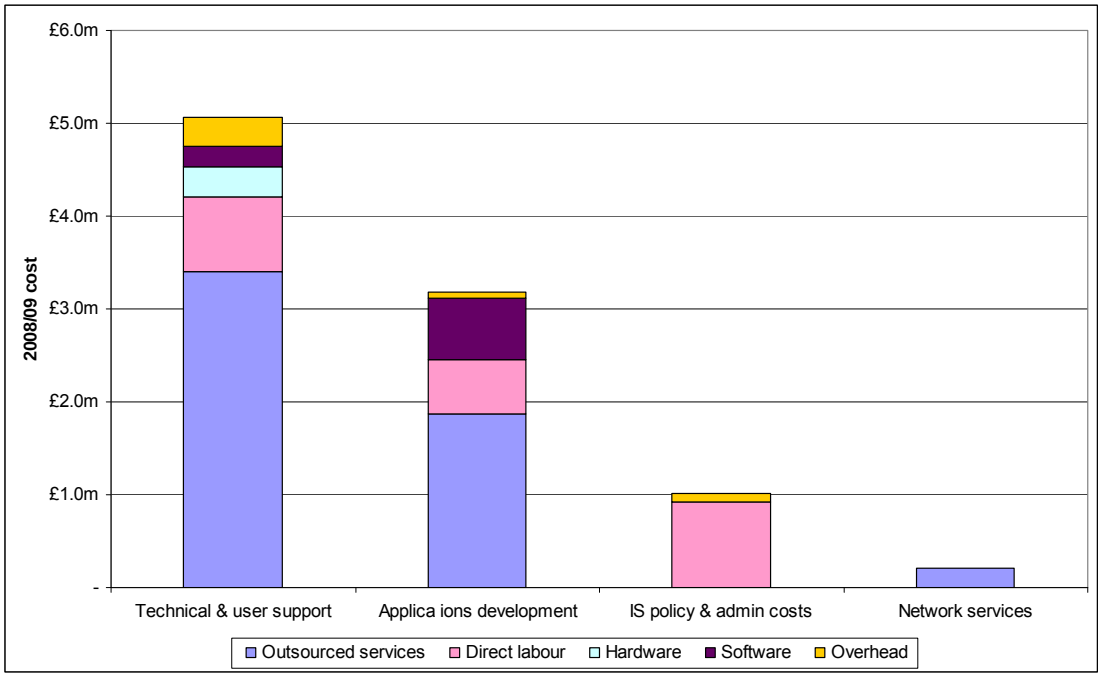
Source: NERL response to LECG data request.

5.26 The 76/24 split between non-labour and labour reflects NERL's strategy of outsourcing technical support services. Non-labour costs are split largely between technical and user support and applications development. The figure below provides a more detailed breakdown

of the in-scope processes, split into direct labour and the following four non-labour cost categories:

- outsourced and contracted services;
- hardware, including purchases, leases, rentals and maintenance costs;
- software, including purchases, leases, licences and maintenance costs; and
- overheads, supplies and other.

Figure 4: In-scope process cost breakdown



Source: NERL response to LECG data request.

5.27 NERL's direct labour costs relate to service development, customer service, supplier management and co-ordination of strategy.

5.28 The majority of the IS in-scope process costs are outsourced to three companies:

- [redacted]
- [redacted]
- [redacted]

5.29 The suppliers are responsible for the development and enhancement of systems and services, including project and programme management and infrastructure (including networking and voice communications), enterprise application (SAP and non-SAP) and legacy application service delivery. According to NERL, the scope of this service delivery includes desk-side and back-office support, service desk, incident management, problem management, change management and release management.

5.30 Network services are completely outsourced whereas IT strategy, policy and administration costs are incurred in-house in their entirety, in part reflecting the responsibility for managing the outsourcing contracts.

5.31 The table below shows how NERL's allocation of IS costs across processes compare to the benchmark datasets.

Table 41: IS cost allocation per process

	Technical & user support	Applications development	IS policy & admin	Network services
NERL 2008/09	54%	34%	11%	2%
GBP 2009 Worldwide	29%	37%	9%	26%
GBP 2009 £500m - £1bn revenue	24%	40%	10%	27%
GBP 2009 UK	39%	36%	7%	18%

Source: GBP and NERL response to LECG data request.

5.32 NERL spends relatively more of their IS budget on technical and user support and less on network services, compared to the benchmark groups.

5.33 The table below shows NERL's allocation of IS FTEs to the four IS processes compared to the benchmark datasets.

Table 42: IS FTE allocation per process

	Technical & user support	Applications development	IS policy & admin costs	Network services
NERL 2008/09	34%	54%	13%	0%
GBP 2009 Worldwide	32%	40%	11%	17%
GBP 2009 £500m - £1bn revenue	28%	44%	12%	16%
GBP 2009 UK	35%	40%	14%	11%

Source: GBP and NERL response to LECG data request. Note: Contractors not included.

5.34 Taking into account that network services are entirely outsourced, NERL's allocation is broadly in line with all three benchmarks. The additional allocation to applications development could be ascribed to the new SAP system.

5.35 The following table compares contractors per process as a percentage of IS FTEs across the benchmarks.

Table 43: IS contractors as a proportion of IS FTEs per process

	Technical & user support	Applications development	IS policy & admin costs	Network services
NERL 2008/09	0%	14%	0%	N/A
GBP 2009 Worldwide	21%	27%	5%	18%
GBP 2009 £500m - £1bn revenue	28%	38%	7%	24%
GBP 2009 UK	13%	24%	4%	13%

Source: GBP and NERL response to LECG data request.

5.36 NERL's lower use of contractors is consistent with outsourcing of most of its technical support services.

5.37 NERL's relative allocation of IS resources to the four sub-process areas appears to be in line with the benchmark group, given that NERL's function is largely outsourced.

5.38 NERL also reports its IS function having achieved overall customer satisfaction averaging 87% for year to March 2009 – an improvement relative to the 54% to 63% satisfaction levels reported in the KPMG 2004 report.

Recent and future trends

5.39 In the benchmarking study that was performed for the CP2 review, the IS function was found to be 28% above the median benchmark.[22] In addition, at the end of 2005/6, an audit of the then Business Systems department within NERL concluded that:

- the Head of Business Systems was too far removed from the Group Executive;
- the Group Executive had lost visibility and control over the business IT strategy;
- management of business IT was not effective;
- IT spending was increasing and not effectively controlled; and
- clear performance measures and targets had not been set for the 2006/07 planning round.

5.40 In response to these findings, NERL implemented an IS improvement strategy comprising several work streams in early 2006/07. The key workstreams of this strategy are presented in the table below.

[22] KPMG 2004 report, p.22.

Table 44: IS improvement strategy work streams (early 2006/07)

Work stream	Main achievement
New Organisation	New structure outline in March 2006 implemented and headcount numbers reduced from 54 to 31. Equivalent Head of Business Systems role now reports directly to the Finance Director, providing the NERL Executive with full visibility of performance
Skills Development	Skills matrix produced and all staff counselled in new requirements
Communication	Plan produced and communication events implemented
Performance Measurement	Comprehensive dashboard and targets implemented
IT Solutions	Asset management plan produced
Risks and Opportunities	Cost Optimisation Plan & Risk And Mitigation Plan produced and maintained
Applications Management	New services transitioned and standard service strategies introduced. SAP Support team set up for NIBS2
Supplier Performance	Phase 1 SRM and 6Sigma review completed. [redacted] transitioned to a new support model
Customer Service	87% customer satisfaction

Source: NERL submission in response to LECG information request.

5.41 The success from implementing the new IS strategy has allowed IS to provide significantly improved customer satisfaction, has enabled the realisation of cost savings to date and will enable further savings over CP3. NERL told us that during CP2 they will have saved almost £9.8m of costs across the IS function.

5.42 NERL also plans to implement a number of changes to the IS function over the remainder of CP2 and during CP3, in an attempt to move to what is referred to as the "next generation of IS services". These services include:

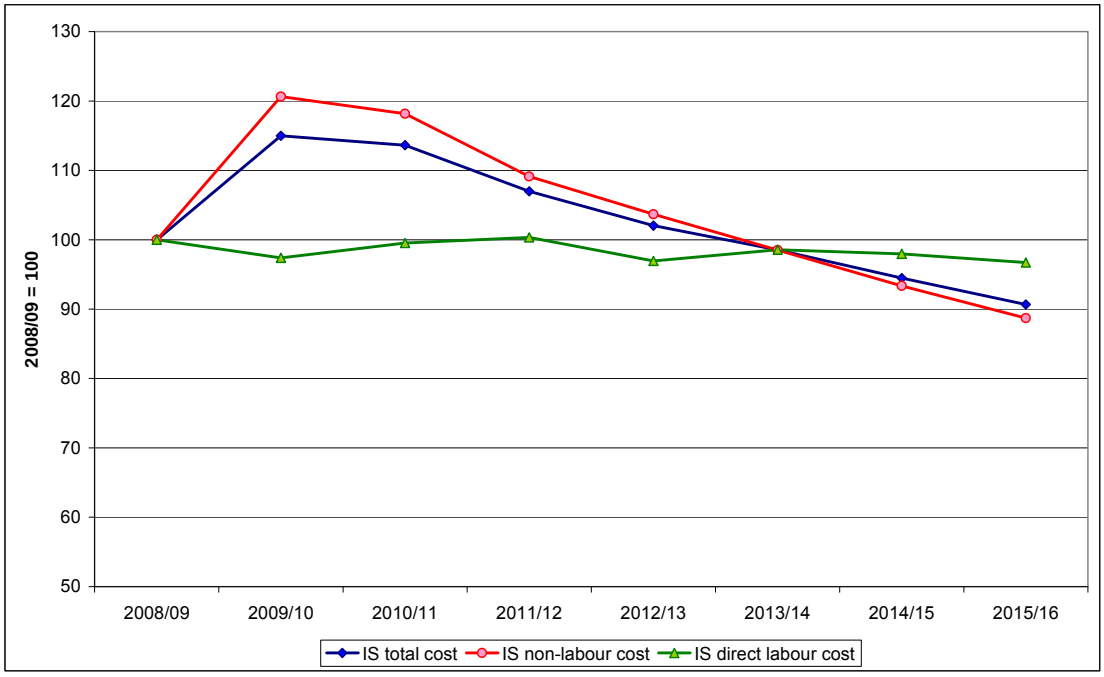
- off-premise email hosting (i.e. a cloud service);
- user and global data storage off premise hosting (i.e. a cloud service);
- consolidation of on-premise storage; and
- virtualisation of the on-premise server.

5.43 The move to cloud services would reduce NERL's hardware requirements and their technical support requirements. For example, by using a third party outsource provider for email hosting and data storage, NERL could take advantage of the economies of scale available to a large-scale dedicated provider. In addition, NERL could gain significant cost savings from the increased flexibility of using a large outsourced provider. NERL would not need to purchase servers or storage capacity to cater for its highest peak demand level, but would be able to pay for capacity based upon its average volume requirements with top up capacity purchased only for the duration of the peak demand period. A move to personalised desktops

supporting only those applications necessary for each employee's job tasks will mean that the number of application licences will be reduced, with associated reductions in support time.

5.44 NERL's CP3 cost trend for the IS function is shown below, with 2008/09 set as the base year.

Figure 5: CP3 real IS cost trend

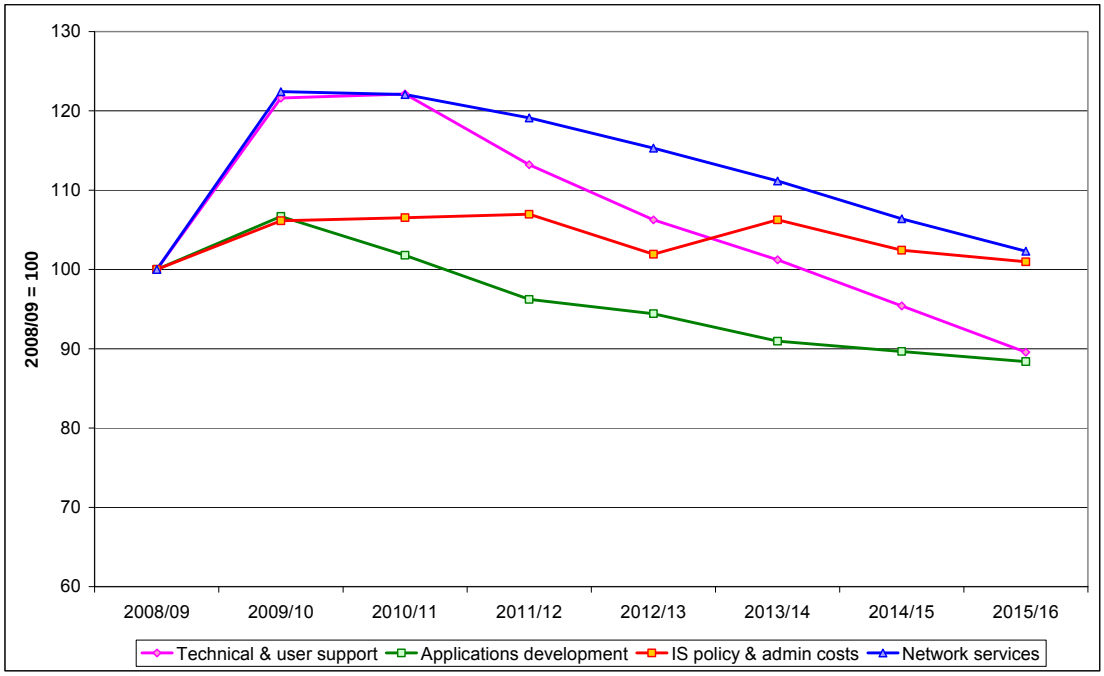


Source: NERL draft baseline CP3 business plan. Note: Real trend in constant 2008/09 pounds. CP3 costs are presented after normalising for certain costs, consistent with the normalisation of the 2008/09 benchmarked costs.

5.45 Over CP3, IS direct labour costs are expected to remain at 2008/09 levels decreasing slightly by approximately 3%, in real terms, by 2015/16. Non-labour costs are forecast to fall by 11% in real terms, partly due to the rationalisation associated with the move to next generation IS services. Overall the IS function costs reduce by 9% by the end of CP3.

5.46 The figure below shows the annual cost trend for each of the four IS sub-processes.

Figure 6: CP3 real IS process cost trend

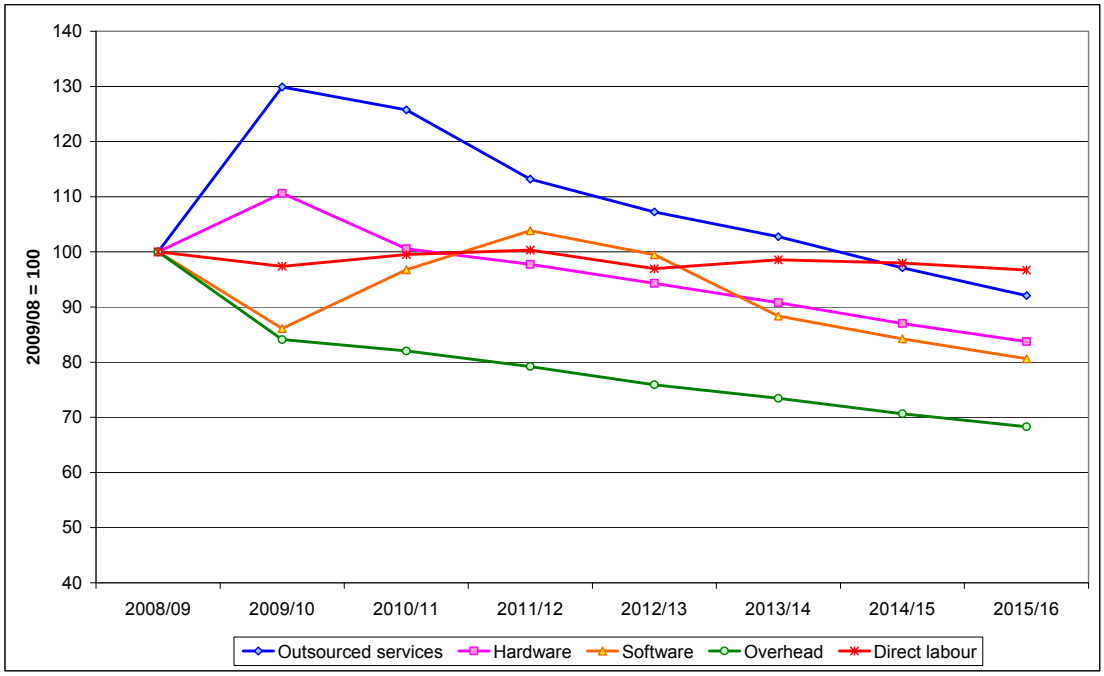


Source: NERL draft baseline CP3 business plan. Note: Real trend in constant 2008/09 pounds. CP3 costs are presented after normalising for certain costs, consistent with the normalisation of the 2008/09 benchmarked costs.

5.47 Technical and user support services increase initially during the transition to the next generation IS and cloud services strategy before reducing to 10% below 2008/09 levels by the end of CP3. Network services increase initially as the move towards the next generation IS will require increased network capability during the transition phase (e.g. for parallel running and testing) before the legacy systems are wound down. Applications development costs trend down by about 12%. IS policy and admin costs increase initially as the move to next generation IS requires more strategic input but settles back to 2008/09 cost levels by the end of CP3.

5.48 The figure below shows the annual IS cost trend over CP3 broken down into five cost categories.

Figure 7: CP3 real IS cost category trend



Source: NERL draft baseline CP3 business plan. Note: Real trend in constant 2008/09 pounds. CP3 costs are presented after normalising for certain costs, consistent with the normalisation of the 2008/09 benchmarked costs.

5.49 The overall trends can be explained as follows:

- the implementation of the IS strategy will require less hardware and less outsourced technical support as discussed above (hence it will lower hardware and outsourced services' costs by 16% and 8% respectively, after an initial increase in outsourced services due to the transition to next generation IS);
- direct labour costs reduce only slightly, by 3%, as NERL takes on a more strategic management role; and
- overhead costs decline by around 32% over the price control period.

5.50 These changes will reduce [redacted] costs by £81k per annum. Overall NERL, together with its external consultant Gartner, has identified the following savings resulting from the planned move to next generation of IS services (all figures expressed in nominal terms):

- capital investment over the remaining 2 years of the CP2 period will be reduced [redacted];
- capital investment over the CP3 period will be reduced [redacted];
- operating costs over the remainder of the CP2 period will be reduced [redacted]; and
- operating costs over CP3 period will be reduced [redacted].

5.51 In 2008/09 prices, NERL expects that total IS costs before normalisation will fall from £11.1m to £8.9 between 2008/09 and the end of CP3, a fall of 20%. NERL identified that in 2008/09 IS costs included a number of one-off costs and costs that were abnormally high. Consequently, in line with PwC's benchmarking guidelines, we normalised a number of costs in 2008/09. To ensure we then compared costs on a like-for-like basis, we also normalised

these costs over CP3. These normalised trends are shown in the charts above. On this basis, NERL expects normalised costs to fall from £9.5m to £8.6m, which equates to a 9% saving between 2008/09 and the end of CP3.

Conclusion

5.52 NERL's IS costs, after normalisations, in 2008/09 appear high for a company of its size against the revenue benchmark. However, NERL's IS costs appear low when compared against the median cost per IT user benchmark. Our benchmarking results are summarised in the table below.

Table 45: Summary of savings implied by overall IS benchmarks

	Implied low savings (£'000)	Implied high savings (£'000)	Implied low savings	Implied high savings	CP3 planned savings
IS cost as a percentage of revenue	2,553	5,808	27%	61%	9%
IS cost per IT user	-	4,264	-	45%	-

Source: NERL, GBP and LECG calculations. Note: The savings figures are not cumulative (i.e. they are based on different benchmarks). CP3 savings are stated after normalising certain IS costs.

5.53 NERL would need to achieve savings of 27% to meet the median revenue benchmark. This result is broadly supported by the GBP £500m to £1bn revenue group benchmark, although NERL outperformed the median UK company benchmark. NERL has argued that using the global benchmark does not recognise that NERL's UK government security requirements prevent it from economically sourcing the global best price, as global companies can. This might skew the comparison of NERL's performance. Whilst this may be the case, we believe that less reliance can be placed on the UK company benchmark, as the dataset contains only 17 companies.

5.54 We also found that against the IS cost per IT user benchmark, NERL outperformed the median benchmark (i.e. that it was efficient against the selected benchmark). We note that against the "stretch" upper quartile benchmark, additional savings appear to be achievable. However, this stretch target appears too high to form a robust estimate of achievable savings. In fact, NERL would need to terminate a number of its essential outsourced infrastructure contracts to achieve the level of savings implied under the stretch target.

5.55 Hence, our findings are mixed and this suggests that the revenue benchmark and the upper quartile cost per IT user benchmark should be used with caution.

5.56 A possible explanation for the mixed indicators could be that NERL has a more intensive use of IT than many of the companies in the revenue benchmark dataset. NERL has an enterprise wide focus on employee self-service (e.g. for time capture, expense claims, leave and sickness recording, service requests) and a high proportion of its workforce use IT. In addition, NERL may be less able to benefit from cheaper IS labour rates in the global market due to limitations of their outsourcers to supply IS staff with the requisite level of security checks.

5.57 NERL has conducted a review of the IS function and believes that total operating cost can be reduced by £7m (in nominal terms) in aggregate during CP3. In 2008/09 prices, NERL

expects that total IS costs will fall from £11.1m to £8.9, a fall of 20%. In addition, NERL has identified savings of £3m in capital expenditure during CP3.

5.58 NERL identified that in 2008/09 IS costs included a number of one-off costs and costs that were abnormally high. Consequently, in line with PwC's benchmarking guidelines, we normalised a number of costs in 2008/09. To ensure we then compared costs on a like-for-like basis, we also normalised these costs over CP3. On this basis, NERL expects normalised costs to fall from £9.5m to £8.6m, which equates to a 9% saving between 2008/09 and the end of CP3.

5.59 Based on the available evidence, we consider that there may be limited scope for NERL to reduce its IS costs by much more than is already anticipated in its business plan for CP3. Over the longer term (i.e. after CP3), there is some evidence to suggest that further savings might be available.

Section 6

Human resources

Introduction

6.1 In this section, we discuss our benchmarking of NERL's HR function. We consider the following five areas:

- the datasets we have used to benchmark HR costs;
- the nature of NERL's HR costs and the scope of the benchmarking exercise;
- our benchmarking results for the overall HR function;
- our benchmarking results for HR sub-processes; and
- recent cost trends and NERL's forecast for CP3.

6.2 At the end of this section, we present our findings.

Benchmark datasets

6.3 NERL's HR costs, as reported in their management accounts, have been benchmarked using the three PwC GBP datasets described in Section 3. The table below summarises the key characteristics of the three datasets.

Table 46: GBP HR benchmark datasets

	Number of firms	Average turnover	Average FTEs
GBP 2009 N&W European	17	£660m	3,158
GBP 2009 £500m to £1bn revenue	13	£780m	5,388
GBP 2009 Worldwide	82	£859m	4,360

Source: PwC Global Best Practices.

6.4 NERL's revenue and FTEs are most closely aligned with the North and West European group of companies.[23] As discussed in Section 3, we use this as the main benchmark to measure the efficiency of NERL's HR function. NERL's HR environment (e.g. level of unionisation and labour conditions) should be most comparable to companies in this dataset, as they face the same EC labour legislation. However, we corroborate these benchmarking results using the £500m to £1bn revenue and worldwide datasets.

[23] Source: PwC Global Best Practices and NERL. NERL's revenue was £612m and its FTEs were 3,958 in 2008/09. We note that the number of firms included in this dataset is smaller than in the other GBP datasets and therefore we have corroborated our findings against the other two GBP datasets

Scope of benchmarking

6.5 We have broken down HR costs into in-scope and out-of-scope sub-processes as explained in Section 3. The table below illustrates the breakdown of the HR function cost into these two categories.

Table 47: Overall scope of HR function benchmarking

	2008/09 (£'000)	% of HR cost
Total HR cost	**33,722**	**100%**
In-scope processes	4,482	13%
Out-of-scope processes	29,239	87%

Source: NERL response to LECG data request. Note: All charges to NSL are excluded. Total cost has been reconciled to the management accounts.

6.6 Out-of-scope processes include a large one-off relocation expense and a one-off pension reform cost, as detailed below. Excluding these costs from ongoing HR costs our benchmarking covers approximately 78% of normalised HR costs.

6.7 For benchmarking purposes, we have adjusted NERL's HR costs to exclude the charges to NSL. For HR, NERL was able to exclude NSL costs at the sub-process level. We have reconciled total HR costs to the management accounts as discussed in Section 3.

6.8 The table below summarise out-of-scope processes in more detail.

Table 48: Out-of-scope HR function process costs

	2008/09 (£'000)	% of HR cost
Out-of-scope processes	**29,239**	**100.0%**
Relocation	26,865	91.9%
Pension reform	1,094	3.7%
Occupational health service	501	1.7%
Security	450	1.5%
Trade union	243	0.8%
Technical training services (non-staff)	87	0.3%

Source: NERL response to LECG data request. Note: All costs exclude charges to NSL.

6.9 The particular reasons for excluding each of the out-of-scope processes are as follows:

- *Relocation:* These are the costs of relocating personnel due to the closure of the West Drayton site (LTCC) (final stages of the closure during 2008/09) and the move from the Manchester (MACC) facility to Prestwick (SCOACC), which started in 2008/09. The relocation expense also includes the cost of one full-time employee based in Manchester, who is dedicated to providing relocation-related advice to the affected personnel. These one-off costs are not representative of the continuing HR operations. As noted above they account for the vast majority (i.e. 92%) of the out-of-scope processes;

- *Pension reform:* These are one-off costs associated with external consultancy advice enabling the transition from a defined benefit scheme to a defined contribution scheme for new entrants. This transition was effected on 1 April 2009;
- *Occupational health service*: The need for annual specialised medical examinations and certifications for ATCOs has led NERL to take the provision of these services in-house by employing specialised aviation doctors. As such, NERL's cost is uniquely high and is not comparable to the GBP benchmark datasets;
- *Security:* The safety of the air traffic control system is part of the national security infrastructure. The nature of NERL's operations requires unusually high levels of security, which is not comparable to that of the benchmark datasets;
- *Trade union:* This process includes the cost of a full time NATS trade unions (NTUS) co-ordinator and the travel and expenses for around 80 trade union representatives. This cost is not included in the benchmark data set and so is excluded from the scope of our benchmarking analysis.
- *Technical training services (non-staff)*: These costs are operational, and therefore out-of-scope. The costs relate to operational technical training equipment.

6.10 HR costs that are within the scope of the benchmarking study (i.e. £4.5m) constitute approximately 78% of costs excluding one-off costs (i.e. relocation charges and pension reform costs).

6.11 We have benchmarked NERL's total HR function cost. The metrics we have used relate to the key drivers of HR costs (e.g. company size for which revenue serves as a proxy). The metrics we have used are:

- cost as a percentage of revenue;
- HR FTEs as a percentage of NERL FTEs; and
- revenue per HR FTE.

6.12 We have also benchmarked the level of remuneration of HR staff using a direct labour cost per HR FTE metric.

6.13 Where appropriate, we have investigated the material sub-processes comprising the HR function to identify the source of any implied inefficiencies. The in-scope sub-process' costs are listed below.

Table 49: In-scope HR function process costs

	NERL 2008/09 (£'000)	% of total
In-scope processes	**4,482**	**100.0%**
Recruiting	1,846	41.2%
Organisational development/management development	534	11.9%
Compensation design and administration	527	11.8%
Performance management	337	7.5%
Employee relations	283	6.3%
Managing change	279	6.2%
HRIS/file management	214	4.8%
Strategic planning/organisational design	168	3.8%
Benefits design and administration	122	2.7%
Training	81	1.8%
Staffing	69	1.5%
Compliance	24	0.5%

Source: NERL response to LECG data request. Note: All costs exclude charges to NSL.

6.14 The four largest cost processes, recruiting, organisational development/management development, compensation design and administration and performance management account for 72% of the in-scope HR cost. The nature of these processes in NERL's business can be described as follows:

- *Recruiting:* NERL's recruitment costs includes £1m of cost for specialist ATCO hire, an area attracting a large number, approximately 10,000, of applications for each vacancy, with up to 240 recruits annually supplied to the ATCO training college. Given that operational recruitment is included in the benchmark datasets, we have included this cost in our benchmarking. The high cost of NERL's rigorous recruitment process has prompted us to perform a sensitivity analysis excluding ATCO recruitment costs from our main benchmarking calculations.[24] The results of the sensitivity analysis are presented as notes to the main benchmarking tables and discussed in the recruitment sub-section. Also included in recruiting is the cost associated with running the screening and testing events at various locations around the country, and the hiring of hotel and conference facilities to host these events. The cost of advertising for vacancies in the national press and associated fees paid to head hunters for recruitment are recorded within this process. The cost relating to the time spent by line-managers on interviewing is not recorded within the central HR recruitment costs. Finally, from 2009/10 much of the recruitment function will be outsourced and the cost of advertising will be borne by the business divisions;
- *Organisational development/management development:* This process includes activities enabling NERL to improve the capability of its 500 managers and supervisors to drive

[24] Our sensitivity analysis recalculated the benchmarks excluding the ATCO recruitment cost and HR FTEs related to ATCO recruiting.

change and efficiency. HR is providing key strategic support through advice, facilitation and training;

- *Compensation design and administration*: A large focus for this process in 2008/09 has been two one-off projects: the transition from a defined benefit to a defined contribution pension scheme for new entrants; and the relocation of NERL staff from the MACC facility to SCOACC, and from the Hurn training college to CTC. The on-going work is to administer complex legacy terms and conditions and to design and execute a strategy which, over time, will ensure terms and conditions become more market oriented and simpler to administer; and
- *Performance management:* Included in this process is the assessment and development of leadership potential and the management of poor performance. It includes regular reviews with line managers and coaching of new managers.

Overall benchmarking results

6.15 In this section, we present our main benchmarking results for NERL's HR function. The table below summarises the HR function costs and other indicators used in our benchmark calculations.

Table 50: HR benchmarking variables

Benchmark variables	NERL 2008/09
NERL revenue (£'000)	611,677
NERL FTEs	3,958
Total HR department cost (£'000)	4,482
HR direct labour cost (£'000)	2,522
HR total recruiting cost (£'000)	1,846
HR ATCO recruiting cost (£'000)	1,036
Number of external new hires	231
Number of external new hires, excluding ATCOs	80
HR FTEs	46

Source: NERL response to LECG data request.

6.16 The savings opportunities implied by comparing NERL's total HR cost as a percentage of revenue metric against the median and upper quartile benchmarks respectively are shown in the table below.

Table 51: HR cost as a percentage of revenue

Source	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 N&W European	0.73%	0.52%	0.71	1,286
GBP 2009 £500m to £1bn revenue	0.73%	0.51%	0.70	1,364
GBP 2009 Worldwide	0.73%	0.44%	0.60	1,812
Upper quartile				
GBP 2009 N&W European	0.73%	0.15%	0.21	3,551
GBP 2009 £500m to £1bn revenue	0.73%	0.25%	0.34	2,960
GBP 2009 Worldwide	0.73%	0.19%	0.26	3,295

Source: GBP and NERL response to LECG data request. Note: The shaded rows highlight our favoured benchmark. Excluding ATCO recruiting costs, the implied savings against the N&W European benchmark are £0.3m (Median) and £2.5m (Upper quartile).

6.17 To achieve the benchmarks set by the N&W European group, NERL would need to realise efficiency savings of between £1.3m and £3.5m. This range is corroborated by the other GBP benchmarks. Lower savings would be required if ATCO recruitment costs were excluded from the analysis.

6.18 The table below shows the benchmarking results for the level of NERL's HR direct labour cost per HR FTE.

Table 52: HR direct labour cost per HR FTE

Source	NERL 2008/09 (£'000)	Benchmark (£'000)	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 N&W European	55	57	1.03	-
GBP 2009 £500m to £1bn revenue	55	64	1.16	-
GBP 2009 Worldwide	55	47	0.86	363
Upper quartile				
GBP 2009 N&W European	55	33	0.60	1,018
GBP 2009 £500m - £1bn revenue	55	49	0.88	303
GBP 2009 Worldwide	55	26	0.47	1,335

Source: GBP and NERL response to LECG data request. Note: The shaded rows highlight our favoured benchmark. Excluding the direct labour cost related to ATCO recruiting, the implied savings against the N&W European benchmark are zero (Median) and £0.9m (Upper quartile).

6.19 NERL's costs are below the median of both the N&W European and the £500m to £1bn revenue groups. The upper quartile benchmark implies savings of £1.0m, using our favoured dataset. NERL's better performance on this metric than the preceding one indicates that their HR personnel pay levels are competitive against the median benchmark.

6.20 The table below shows our benchmarking results when we compare the staffing levels of NERL's HR function against the median and upper quartile. The benchmark indicator is the proportion of NERL FTEs that are HR FTEs.

Table 53: HR FTEs as a percentage of total NERL FTEs

Source	NERL 2008/09	Benchmark	Efficiency ratio	Implied saving	Savings at average staff cost (£'000)
Median					
GBP 2009 N&W European	1.15%	1.12%	0.97	1 FTE	74
GBP 2009 £500m to £1bn revenue	1.15%	0.99%	0.86	6 FTEs	347
GBP 2009 Worldwide	1.15%	1.19%	1.04	-	-
Upper quartile					
GBP 2009 N&W European	1.15%	0.83%	0.72	13 FTEs	699
GBP 2009 £500m to £1bn revenue	1.15%	0.55%	0.48	24 FTEs	1,320
GBP 2009 Worldwide	1.15%	0.72%	0.62	17 FTEs	951

Source: GBP and NERL response to LECG data request. Note: Average HR staff costs are calculated as the HR direct labour costs divided by the HR FTEs. The shaded rows highlight our favoured benchmark. Excluding the FTEs relating to ATCO recruiting, the implied savings against the N&W European benchmark are zero (Median) and £0.4m (Upper quartile).

6.21 The range of savings implied by the above using this set of benchmarks is between 1 and 13 FTEs (i.e. £74k to £699k).

6.22 The table below shows the results of an alternative HR staffing benchmark which measures revenue per HR FTE.

Table 54: Revenue per HR FTE

Source	NERL 2008/09 (£'000)	Benchmark (£'000)	Efficiency ratio	Implied saving	Savings at average staff cost (£'000)
Median					
GBP 2009 N&W European	13,414	9,769	1.37	-	-
GBP 2009 £500m to £1bn revenue	13,414	18,816	0.71	13 FTEs	724
GBP 2009 Worldwide	13,414	12,542	1.07	-	-
Upper quartile					
GBP 2009 N&W European	13,414	36,188	0.37	29 FTEs	1,587
GBP 2009 £500m to £1bn revenue	13,414	41,482	0.32	31 FTEs	1,707
GBP 2009 Worldwide	13,414	25,219	0.53	21 FTEs	1,181

Source: GBP and NERL response to LECG data request. Note: Average HR staff costs are calculated as the HR direct labour costs divided by the HR FTEs. The shaded rows highlight our favoured benchmark. Excluding the FTEs relating to ATCO recruiting, the implied savings against the N&W European benchmark are zero (Median) and £1.3m (Upper quartile).

6.23 NERL outperforms the median of the N&W European group but is significantly above the upper quartile, which implies savings of £1.6m. All other datasets imply a range of possible savings.

HR sub-process benchmarking

6.24 We present below our analysis of the material sub-processes, which together account for 72% of the in-scope HR cost. Specifically we have looked at:

- recruiting;
- organisational development/management development;
- compensation design and administration; and
- performance management.

6.25 First, we present two benchmarks related to how many HR FTEs are assigned to the four material sub-processes. Second, we analyse some additional benchmarks for the recruiting process.

6.26 The table below shows the difference in the proportion of HR FTEs assigned by NERL and the N&W European dataset to each of the material sub-processes.

Table 55: Percentage of NERL's HR FTEs assigned to each material process

	NERL 2008/09	N&W European median	Difference
Recruiting	15.6%	18.2%	-2.6%
Organisational development/ management development	6.1%	3.8%	2.3%
Compensation design and administration	14.3%	11.4%	2.8%
Performance management	11.0%	5.0%	6.0%

Source: GBP and NERL response to LECG data request. Note: The shaded column highlights our favoured benchmark. Excluding the FTEs relating to ATCO recruitment increases the "recruiting" FTE difference to -13%.

6.27 Differences between benchmarks could point to either inefficiencies or specific factors unique to the nature of NERL's organisation. NERL's assignment of HR FTEs is broadly in line with the N&W European benchmark, except for performance management. This higher proportion of FTEs could reflect NERL's objective of raising the quality of leadership and management to deal with the significant organisational change programmes that are being implemented (e.g. the headcount reduction programme, the pension scheme restructuring and the relocation exercise). The smaller proportion of HR FTEs assigned to recruiting could stem from a lower level of centralisation (e.g. line managers are responsible for interviewing whereas other companies might rely on HR staff).

6.28 The table below benchmarks the proportion of NERL's direct labour cost allocated to each material HR process.

Table 56: Proportion of HR direct labour cost allocated to each material HR process

	NERL 2008/09	N&W European median	Difference
Recruiting	15.8%	16.4%	-0.6%
Organisational development/ management development	14.6%	5.2%	9.4%
Compensation design and administration	9.4%	12.0%	-2.6%
Performance management	13.3%	5.3%	8.0%

Source: GBP and NERL response to LECG data request. Note: The shaded column highlights our favoured benchmark. Excluding the HR labour cost relating to ATCO recruitment increases the "recruiting" difference to -5.3%.

6.29 The most significant variation from the benchmark is the greater proportion of spending on organisational development/management development and performance management. The proportion of costs allocated to performance management is in line with its HR FTEs proportion (see above). In relation to their higher organisational development/management development direct labour costs, NERL explained that they had strategically hired a fewer number of higher cost FTEs in this area to focus on developing management capability. The higher cost personnel would account for the larger proportion of direct labour cost borne by the organisational development/management development process.

Recruitment costs

6.30 Recruitment costs are the largest cost process within the benchmarked HR function in 2008/09 (i.e. accounting for 41.2% of costs). As discussed in the scope of the benchmarking section above, our main analysis includes the cost of specialist ATCO recruitment (i.e. £1m). However, we have also performed a sensitivity analysis excluding this cost. The effect of excluding ATCO recruitment on the results is shown in the notes to the tables below.

6.31 It should be noted that savings are not cumulative between tables.

6.32 We have benchmarked the recruitment cost against a few additional indicators. In the table below, we benchmark NERL's recruiting cost per external new hire.

Table 57: NERL's recruiting costs per external new hire

	NERL 2008/09 (£)	Benchmark (£)	Efficiency ratio	Implied saving (£'000)
Median				
GBP 2009 N&W European	7,990	1,670	0.21	1,460
GBP 2009 £500m to £1bn revenue	7,990	756	0.09	1,671
GBP 2009 Worldwide	7,990	532	0.07	1,723
Upper quartile				
GBP 2009 N&W European	7,990	60	0.01	1,832
GBP 2009 £500m to £1bn revenue	7,990	296	0.04	1,777
GBP 2009 Worldwide	7,990	107	0.01	1,821

Source: GBP and NERL response to LECG data request. Note: The shaded rows highlight our favoured benchmark. Excluding ATCO recruiting costs, the recruiting cost per new hire rises to £10,118 which implies savings against the N&W European benchmark are £0.7m (Median) and £0.8m (Upper quartile).

6.33 NERL does not appear to be relatively efficient in this area. Our benchmarking implies savings of between £1.5m and £1.8m. As we discuss in the recent and future trends section below, although NERL has identified considerable savings in the recruiting process, the inherently high cost of recruiting specialised ATCOs account, in part, for NERL's poor performance on this metric.

6.34 In the table below we present some further non-cost benchmarks.

Table 58: Non-cost benchmarks for NERL's recruiting process measured against the median

	NERL 2008/09	N&W European	£500m to £1bn revenue	World
Percentage of offers accepted	97%	91%	91%	92%
Percentage of non-entry level positions filled internally	81%	26%	27%	35%
Elapsed time from job requisition to offer (days)	83	40	50	40

Source: GBP and NERL response to LECG data request. Note: The shaded column highlights our favoured benchmark. Non-ATCO recruitment figures could not be provided by NERL for our sensitivity analysis.

6.35 NERL's recruiting process performs well with a higher number of offers accepted, however, offers are made in more time, 83 days, than the median for all of the benchmarks. The rigorous recruitment process of ATCOs is likely to bias the elapsed time figure for NERL upwards. The high percentage of non-entry level positions filled internally could also be attributed to the unique nature of NERL's operations in the UK, which limits the number of ATCOs applying for positions from outside the organisation.

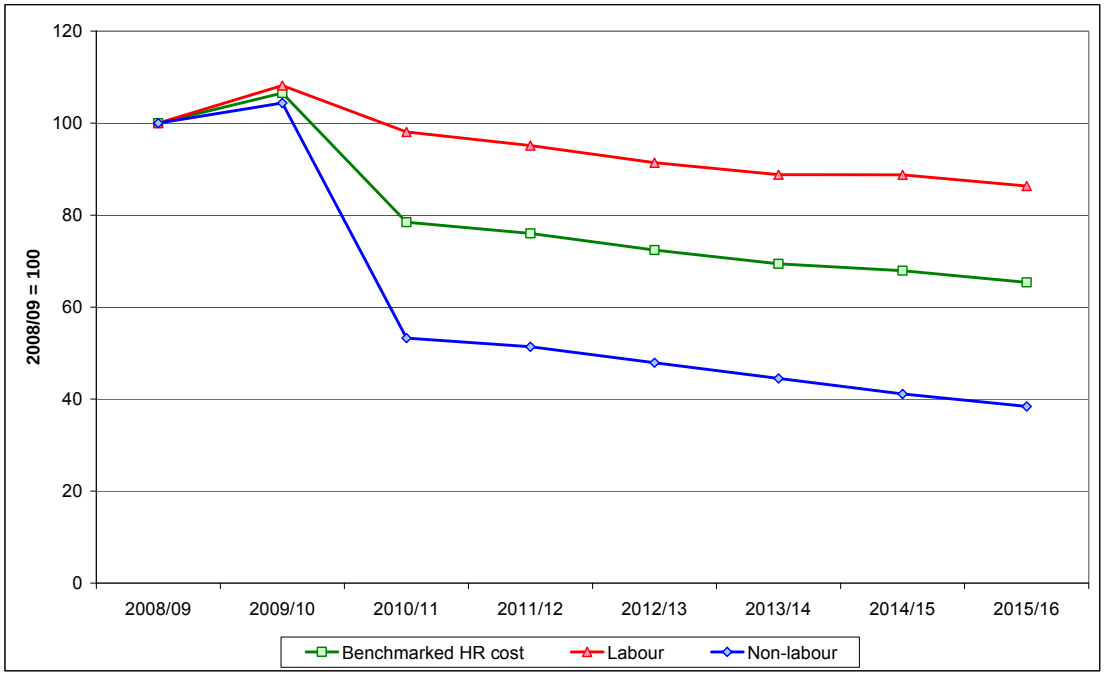
Recent and future trends

6.36 NERL's HR function has been responsible for three large projects during recent years. It has been responsible for the restructuring of the pension plan, which moves from a final salary to a defined contribution scheme for new entrants. NERL claims that this change has been successful as evidenced by the absence of industrial action during the period. HR has also managed the relocation of around 30% of NERL's workforce in an ongoing program that, once it is completed during the early years of CP3, will have moved two-thirds of the workforce since CP1. HR has also had a important management role in the significant reduction in the number of permanent and contract staff.

6.37 HR has also re-negotiated and implemented a more cost effective redundancy and redeployment agreement and improved working practices in operational areas (e.g. through the introduction of 05h30 starts, which NERL indicates has increased productivity).

6.38 The table below shows the budgeted cost trend for NERL's HR function over CP3 (for in-scope costs).

Figure 8: CP3 real cost trend for the benchmarked HR function



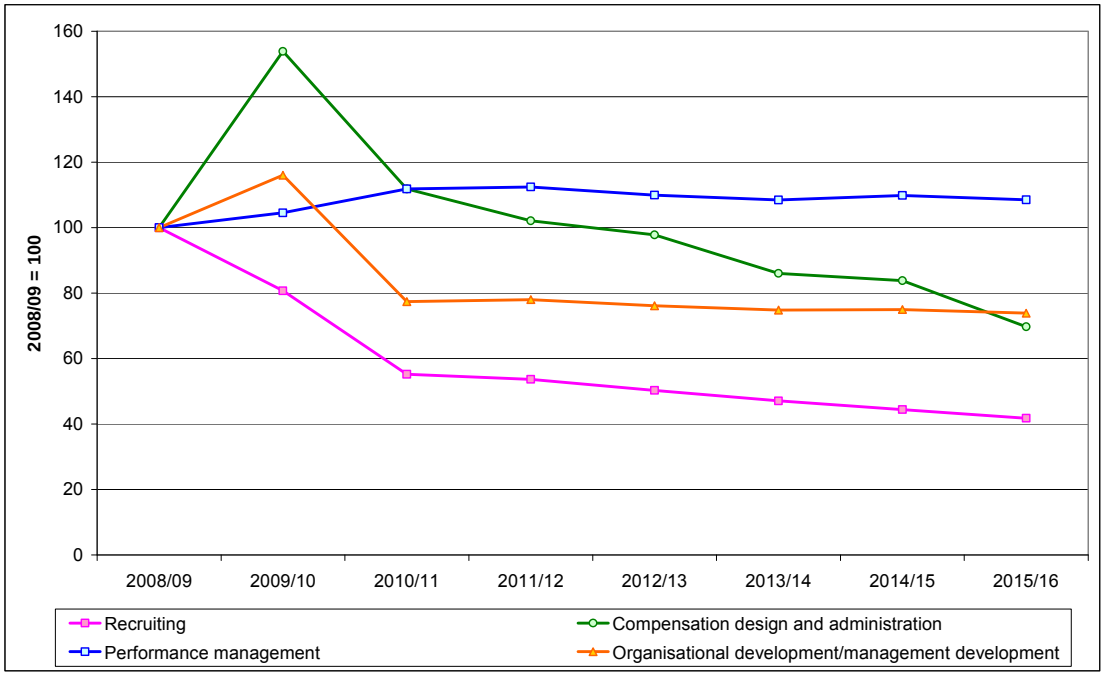
Source: NERL CP3 business plan. Note: Real trend in constant 2008/09 prices.

6.39 NERL assumes that it will achieve significant cost savings over CP3. In 2010/11, NERL's total benchmarked HR costs drop by around 22% in real terms and gradually fall by another 13% by the end of CP3. This gives an overall fall in costs of approximately 35% (i.e. approximately £1.6m) between 2008/09 and the end of CP3.

6.40 This reduction is driven largely by a 62% (i.e. £1.2m) fall in non-labour costs. A smaller 14% (i.e. £0.3m) decline in labour costs also contributes to the overall level of savings. The overall cost reduction can largely be ascribed to rationalisation of the recruitment function and the end of the pension scheme restructuring.

6.41 The annual cost trends for the four material HR processes benchmarked are shown below.

Figure 9: CP3 real cost trend for the four material HR processes



Source: NERL CP3 business plan. Note: Real trend in constant 2008/09 prices.

6.42 Both compensation design and administration and organisational development/management development increase in 2009/10 before decreasing in 2010/11, and then declining gradually over the remainder of CP3. The increase in compensation design and administration arises from activities associated with the new defined contribution pension scheme and the refinement of the reward strategy. These activities wind-down in 2010/11.

6.43 Organisational development/management development increases initially due to the development costs of the 'Develop You' programme to improve management capability. Once the programme is rolled out by the end of 2009/10, the costs decrease by 23%.

6.44 Performance management rises and then remains stable at around 10% above 2008/09 levels. We understand that this reflects an increased focus by the HR function on improving the effectiveness of managers via regular reviews and management of talent and especially by identifying and addressing poor performance. We understand that this will be delivered largely through HR support to management teams.

6.45 In contrast, the recruiting process exhibits an initially steep then more gradual fall in costs, resulting in a total saving of 58% (i.e. £1m) in real terms by the end of CP3. Overall, non-ATCO recruitment costs are expected to fall by 95% (i.e. £771k), due to a change in strategy, and ATCO recruiting costs by 29% (i.e. £303). Therefore, the reduction in non-ATCO recruitment costs account for 72% of the fall in recruiting costs over CP3.

6.46 Firstly, the recruitment of non-ATCOs is being outsourced to a third party agency. This should result in a more efficient process and a significant reduction in the cost of advertising vacancies in the National Press. In future, there will be no central HR budget for such advertising. The outsourcing deal has been structured innovatively, which should not result in any direct costs for the first two years. In addition, the strategy will reduce the cost of fees previously paid by NERL to head hunters.

6.47 Secondly, the process for recruitment of ATCOs is being streamlined so that fewer recruitment/screening events will be run and these will run at NERL's existing buildings. This will reduce the need for expensive hotel and conference room charges.

6.48 Finally, costs in 2008/09 were high because they included the recruitment costs for some senior executives.

Conclusion

6.49 Our benchmarking results appear to suggest that NERL's HR function costs in 2008/09 are high for a company of its size. A similar conclusion was reached in the Saratoga report during the CP2 review. A summary of our benchmarking results, against our preferred datasets is shown in the table below. The implied savings in this table are not additive.

Table 59: Summary of savings implied by HR benchmarks

(£'000)	Implied low savings (£'000)	Implied high savings (£'000)	Implied low savings %	Implied high savings %	CP3 planned savings % (real terms)
HR Cost as a percentage of revenue*	1,286	3,551	29%	79%	35%
Direct labour cost per HR FTE#	-	1,018	-	40%	14%
HR FTEs as a percentage of total FTEs$^{\psi}$	74	699	3%	28%	33%
Recruiting cost per new hire$^{\Delta}$	1,460	1,832	79%	99%	58%

Source: NERL, GBP and LECG calculations. Note: (*) Savings % calculated based on total benchmarked HR function. CP3 planned savings reflect total benchmarked HR cost reduction between 2008/09 and 2015/16. (#) Savings % calculated based on the HR direct labour cost. CP3 planned savings reflect total labour cost increase between 2008/09 and 2015/16. ($^{\psi}$) Reduction from 46 to 31 in benchmarked HR FTEs between 2008/09 and 2015/16. ($^{\Delta}$) Savings % calculated based on recruitment cost. CP3 planned savings reflect total recruiting cost reduction between 2008/09 and 2015/16.

6.50 NERL would need to achieve savings of 29% to meet our preferred median revenue benchmark. This finding is broadly supported by the other revenue benchmarks we have considered. Higher savings would be required against the upper quartile benchmarks.

6.51 Whilst savings of this level appear high, NERL itself is suggesting savings of around 35% by the end of CP3. NERL has identified cost savings in a number of areas, most notably in recruitment.

6.52 Recruiting costs represent 41.2% (in 2008/09) of the HR costs we have benchmarked. NERL spends more on recruitment compared to the benchmarks we have considered (see table above). We understand that NERL receives a high number of applications per air traffic control vacancy each year. It is thought that these applicants require more detailed and in-depth screening and testing compared to other companies.[25]

6.53 Our analysis found the recruitment cost per new hire for non-ATCO recruits was higher than for the combined recruitment process. This indicates that, despite the more complex process,

[25] NERL considers that the additional cost of recruiting ATCOs can have a knock-on effect to reduce overall training costs as it can restrict the number of potential recruits who do not make it through the ATCO training college.

ATCO recruitment is relatively more efficient than non-ATCO recruitment. By outsourcing the non-operational staff recruitment process and by rationalising the ATCO recruitment processes, in aggregate, NERL expects to achieve a 58% reduction in recruiting costs over CP3. Non-ATCO recruitment contributes the majority of these saving, 72%. The total recruitment saving represents a significant proportion of the HR cost reduction planned for CP3.

6.54 NERL has also identified significant savings in its compensation design and administration processes. NERL also believes that the activity levels involved in restructuring the pension scheme and redundancy conditions will reduce over time.

6.55 Our direct labour metric implies that NERL does not overpay HR staff.

6.56 In conclusion, the NERL CP3 business plan identifies a 35% HR cost reduction, which is higher than the implied savings suggested by our preferred benchmarking of 29%. On that basis, NERL becomes relatively efficient by the end of CP3, even with higher ATCO recruitment costs.

Section 7

Facilities management

Introduction

7.1 In this section, we discuss our benchmarking of NERL's FM function. We consider the following five areas:

- the datasets we have used to benchmark FM costs;
- the nature of NERL's FM costs and the scope of our benchmarking exercise;
- our benchmarking results for the overall FM function;
- our benchmarking results for each FM non-operational property; and
- recent cost trends and NERL's forecast for CP3.

7.2 At the end of the section, we draw our analysis together and present our conclusions.

Benchmark datasets

7.3 NERL's FM costs have been compared to a set of IPD benchmark datasets for the year 2007/08,[26] each customised to correspond to either the operational or non-operational part of one of NERL's properties, based on three criteria:

- office type;
- office centre type; and
- geographic location.

7.4 We understand that NERL worked closely with the IPD to select the most appropriate comparator dataset for each of its properties.

7.5 The IPD benchmark metrics for the operational and non-operational areas within each NERL property were presented in an IPD report commissioned by NERL. We have been permitted to use the IPD metrics for our analysis, however we have not been permitted by the IPD to publish these metrics, as they are considered commercially sensitive and confidential.

7.6 The benchmark data compiled by the IPD for each property takes into account the factors driving costs in particular region, such as regional rent and rate variations. This makes the data more robust, compared to using data collated using a national survey or sample. Where LECG has had access to additional datasets, we have used this data to corroborate the benchmark metrics used in the IPD study.

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[26] In April 2009 when NERL commissioned IPD to produce a benchmarking report, the 2008/09 datasets had not yet been finalised, necessitating the use of 2007/08 data. The IPD report compares NERL's 2007/08 costs against the IPD benchmark dataset.

7.7 For example, for occupier density, LECG used data collated by the British Council for Offices Guide 2005 ("BCO"), Best Practice in the Specification of Offices, which provides the UK best practice level of occupancy density, expressed as net internal area per person to corroborate the IPD benchmarks metrics in this area. The BCO data suggests a range of between 12m^2 and 17m^2 per FTE, which is consistent with the metrics used by the IPD. Similarly, for the rent and rates metrics, the range used by the IPD is consistent with the regional rent and rates for non-operational buildings presented from a GVA Grimley survey, which was used in the recent Ofgem Transmission Price Control Review study.[27]

7.8 IPD calculated their metrics by taking the average across each dataset for each property. Our benchmarking analysis calculates an implied savings figure based on each of these metrics.

Scope of benchmarking

7.9 Our benchmarking scope is restricted to the FM costs related to non-operational areas and processes within NERL's properties. The FM costs for non-operational buildings include all costs of occupancy (e.g. rent, rates, utilities etc.) as well as the costs of maintenance and services provided in the building (e.g. repairs and maintenance, catering, cleaning, plants etc.). The table below presents a description of each of NERL's properties, indicating whether they are in- or out-of-scope of the purposes of our benchmarking exercise.

[27] Both studies are contained in the document "Transmission Price Control Review: Assessment of National Grid's Property Portfolio", Drivers Jonas, September 2006.

Table 60: Overall scope of FM function benchmarking

Properties	Location (benchmark)	Description
In-scope		
CTC	Fareham (Southeast)	Leasehold premises used primarily as offices with some operational areas.
Hurn	Christchurch (Southwest)	Freehold property used primarily as an air traffic control training centre.
LACC	Swanwick (Southeast)	Freehold property in Swanwick used primarily as an air traffic control centre.
MACC	Manchester (Manchester)	Leasehold premises in multi occupied building at Manchester Airport used primarily as an air traffic control centre.
SCOACC	Prestwick (Scotland)	Freehold property used primarily as an air traffic control centre.
Brettenham house	London (London mid-town)	Leasehold premises used to provide London Headquarters for NATS and group companies including NERL.
Osborne house	Edinburgh (Scotland)	Leasehold premises used to provide accounts support to the NATS group including NERL.
Out of scope		
LTCC	West Drayton	Lease terminated 31/7/2008 – used primarily as an air traffic control centre until operations moved to LACC.
Spectrum House	Gatwick	Freehold property sold 8/1/2007 (radar site retained) – used primarily as engineering base and offices with some operational areas.
Airport sites		Various properties used by NSL.
Mast and tower sites (CNS)		Various properties used to provide communications, navigational aids and surveillance in connection with the air traffic control operation.

Source: NERL response to LECG data request. The data presented above is consistent with the data used in the IPD report.

7.10 The reasons for excluding certain properties can be explained as follows:

- *LTCC*: The West Drayton site has been excluded from the benchmarking exercise as it was in the process of being wound down during 2008/09;
- *Spectrum House*: This property had been vacated in 2007/08;
- *Airport sites*: These are NSL properties; and
- *Mast and tower sites (CNS)*: These are operational properties.

7.11 Where operational properties (e.g. the air traffic control centres LACC, MACC, and SCOACC) are in-scope, our benchmarking analysis only considers the non-operational areas within these properties. We understand that the distinction between operational and non-operational areas is in the most part quite easily determined. The split between operational and non-operational areas is consistent with CP2 and with our knowledge of NERL's sites.

7.12 The table below summarises the FM function costs and cost drivers for each of NERL's in-scope properties.

Table 61: 2007/08 FM cost variables used in benchmarking

Property	Total FM cost (£'000)	Property cost (£'000)	Rent and rates (£'000)	Operation costs (£'000)	Floor space (m²)	FTEs	Work-stations
Total	**11,859**	**10,412**	**5,565**	**4,847**	**39,630**	**2,475**	**2,870**
CTC	6,125	5,563	3,702	1,861	16,779	1,276	1,688
Hurn	1,131	910	159	751	7,730	377	353
LACC	2,916	2,520	1,000	1,520	8,112	449	462
MACC	251	240	217	23	474	54	74
SCOACC	929	718	168	550	5,617	276	224
Brettenham	250	241	189	52	320	11	25
Osborne	258	220	130	90	598	32	44

Source: NERL. The figures are consistent with the data used in the IPD report.

7.13 In April 2009, when NERL commissioned IPD to produce a benchmarking report, NERL's financial information for 2008/09 had not been finalised, necessitating the use of 2007/08 data. The IPD report therefore compares NERL's 2007/08 costs against their benchmark dataset. We have not been provided the FM data for 2008/09 in an appropriate format to enable us to update the benchmarking. In general, we do not expect that the results of the benchmarking will be significantly different from that currently presented.

7.14 NERL classified the costs relating to each property as either operational or non-operational based on floor area unless there was a clear logic to allocate a larger proportion of the costs to operation because of, for example, higher catering costs associated with running a 24 hour operation.

7.15 For benchmarking purposes, the costs relating to each non-operational site have been analysed using the following cost categories:[28]

- *Total FM cost*: Total costs of holding and running the building, including rent and rates, operation costs, business support (e.g. catering, reception services, etc.), facilities management and building fit-out, improvement and equipment;
- *Operation costs*: Costs include service charges, insurance, utilities, security, cleaning (including waste and plants) and repair and maintenance;
- *Rent and rates:* Costs include rent, rates, unitary charges and rents on other related facilities (e.g. car parks, storage or additional meeting space); and
- *Property cost*: Rent and rates and operation costs.

Overall benchmarking results

7.16 We have benchmarked the cost efficiency of NERL's FM function using four metrics:

- total FM costs per unit of floor space;
- rent and rates per unit of floor space;

[28] Description of definitions as specified in the IPD report.

- operation costs per unit of floor space; and
- total FM costs per FTE.

7.17 These metrics help to identify both the level of relative inefficiency and the potential source of any inefficiency. Our understanding of the sources of any inefficiency is further aided by two metrics focusing on utilisation: i) floor space per FTE; and ii) floor space per workstation.

7.18 To the extent that each benchmark metric targets different and often overlapping areas of cost and drivers of efficiency, the implied savings figures are not cumulative.

7.19 The savings opportunities implied by comparing NERL's total FM cost for each in-scope property to the benchmark average cost are shown in the table below.

Table 62: Total FM cost per m^2 for 2007/08

Facility	Total FM costs per m² (£)	Benchmark (£)	Efficiency ratio	Implied saving (£'000)
Total	**-**	**-**	**-**	**921**
CTC	365	[redacted]	1.12	-
Hurn	146	[redacted]	1.70	-
LACC	359	[redacted]	0.70	888
MACC	530	[redacted]	0.87	33
SCOACC	165	[redacted]	1.45	-
Brettenham	782	[redacted]	1.03	-
Osborne	431	[redacted]	1.22	-

Source: NERL, IPD report and LECG calculations.

7.20 Our benchmarking indicates total savings worth £921k, with LACC contributing the bulk of these savings. We comment on the source of these implied savings further below.

7.21 The cost savings opportunities implied by comparing NERL's rent and rates per square meter to the benchmarks are shown in the table below.

Table 63: Rent and rates per m^2 for 2007/08

Facility	Rent and rates per m² (£)	Benchmark (£)	Efficiency ratio	Implied saving (£'000)
Total saving	**-**	**-**	**-**	**870**
CTC	221	[redacted]	0.96	164
Hurn*	21	[redacted]	2.09	-
LACC*	123	[redacted]	0.43	570
MACC	458	[redacted]	0.58	91
SCOACC*	30	[redacted]	1.55	-
Brettenham	591	[redacted]	0.83	31
Osborne	217	[redacted]	0.89	14

Source: NERL, IPD report and LECG calculations. Note: (*) These freehold properties' benchmarks relate only to rates, not rent.

7.22 Our benchmarking implies savings of £870k of which about two-thirds (i.e. £570k) are due to cost inefficiencies at LACC. This analysis supports our total FM benchmarking results above.

7.23 The cost savings opportunities implied by comparing NERL's operation costs per square meter to the benchmarks are shown in the table below.

Table 64: Operation costs per m^2 for 2007/08

Facility	Operation costs per m² (£)	Benchmark (£)	Efficiency ratio	Implied saving (£'000)
Total saving	-	-	-	**594**
CTC	111	[redacted]	1.03	-
Hurn	97	[redacted]	1.40	-
LACC	187	[redacted]	0.61	594
MACC	49	[redacted]	2.53	-
SCOACC	98	[redacted]	1.27	-
Brettenham	162	[redacted]	1.06	-
Osborne	150	[redacted]	1.72	-

Source: NERL, IPD report and LECG calculations.

7.24 Only LACC's operation costs are above the average for the selected benchmark dataset, implying savings of £594k. Again, this supports our general findings for total FM costs. We comment on the source of these implied savings further below.

7.25 Our last cost metric, FM cost per FTE, indicates whether NERL's FM cost, regardless of the actual floor space used, is efficient given the number of FTEs that it must accommodate. The table below shows the benchmarking results for NERL's FM cost per FTE.

Table 65: Total FM cost per FTE for 2007/08

Facility	Total FM cost per FTE (£'000)	Benchmark (£'000)	Efficiency ratio	Implied saving (£'000)
Total	**-**	**-**	**-**	**2,059**
CTC	4.8	[redacted]	1.14	-
Hurn	3.0	[redacted]	0.89	121
LACC	6.5	[redacted]	0.51	1,416
MACC	4.6	[redacted]	1.27	-
SCOACC	3.4	[redacted]	0.71	274
Brettenham	22.8	[redacted]	0.38	156
Osborne	8.0	[redacted]	0.64	92

Source: NERL, IPD report and LECG calculations.

7.26 On this measure, NERL appears more inefficient, with implied savings of £2m. LACC again contributes around two-thirds of these implied savings. This metric suggests NERL has low space utilisation (i.e. since it has fewer FTEs in the buildings, the cost per FTE are higher). To ascertain whether NERL has lower than average space utilisation, we consider some additional space metrics below.

7.27 The table below shows the benchmarking results for NERL on the floor space per FTE metric.

Table 66: Floor space per FTE for 2007/08

Facility	Floor space (m^2) per FTE	Benchmark	Efficiency ratio	Implied saving (m^2)	Saving at FM cost per m^2 (£'000)
Total	**-**	**-**	**-**	**9,122**	**2,045**
CTC	13	[redacted]	1.02	-	-
Hurn	21	[redacted]	0.53	3,658	535
LACC	18	[redacted]	0.74	2,095	753
MACC	9	[redacted]	1.47	-	-
SCOACC	20	[redacted]	0.49	2,885	477
Brettenham	29	[redacted]	0.37	202	158
Osborne	19	[redacted]	0.53	281	121

Source: NERL, IPD report and LECG calculations.

7.28 Using NERL's FM cost per square metre for each property it appears that NERL could theoretically save £2m by reducing the space per FTE. Reducing the space per FTE might create surplus floor space that could be vacated. On this measure, LACC contributes less that half of the implied cost savings, while Hurn and SCOACC together contribute about 50%.

7.29 A closely related metric to the one used above, is that of floor space per workstation. We show NERL's benchmarking results in the table below.

Table 67: Floor space per workstation for 2007/08

Facility	Floor space per workstation (m²)	Benchmark	Efficiency ratio	Implied saving (m²)	Saving at FM cost per m² (£'000)
Total	**-**	**-**	**-**	**10,500**	**2,327**
CTC	9.9	[redacted]	1.13	-	-
Hurn	21.9	[redacted]	0.48	3,988	584
LACC	17.6	[redacted]	0.64	2,938	1,056
MACC	6.4	[redacted]	1.86	-	-
SCOACC	25.1	[redacted]	0.41	3,332	551
Brettenham	12.8	[redacted]	0.71	93	72
Osborne	13.6	[redacted]	0.75	149	64

Source: NERL, IPD report and LECG calculations.

7.30 Again, this benchmark implies that NERL could save £2.3m by increasing the density of workstations, thereby reducing the space per workstation. Theoretically, this could potentially create floor space that is surplus to NERL's requirements.

7.31 NERL management indicated that one reason for their relatively poor utilisation performance, especially at the LACC, was that the rate of technology improvement (and especially the reduction in the size of hardware) means that the space requirement for housing servers (etc) is now much smaller than when the building was originally designed or leased. As such, there is space at these buildings, which may not be optimally utilised.

7.32 In addition, we understand that there are also architectural design issues with the LACC building that may limit the efficient utilisation of space. NERL management believe that the cost of re-planning the space may be higher than the potential savings realised.

Recent and future trends

7.33 Following a critical analysis of NERL's FM function during the CP2 review,[29] a number of improvements have been made. In particular:

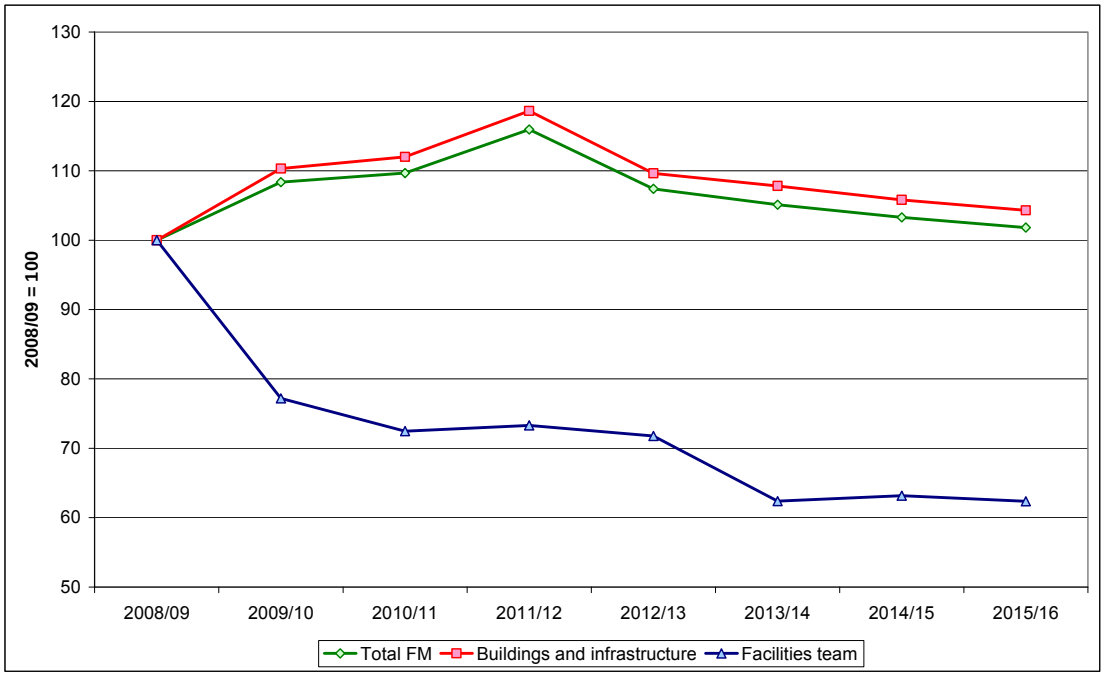
- the previously disparate parts of facilities management were brought under one management team in 2006, leading to savings through, for example, centrally negotiated service contracts which cover all major sites;
- an accommodation strategy was put in place and the property portfolio was optimised by, for example, the sale of Spectrum House, the surrender of the lease on the West Drayton control centre, and the ongoing closure of MACC which is being moved to SCOACC;
- building utilisation has been improved by moving towards a workstation per FTE ratio of less than one to one and used to make a successful case for the closure of the Hurn training facility and the integration of Hurn's personnel into CTC; and
- the quality of the data kept by NERL's FM function was improved in response to having taken 5 months to compile and refine the data for the CP2 review benchmarking study.

[29] KPMG 2004 report.

7.34 In overall terms, NERL has managed to limit the increase in nominal FM costs from £12.5m in 2004/05 to £14.2m in 2008/09, a slightly below RPI increase of 14% in nominal terms.[30] We understand that this increase would have been more marked were it not for the steps taken by NERL to improve the FM function and close some of its less efficient buildings. We also appreciate that restructuring may lead to cost increases followed by subsequent falls.

7.35 NERL's projection of non-operational FM costs over CP3 is illustrated in the figure below.

Figure 10: CP3 real cost trend for NERL's non-operational FM costs



Source: NERL CP3 business plan. Note: Real trend in constant 2008/09 prices.

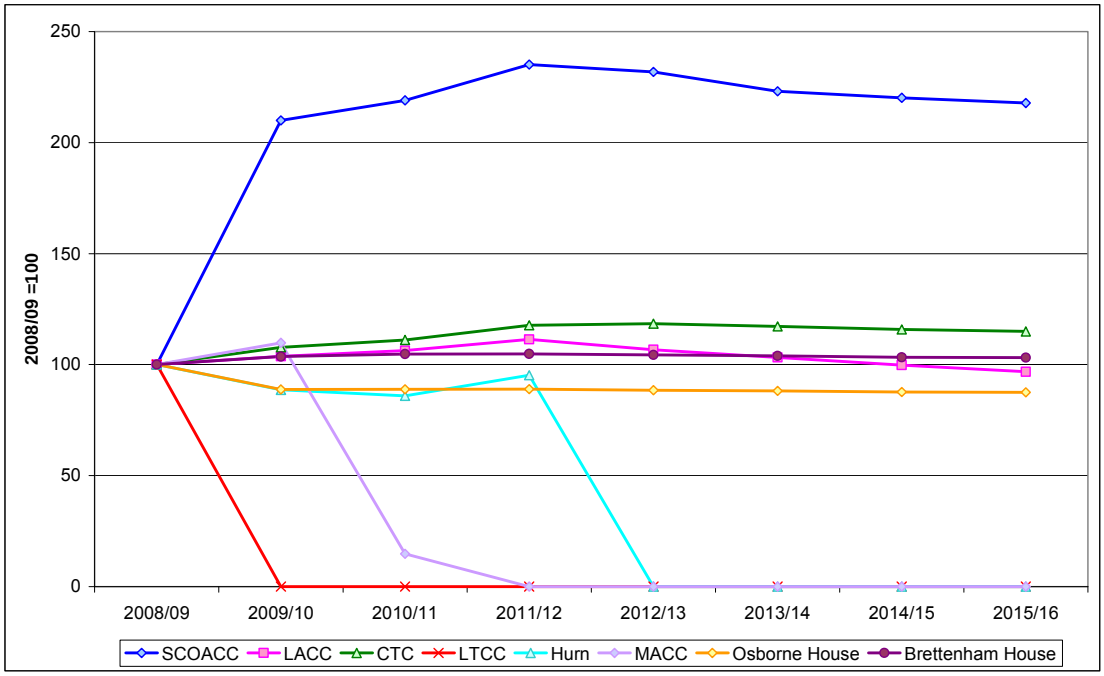
7.36 NERL's facilities team costs are expected to reduce by 38% in real terms over CP3 as headcount is cut from 21 to 9 FTEs, resulting in a cost reduction of £318k. In contrast, the costs of buildings and infrastructure are expected to increase over the course of the next three years before trending down to end CP3 around 4% above 2008/09 levels, a £575k increase. These changes result in a net CP3 increase of 2% or £258k.

7.37 NERL indicated that a key driver of buildings and infrastructure costs was higher energy costs, which are expected to increase by 27% (i.e. from £55 per MWh to £70 per MWh in nominal terms). Energy costs account for approximately 15% of NERL's total FM costs. Hence, an increase in the level of energy costs by the amount envisaged by NERL would lead to a 4% increase in buildings and infrastructure costs. This 4% increase is reflected in the cost trend above.

7.38 We investigated the trend further by analysing each building's cost trend. The table below shows the total FM cost trend, in real terms, for each of NERL's in-scope properties.

[30] Inflation as measured by RPI was approximately 15% over this period. Source: "All items Retail Price Index (RPI) percentage change over 12 months: Table RP04", Office of National Statistics, 2009.

Figure 11: CP3 real FM cost trend



Source: NERL CP3 business plan. Note: Real trend in constant 2008/09 prices.

7.39 FM costs at the Prestwick control centre increase as it moves to the newly opened centre and absorbs the operations from the MACC closure. FM costs for CTC increase by approximately 15% because of the closure of Hurn. However, when we consider these two properties in aggregate the overall cost decreases by 2% in real terms.

7.40 In total, we can see that FM costs decrease between 2011/12 and 2015/16, reflecting the effect of these building closures and relocation of staff.

Conclusion

7.41 Since CP2, NERL has vacated several of its more inefficient properties and it has moved to less expensive locations. In real terms, however, FM costs are expected to increase between 2008/09 and 2011/12, driven by various restructuring costs and increased energy costs. After 2011/12, the benefits of NERL's restructuring start, and costs fall through to the end of CP3. In real terms, FM costs increase by 2% between 2008/09 and the end of CP3.

7.42 Our benchmarking results for NERL's FM function are summarised in the table below.

Table 68: Summary of savings implied by FM benchmarks

(£'000)	% implied FM saving	Total FM cost per FTE	Floor space per FTE	Floor space per workstation	Total FM costs per m²	Rent and rates per m²	Operation costs per m²
Total saving	**17%**	**2,059**	**2,045**	**2,327**	**921**	**870**	**594**
CTC	-	-	-	-	-	164	-
Hurn	11%	121	535	584	-	-	-
LACC	49%	1,416	753	1,056	888	570	594
MACC	-	-	-	-	33	91	-
SCOACC	30%	274	477	551	-	-	-
Brettenham	62%	156	158	72	-	31	-
Osborne	36%	92	121	64	-	14	-

Source: NERL, IPD report LECG calculations. Note: The savings percentage is calculated by dividing the total FM cost per FTE savings in this table by the total 2007/08 cost shown in Table 61. The savings across each row do not sum to the total FM costs since they are not discrete subsets of the total cost. The top row with the total savings is the sum of the savings for all properties for each metric. Shaded columns show our preferred benchmarks.

7.43 Our benchmarking suggests that "theoretically" savings of between £921k and £2m could be achieved in the FM function. However, it is not clear to what extent these savings can actually be realised.

7.44 NERL's LACC property is the single biggest contributor to NERL's apparent relative inefficiency. However, NERL's ability to reduce this property's cost is restricted by factors outside of management's control. [redacted] The rateable value of the building is high [redacted]. NERL is pursuing this matter with the relevant authorities and has appealed the basis for the calculation of LACC's rates [redacted]. If it succeeds, its forecasts will be lower.

7.45 NERL is also relatively inefficient in terms of its space utilisation (i.e. an implied saving of around £2m). Theoretically, NERL could try to increase the number of people it employs at each premise, or to try to reduce surplus space. However, we understand that NERL may be limited in realising the full extent of these savings due to the architectural designs of certain buildings (e.g. LACC). Where possible, we understand that NERL is working to increase their utilisation (e.g. the closure of Hurn and Manchester and the relocation of employees to CTC and Prestwick respectively).

7.46 An additional constraint on cost reduction at air traffic control centres, according to NERL, is that security restrictions make it almost impossible to let space to third parties to improve space utilisation.

7.47 On that basis, we believe that NERL's scope to achieve further reductions in cost is limited.