



NERL's Cost Allocation and Non-Regulatory Income Forecasts

15 January 2019

Civil Aviation Authority

COST ALLOCATION AND NON-REGULATORY INCOME REPORT



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I. EXECUTIVE SUMMARY

The Reference Period 3 (RP3) price control for NATS (En Route) Plc, known as NERL, starts on 1 January 2020 and is expected to run for five years. The CAA's estimates of expenditure and revenue will be important inputs to the price control. To support its review, the CAA commissioned Cambridge Economic Policy Associates (CEPA) to review NERL's approach to cost allocation and assess the reasonableness of their non-regulatory income forecasts.

I.1. KEY FINDINGS

Our key findings are summarised briefly below.

Cost allocation

- **Cost allocation system** - Over RP2, NATS has upgraded its cost allocation system - our conclusion is that the new system as designed is fit for the purpose of regulation.
- **Allocation of revenues and operating costs** - The allocation of revenues and operating costs has remained largely unchanged over RP2 and the minor recommendations made previously have mostly been accepted. The one major change is the introduction of a new asset management driver model which we find better matches activities to the ultimate end consumer and increases the accuracy and stability of the process.
- **Operating of inter-company trading** – In our review of RP2 we concluded that there were transparency issues in tracing inter-company costs and revenue from source through to legal entity and service line allocation. We also commented that no market testing had been undertaken as a check on intra-group charging. No specific systems or procedural changes have been made over the period and these comments still stand. However, we found no evidence that costs have not been allocated to the correct legal entities and service lines. NERL has also provided evidence that its charges to NSL are consistent with those to third parties.
- **Allocation of capex costs** - We have found no major issues with the operation of allocation of capex and the associated accounting depreciation.

Non-regulatory income forecasts

- **FMARS** - NERL's approach to forecasting income from the FMARS contract appears reasonable. Whilst there is a reduction in the real value of FMARS income in RP3 relative to RP2, this variance can be explained by the rebaselining of the extended contract to account for the lower than expected costs achieved since the original contract was agreed.
- **North Sea Helicopters** - We conclude that NERL's approach remains a reasonable method for forecasting income from the North Sea Helicopters service.
- **Inter-Company Revenues** - NERL's forecasts of future inter-company revenues represent a noteworthy reduction from RP2. In particular, NERL expects to receive much lower revenues from ICAs with NSL. Although we did not identify any material irregularities or omissions in NERL's approach to forecasting ICA revenue, we have made two specific recommendations regarding the transparency of NERL processes:
 - NERL should take action to consider how it might improve the transparency of its internal processes to make clear how NATS (collectively NERL and NSL) identify opportunities to leverage NERL's expertise commercially; and



- NERL should take action to consider whether there are ways to improve the transparency of its pricing, to provide some reassurance that it is following its internal policies with regards to market testing and charging a return that would be required by a private investor.

We did not find NERL's approach to forecasting MSA revenue to be unreasonable and it appears to be consistent with actual revenue realised in the current price control period.

- **Other Revenues** - NERL forecasts a significant (48%) decline in revenues during RP3 compared to RP2 which they have indicated is largely due to lower expected revenues from Deployment Manager (now that it has established its own resource) and a change in SESAR accounting treatment. NERL has also indicated that it does not plan to offset the reduction in other revenues by seeking new sources of income. Instead, NERL plan to focus on delivery of critical customer priorities in RP3 and as such their Business Plan for RP3 does not allocate the same level of resource to non-regulatory income as it did in RP2. While any additional non-regulated activities would only make a modest contribution (for example, an additional 10% of 'other' income would equate to ~0.6M per annum) via the single till, there may be scope for more ambition if, for example, more resource was recruited to support these revenue sources or if NERL were able to make additional use of joint ventures to expand the resources available.

1.2. COST ALLOCATION

As we undertook a similar review of regulatory cost allocation for RP2, we started the review for RP3 by establishing what has changed within the SAP accounting system and related processes over the last five years. Many of these changes were responses to issues raised at the last review.

The cost allocation system

At the time of the RP2 review NATS commented that the SAP/BPS system then in use was reaching the end of its useful life and we recommended that improvements be made when the system was upgraded. NATS has taken advantage of its subsequent upgrade project to make improvements to the system by integrating more of the asset handling via the Regulatory Service Line (RSL) and improving the maintainability of the RSL drivers.

We note that the system has been improved and have not identified any major issues with the system itself. Our conclusion is that the system as designed is fit for the purpose of regulation.

Allocation of revenue and operating costs

Revenues and costs are allocated across the RSLs via several drivers which are usually based on a single variable, such as turnover, workstations or headcount by service line. Since our review in RP2, this cost allocation concept has remained largely unchanged and the various minor recommendations made have by and large been accepted.

The one major change since the last review is the introduction of a new asset management driver model. This has two major functions – to create a new catchall driver for all asset management opex (usually relating to services delivered to workstations) and also to create the apportionments used to develop the various workstation drivers. The rationale for adopting this model is to better match activities to the ultimate end consumer and increase accuracy and stability of the process. We find that this is the case and it should also increase transparency and reduce managerial subjectivity in cost allocation going forward.

We reviewed costs and revenues allocated over RP2 and forecast over RP3 by driver and by service line and found no major irregularities. This included testing the new drivers created as a result of the new asset management driver model described above as it is introduced in full over the RP3 period.



Operation of intercompany agreements

Inter-company trading represents a small percentage of NERL's cost and revenue allocation but is an area that is complex because: there are significant shared costs; the "selling" and "buying" transactions are all within the same group/ system; the group comprises regulated and unregulated entities; and there are no invoices supporting the inter-company transactions because the entities are all in the same VAT group.

It is because of these complexities that NERL sets out its governance structure for inter-company trading as follows: compliance with legal and regulatory obligations; arm's length commercial terms with no cross subsidies; fair allocation of costs based on evidence and a reasoned approach using market prices where available; consistent application of the approach which is fit for purpose; margin levels determined by type and risk for the contract; and an annual review of all inter-company charges.

In our review of RP2 we concluded that there were transparency issues in tracing inter-company costs and revenue from source through to legal entity and service line allocation. We also commented that no market testing had been undertaken as a check on intra-group charging. NERL's response to these issues has been to provide a briefing pack for RP3 and to ask PwC to consider the issues as part of the readiness review for RP3. No specific systems or procedural changes have been made.

We have examined the inter-company policies and procedures which have been fully updated by NERL. As documented, these are sound and we have no issues to raise. The types of inter-company agreement that exist are unchanged from RP2 except that NERL now distinguishes MSAs into two types: (1) NATS Limited's MSAs for recharging its costs at zero profit to NERL and NSL; and (2) NERL's and NSL's ASAs for recharging costs with no margin added between each other. ICAs are for traded services that could be provided by a third party and should be the result of arm's length trading arrangements with the value based on the scope of the work and risk ownership. For this reason, the prices charged include a mark-up.

Projected inter-company income for NERL is due to decline over RP3 because of a reduced pipeline of ICA work from NSL. The value of MSAs and ASAs is expected to remain fairly constant.

Projected inter-company costs for NERL are expected to rise slightly (by approximately 3%) because of increased requirements to ensure the safety of airspace users due to increasing drone activity.

We set out to undertake a limited review of the annual planning cycle which sets the budget for shared costs and concludes with agreement across the group as to how those budgeted costs should be shared. NERL had provided an example of the management review process in the form of a presentation covering HR costs. This could not be directly compared with costs as apportioned and we sought clarification. We also asked for documentation covering a further corporate function. Limited further information was made available. As this same issue of transparency has been the case for this review and the last, we recommend that NERL re-examines the trail of information it makes available for the price control review in this area.

While we have found no errors in the allocation of intra-group charging, confirming so required significant back and forth on materials provided by NERL on the operation of inter-company trading income, the associated costs, the way those costs are allocated, and the single till adjustments

We noted that a number of activities had been variously marked with a "#" and text indicating that the activity was closed. NERL responded that as reports always utilised the latest table of activities and associated drivers, the closure change would have occurred after the report had been run and NERL would not expect costs to be charged against the closed activity in the future. We found that there were several activities in the Business Plan for RP3 where costs have been planned through to 2024 against closed activities.

NERL has confirmed that the 'closed activities' were identified for internal planning purposes, and that there is no material impact on the future costs because any costs allocated to 'closed activities' will be reallocated to other codes as part of the business planning process.



The last three price control reviews had reported transparency issues relating to inter-company trading. We recommend that at the next and subsequent annual planning processes NERL should consider what information should be retained and presented so that reviewers are able to trace inter-company costs from source through to regulatory service line.

The last three price control reviews have concluded that NERL has undertaken no market testing. We accept that this is a difficult area. As part of managing competitiveness NERL could examine its own internal shared services and whether these are cost effective. We also suggest that NERL considers whether there are any industry clubs for sharing information on a strictly confidential basis. We accept that this information would not be available for future reviewers, but it would provide some reassurance that NERL is doing something in relation to its policy. If the intention is that nothing is to change, then we recommend that NERL re-examines its policies in this area over the course of RP3 as the “do nothing” option appears to have become the policy.

Allocation of capex costs

Fixed assets and the associated depreciation charges are allocated to RSL using the same driver percentages used for income and opex, based on what is the most appropriate driver for the use of the asset.

For RP2 an off system Regulatory Asset Base (RAB) spreadsheet was utilised to restate calculated depreciation charges and other fixed asset adjustments in line with the Regulatory Accounting Guidelines. This included the use of a copy of the driver table for allocating costs. We recommended that NERL integrate this functionality when the allocations system was next subject to major upgrade. This has occurred during the period between the RP2 and RP3 reviews.

There continues to be a need for some off-system handling for regulatory accounting purposes. This includes some regulatory service line allocation using downloaded data from SAP but NERL assures us that parallel driver files are no longer used for this purpose. We accept that further integration of the regulatory accounting requirements is constrained by the features of the system and cost/ benefit considerations. Our conclusion is that NERL has taken appropriate steps to increase the level of integration.

For statutory accounting purposes, assets held as Assets Under Construction are not depreciated until commissioned. For regulatory accounting purposes, assets are added to the RAB and depreciated immediately (using regulatory depreciation percentages that differ from those based on statutory asset lives). The SAP and BPC systems are used for allocating assets brought forward, capital additions, and accounting depreciation by service line. The system is also able to allocate Assets Under Construction by RSL and this together with other assets information is extracted for off-system modelling for regulatory reporting purposes. NERL has emphasised that this off-system handling is a relatively small part of the overall system and is a process performed once a year only. NERL has also confirmed that no overheads are capitalised.

We have undertaken some testing of the allocation process at asset level and more extensive testing of a full year’s data (2018-19) extracted by NERL from the SAP BPC accounting records. The allocations were agreed in full and there are no matters arising.

We have found no issues with the operation of allocation of capex and the associated accounting depreciation.

1.3. NON-REGULATORY INCOME FORECASTS

Under the NERL licence, NERL is permitted to undertake activities beyond its core air traffic control services, so long as the revenue received through such activities (“other Connected Business”) does not exceed 4.5%



of the aggregate turnover of the En Route (UK) and En Route (Oceanic) businesses.¹ Under the “single till” approach NERL’s revenue requirement is reduced by any revenues earned from non-regulated sources, i.e. these revenue sources reduce the charges faced by commercial airlines.

NERL has five recurring sources of non-regulatory income: Future Military Area Radar Services (FMARS) contract with the UK Ministry of Defence (MoD); North Sea Helicopters; inter-company revenues; other revenues; and London Approach services.

In looking at the non-regulatory income forecasts we set out NERL’s approach to forecasting during RP3, present our findings with respect to the reasonableness of NERL’s approach, and undertake sensitivity analysis with respect to key variables. Our findings on the five sources on non-regulatory income are summarised below.

FMARS

The current FMARS contract between the MoD and NERL commenced in July 2006 and runs for 14 years and 8 months, expiring in March 2021. NERL told us that they are in advanced negotiations with the MoD to extend the current agreement (maintaining the current scope of services almost entirely). Since 2006 NERL has achieved significantly lower costs than those assumed in the current contract, so the contract extension has been priced to reflect these lower costs.

At the MoD’s discretion, the new agreement will run for a period of either four or nine years. NERL has priced both options, with the main difference being that under the shorter four-year option the MoD would pay an “accelerated” amount for the depreciation of certain assets which NERL would not otherwise provide for its civilian and commercial customers. NERL told us that from their negotiations with the MoD they have a high degree of confidence that the MoD will sign the longer nine-year extension, and this accords with their Business Plan for RP3 submission.

In our view NERL’s approach to forecasting income for the FMARS contract appears reasonable. Our analysis indicates that whilst there is a reduction in the real value of FMARS income in RP3 relative to RP2, this variance can be explained by the re-baselining of the extended contract to account for the lower than expected costs achieved since the original contract was agreed.

The FMARS contract with the MoD is a relatively stable source of revenue. Subject to NERL’s performance, projected revenue is fixed in advance, subject to an agreed inflation index, and there is a low likelihood of termination.

North Sea Helicopters

NERL earns revenue from the provision of North Sea Helicopter Advisory Services by charging the helicopter operators which service offshore oil platforms in the Northern and Southern North Sea regions.

The charges are set annually in consultation with the main customers based on the forecast number of round trips in each sector, with an adjustment mechanism to pass through any over-/under-recovery of charges in the previous year. Under- or over-recoveries are mainly due to the difficulty of accurately forecasting the number of helicopter round trips 12 months ahead. The charge for each round trip is based on NERL’s cost base for providing for the services plus a return – in this case an 8% Return on Capital Employed (ROCE).²

¹ Condition 5, paragraph 12(a)(vi) of the NERL Licence. Core air traffic and other permitted services include the FMARS contract, London Approach services, North Sea Helicopters and services provided by NERL for the rest of the Group.

² Where Capital Employed is calculated as the Net Book Value of fixed assets plus trade debtors. Trade debtors is calculated as based on planned income from BP18 and the number of outstanding debtor days (i.e. income x 30/365).



Our review did not uncover any unreasonable methods or assumptions. Therefore, we conclude that NERL's approach remains a reasonable method for forecasting income from the North Sea Helicopters service, particularly noting the historic stability of the cost base and the consistency of forecast revenues for RP3 compared to those achieved during RP2.

Intercompany revenues

We have found that NERL's forecasts of future inter-company revenues represent a noteworthy reduction from the previous price control period. In particular, NERL expects to receive much lower revenues from ICAs with NSL. Although we did not identify any material irregularities or omissions in NERL's approach to forecasting ICA revenue, we have made two specific recommendations regarding the transparency of NERL processes:

- NERL should take action to consider how it might improve the transparency of its internal processes to make clear how NATS (collectively NERL and NSL) identify opportunities to leverage NERL's expertise commercially; and
- NERL should take action to consider whether there are ways to improve the transparency of its pricing, to provide some reassurance that it is following its internal policies with regards to market testing and charging a return that would be required by a private investor.

We did not find NERL's approach to forecasting MSA revenue to be unreasonable and it appears to be consistent with actual revenue realised in the current price control period.

Other revenues

We have found that NERL's forecast of "other revenues" shows a significant (48%) decline during RP3 compared to RP2. In large part this can be explained by the reduction in income due to lower expected revenues from Deployment Manager and the change in accounting treatment for SESAR revenues.³

We asked NERL to explain whether, and how, it was planning to offset the reduction in other revenues by seeking new sources of income. NERL told us that non-regulatory income was important, its Business Plan for RP3 does not allocate the same level of resource to non-regulatory income as it did in RP2 because it is critical that the company focuses on other priorities – specifically, delivering a resilient and high-quality service to its customers while completing a major technology upgrade programme and modernising airspace.

While any additional non-regulated activities would only make a modest contribution (for example, an additional 10% of 'other' income would equate to ~0.6M per annum) via the single till, there may be scope for more ambition if, for example, more resource was recruited to support these revenue sources or if NERL were able to make additional use of joint ventures to expand the resources available.

London Approach services

London Approach consists of the control and sequencing of flights between NERL's en-route service and the tower service at London airports (which is provided at each by an air navigation service provider under contract with the airport operator).⁴

³ NERL's auditors require other revenue from SESAR Horizon 2020 to be shown as a reduction in operating cost. Customers will still obtain the benefit of this income stream.

⁴ Civil Aviation Authority (February 2014) "Regulatory treatment of London Approach charges in Reference Period 2: CAA conclusions" available [online](#).



The cost of providing the London Approach service is included in regulated en-route determined costs. However, as the London Approach charge is separate from the en-route charge for RP3, the resulting London Approach income has been included as a line item in NERL's non-regulatory income (so removed from the en-route required revenue) to prevent double-counting.

Within the scope of this study, CEPA carried out a check to ensure that the non-regulatory income line item for London Approach aligned with forecast costs to be recovered through the London Approach charge. We can confirm that NERL's non-regulatory income forecast is aligned with the forecast costs to be recovered through the London Approach charge.

1.4. AREAS OF PARTICULAR INTEREST TO CAA

Allocation of costs associated with London City Airport remote tower

The London City Airport remote tower facility is currently under construction at Swanwick. The contract for the build of the facility and operation of the service going forward is between NSL and London City Airport. NERL is providing resources to support NSL in setting up the facility and will receive an ongoing annual income for providing facilities and support to NSL for the service to London City Airport. NERL has created a number of ICAs to cover the costs and margin to be charged, separating the non-annual ICAs for set-up from the annual ICAs. The project is still in progress but, as defined, charges appear to have been arrived on the same basis as other charges to NSL.

Amount paid by NERL to NSL for the delegated functions at Aberdeen Airport

The delegated functions at Aberdeen Airport are provided by NSL and charged to NERL. The allocation has been checked.

Allocation of costs associated with the MoD FMARS project

We have reviewed the FMARS pricing model and have no issues to raise on the cost allocation.

Our review of the MoD FMARS project found that the MoD will pay the costs associated with the services they get and use in the same way as other customers. However, the FMARS contract is significantly different from other services provided to third parties, for example in the asymmetric sharing of cost efficiencies to the potential benefit of the MoD. The distinct nature of such arrangements means that NERL adopts a different approach to the calculation of a "mark-up", than that which might apply to other services. We do not however have any concerns with the basis on which the MoD is charged for FMARS by comparison to the basis on which NERL charges other third parties.



2. INTRODUCTION

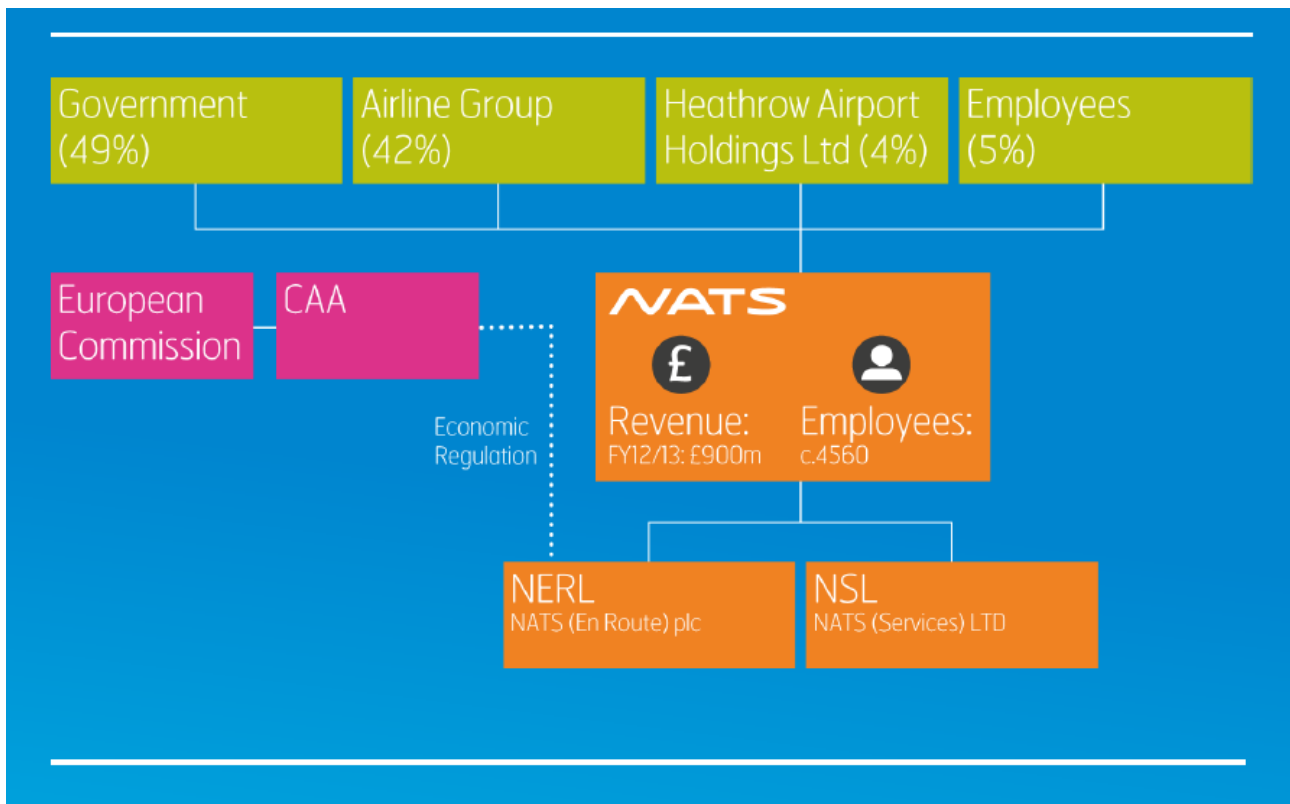
The RP3 price control for NERL, starts on 1 January 2020 and is expected to run for five years. The CAA's estimates of expenditure and revenue will be important inputs to the price control. To support its review, the CAA commissioned CEPA to review NERL's approach to cost allocation and assess the reasonableness of their non-regulatory income forecasts.

In carrying out this work we relied upon information and calculations provided by NERL in response to a series of information requests.

2.1. NATS GROUP STRUCTURE

The NATS group structure is set out below:

Figure 2.1: NATS Corporate Structure



Source: NATS

NATS has two subsidiaries NERL and NATS Services Ltd (NSL). NERL operates UK Air Traffic Services and Oceanic⁵. NSL is NATS' commercial subsidiary.

The licensed business - NERL⁶

The UK Air Traffic Services, broken down into:

⁵ Being air traffic services for transatlantic flights - CHECK

⁶ IPP: NERL's cost allocation and non-regulatory income forecasts



- *Eurocontrol*: This is the major part of the licensed business. It is subject to the EU Charging and Performance Regulations – given effect through a charging condition in the NERL licence;
- *North Sea Helicopters*: a small specific service subject to the licence with charges determined on a full cost recovery basis;
- *London Approach*: a service provided from the Area Control Centre at Swanwick alongside Eurocontrol services.
- *Other permitted business*: consists primarily of the FMARS contract to provide infrastructure costs to the MoD for which there are common costs. There are also services:
 - provided by NERL for the rest of the Group;
 - provided in conjunction with the Irish as part of a Functional Airspace Block; and
 - in any other Connected Business up to 4.5% of turnover.

Oceanic:

- Oceanic a relatively small segment of the business which is not covered by EU regulations and for which there is a separate simple CPI-X price condition in the NERL Licence

Income generated outside of NERL's economically regulated activities is deducted under a 'single till', leaving a net revenue allowance.

The unlicensed business - NSL⁷

The unlicensed business consists of the activities of NSL. Its core business is the provision of air traffic control (ATC) services at 13 UK airports plus Gibraltar under contract to the airport operator. These airports are not subject to formal regulation under domestic legislation since the UK TANS market was found to be contestable in RP2. We understand that the DfT has submitted its assessment of the contestability of the UK TANS market for RP3 to the European Commission, concluding that the market remains contestable.

NSL provides various other services in the UK and abroad and also has a joint venture with Spanish infrastructure company Ferrovial, which is contracted to provide air traffic control tower services at ten airports in Spain.

2.2. COST ALLOCATION

We have been asked to establish whether the CAA is able to rely on the allocations and apportionments that NATS makes between:

- its licensed business and unlicensed business (including Inter-Company agreements);
- the different segments of the licensed business;
- the allocations that NERL makes to operating and capital costs; and
- the allocations that NERL makes to non-regulatory income.

In particular, this requires us to examine whether the allocations, attributions and cross charges (including between operating costs and capital expenditure) applied by NERL are fit for the purpose of regulation considered against:

⁷ IPP: NERL's cost allocation and non-regulatory income forecasts



- suitability of cost allocation methods;
- adequacy of update process;
- transparency of process including the process for sign-off procedure for accepting costs from affiliates; and
- consistency of application including: (i) whether the same rules are applied for costs allocated from NERL to affiliates as from affiliates to NERL; (ii) comparison of actual allocations to the plan for RP2; and (iii) comparison of planned allocations in the initial business plan for RP3 to current allocations.

In undertaking the review, the CAA has asked CEPA to undertake a more detailed analysis of specific areas of NERL's business:

- the allocation of costs associated with the remote tower facility for London City Airport and the basis of the price charged by NERL to NSL;
- the amount that NERL pays NSL for the provision of delegated functions provided by NSL at Aberdeen Airport; and
- the allocation of costs associated with the Ministry of Defence (MoD) Future Military Area Radar Service (FMARS) contract and whether the price charged is determined on the same basis as other third-party charges.

Having undertaken a similar review for RP2, our approach to the review for RP3 was to establish what has changed over the last five years, we present the recommendations and actions taken by NATS in the relevant sections of the report. NERL has provided a detailed response to the recommendations and, following an independent review by PwC of NERL's readiness for RP3, it concluded overall that all of the recommendations have been addressed. This report considers whether we agree with that conclusion.

2.3. NON-REGULATED INCOME FORECASTS

We have also been asked to review the reasonableness of NERL's approach to forecasting non-regulated income within its Business Plan for RP3. Our approach to the review is to:

- identify the particular scope and characteristics of the non-regulated sources of revenue;
- understand NERL's methods for forecasting RP3 revenues through a review of NERL documentation and engagement with NERL stakeholders, asking NERL to provide justification for their methods and forecast results;
- compare the forecasts with historical trends, and in some cases to reconcile the forecast with underlying agreements and other source documents; and
- assess the level of certainty within the income forecasts with respect to key variables (e.g. inflation, cost of capital, exchange rates, timing delays).

2.4. REPORT STRUCTURE

At the outset of each chapter we present the relevant recommendations from the previous review and the actions undertaken to address them. The remainder of this report is structured as follows:

- Chapter 3 considers the systems used by NERL for cost allocation;
- Chapter 4 reviews NERL's approach to revenue and operating costs;
- Chapter 5 examines NERL's operation of intercompany agreements;



- Chapter 6 assesses the allocation of capex costs;
- Chapter 7 examines NERL's approach to forecasting non-regulatory income; and
- Chapter 8 considers the particular areas of study requested by the CAA.

The report is accompanied by a series of Appendices which cover the driver testing, and the accounting reconciliations with the statutory accounts.



3. THE SYSTEM USED BY NERL FOR COST ALLOCATION

As we undertook a similar review of regulatory cost allocation for RP2, we started the review for RP3 by establishing what has changed within the SAP accounting system and related processes over the last five years. Many of these changes are responses to issues raised at the last review and these are summarised in detail in the chapters where the relevant subject area is discussed.

NERL utilises an enterprise accounting system called SAP. The system was originally implemented by Capgemini who continue to provide ongoing support and have been involved with the changes made since RP2. All companies in the group utilise the system which is structured by legal entity. However, the companies are part of the same VAT group so shared costs need to be apportioned between companies.

The accounting system includes a large-scale enterprise modelling system which uses spreadsheets as the user interface. This takes the periodic legal entity information and derives a further view of the businesses via an allocation process. The output from this allocation process for NERL, is retained as an accounting record for regulatory accounting purposes. Different allocation rules are applied for each company depending on their information requirements, our review focuses on the rules applied to NERL which derive the regulatory service lines (RSL). The allocation rules are known as drivers; these are simply percentage allocations which determine how the costs should be allocated by RSL.

This chapter provides a high-level description of the system and processes currently in operation and considers what has changed since our last review in RP2.

3.1. THE REVENUE AND COST ALLOCATION SYSTEM AND PROCESS FOR NERL

In this sub-section we describe our understanding of the system currently in operation and which will be utilised in RP3. The process comprises the NATS Integrated Business System (NIBS) which is based on an enterprise resource planning (ERP) system called SAP ERP Central Component (ECC) version 6 EhPs (enhancement package) and SAP BW on HANA version 7.4 with BPC on HANA version 10.1 unified. This is a large scale commercial off-the-shelf (COTS) enterprise accounting system supported by a powerful enterprise modelling capability and includes:

- Financial accounting transactions including purchase to pay, sales invoice to cash, payroll, asset accounting, etc.;
- All transactions have an accounts coding structure which is retained as costs are allocated via the activity-based costing system to allow cost reporting at activity level. Transactions also have an activity coding structure differentiating capex and opex activities for all costs and revenue;
- Time sheet recording for all staff utilised to reallocate staff costs (charged at work centre level) to activities based on the hours charged at standard hourly grade charge out rates;
- The apportionment of corporate, shared and management functional costs based on MSAs, Allocated Service Agreements (ASAs) and ICAs. This is achieved via the annual financial planning process which, once finalised, is used to populate SAP journal templates, including activity coding and based on the nature of the services provided. These journals are uploaded to the SAP system and, in most cases, are fixed based on the agreements in place;
- SAP Project System (PS) activity-based costing system that takes labour costs based on timesheets, non-staff costs, depreciation and inter-company costs to provide a total operating cost model. SAP PS also holds the revenues and has the capex costs for the long-term investment plan (LTIP) projects. This information on both a plan and actual basis form the basis of NATS management information

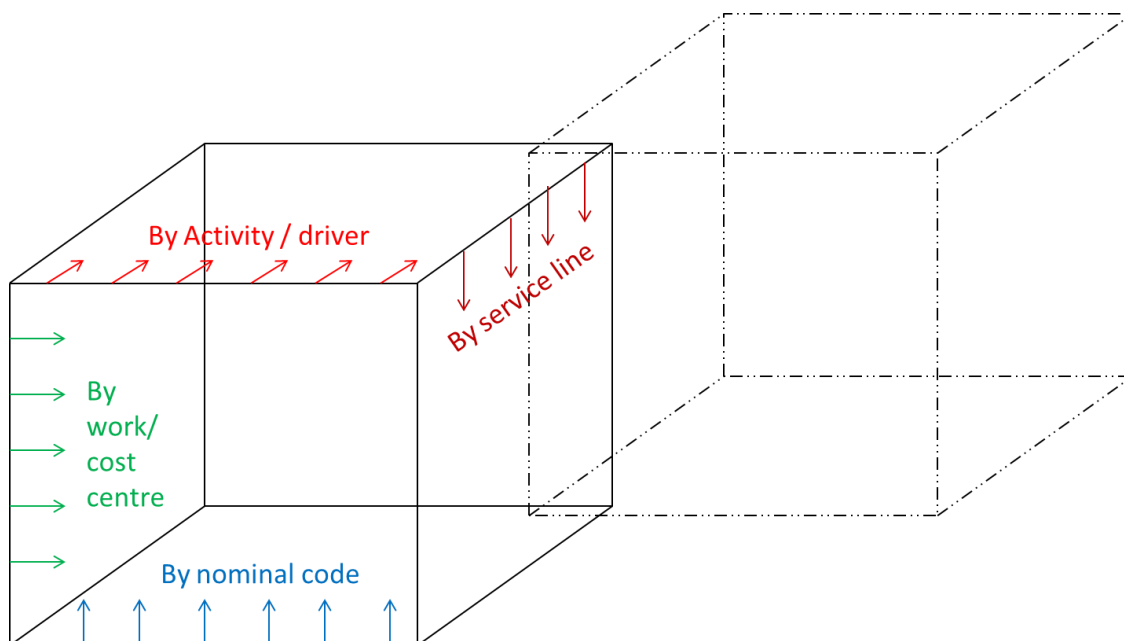


and is monitored and controlled as part of ongoing business reviews. This data can be reported on using SAP ERP and BW;

- SAP Business Planning and Consolidation (BPC) / Business Warehouse (BW) supported by an enterprise modelling capability; HANA. This provides a Regulatory Service Line model based on plan and actual activity data as described above and utilises workstation and other driver tables based in offline spreadsheets. The workstation drivers are maintained via an asset management model and driven by cost and the complexity, number and purpose of the workstations that are in use in the operations rooms. The supporting driver spreadsheets provide the basis of the allocation of costs for an activity by service line. The percentages by service line for each driver are held in a table within BPC Service Line Model and are applied to costs and revenues aggregated at activity code level and forms the basis of all service line financial reporting and planning as well as underpinning regulatory and statutory accounts;

Figure 3.1 below illustrates the alternative views of the accounting information that the BPC Service Line Model provides. BPC allocates costs and revenues to NERL's service lines using a set of drivers, with a single driver applied to each cost/revenue line. Therefore, the data in BPC can be aggregated/ analysed in multiple ways. The values handled in the model are similarly flexible: planned, forecast, actuals, etc. Careful version control is required so that final versions of models are retained as part of the accounting record.

Figure 3.1: Diagram showing how costs may be viewed by type of expense, by centre, by activity and by service line following allocation



Source: CEPA based on discussions with NERL

- The BPC Service Line Model utilises HANA⁸. The BPC system is capable of allocating and reporting the cost information by service line (plan and actual) utilising a range of parameters including driver versions and report types - the output of allocated costs represents part of the accounting records of the group and feeds off-system spreadsheets utilised to support the production of statutory and regulatory accounts including the Regulatory Asset Base (RAB); and

⁸ SAP HANA is an in-memory, column-oriented, relational database management system developed and marketed by SAP. Its primary function as a database server is to store and retrieve data as requested by the application

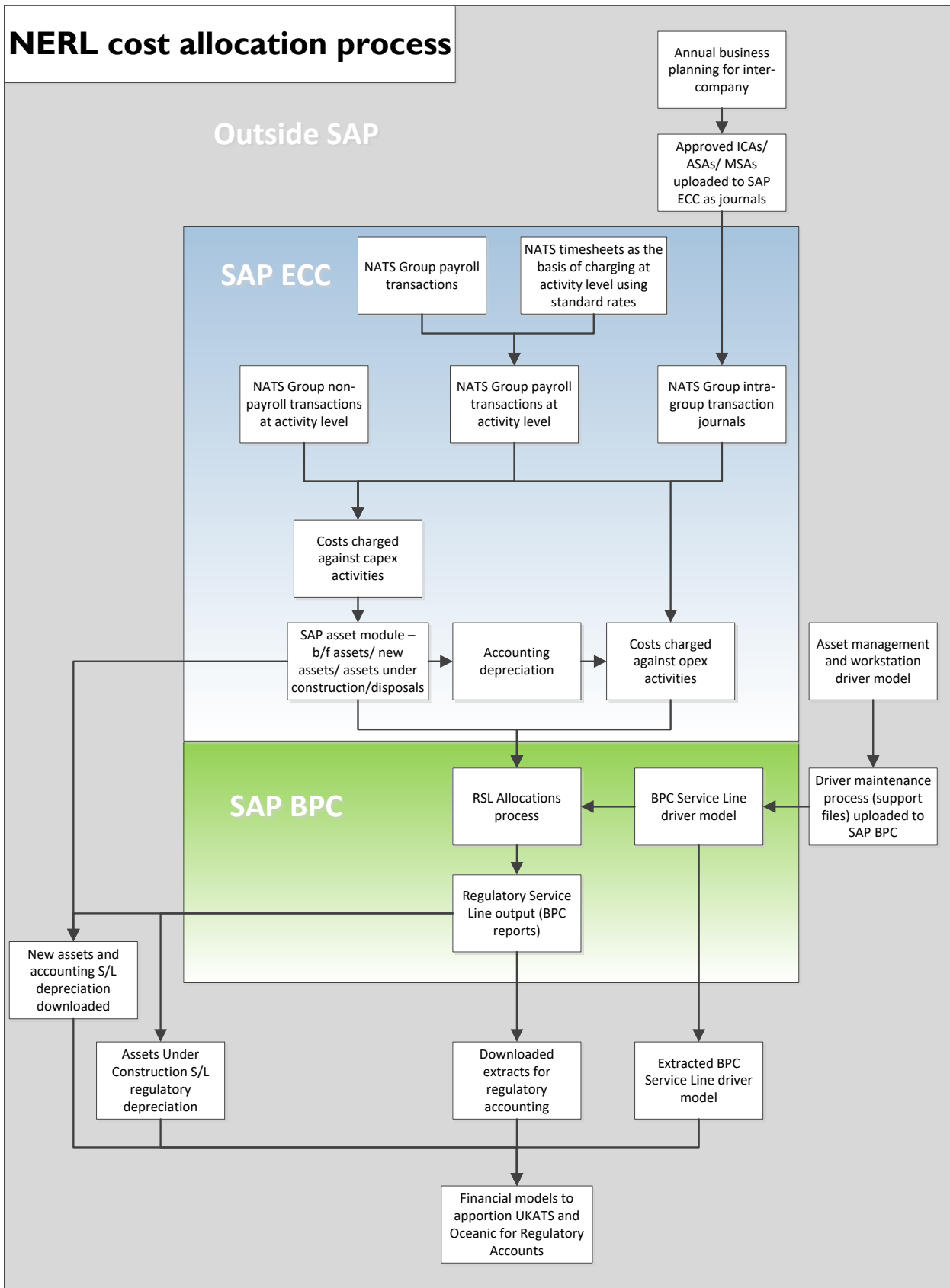


- While service line allocation of assets and depreciation are now integrated within the system, the differing statutory and regulatory requirements for assets under construction (which are added to the RAB as incurred for regulatory purposes) and depreciation (assets under construction are depreciated but for statutory accounting purposes assets are not depreciated until completed and commissioned) continue to require “off-system” handling. NERL has emphasised that this is a relatively small part of the overall system and is a process performed once a year only.

The cost allocation process is described in diagrammatic form below:



Figure 3.2: NERL cost allocation process



Source: CEPA based on discussions with NERL.



3.2. ASSESSMENT OF THE SYSTEM DESIGN

At the time of the RP2 review NATS commented that the SAP/BPS system then in use was reaching the end of its useful life and we recommended that improvements be made when the system was upgraded. NATS has taken advantage of its subsequent upgrade project to make improvements to the system by integrating more of the asset handling via RSL and improving the maintainability of the RSL drivers.

We note that the system has been improved and have not identified any major issues with the system itself.

3.2.1. Appropriateness of the system

NATS utilises a leading software package for its accounting and regulatory reporting. The BPC BW4HANA upgrade to the SAP ECC system provides powerful and a highly efficient enterprise business modelling tool that meets NERL's current requirements with the exception of certain regulatory accounting requirements which continue to be performed off-system. **We conclude that NATS has made appropriate improvements to the system to increase the degree of integration and that those areas that remain outside are cost-effectively handled off-system.**

3.2.2. Transparency

The NERL systems are large and complex. We have observed the system in operation and complex queries have been run with results returning almost immediately. The speed with which data requests have been run against and returned for our review is particularly notable.

While we have no issue with the system, when we have examined the information produced by the system we have found the handling of intra-group transactions adds significant complexity to the review and this aspect continues to be less transparent than the remainder of the management/ audit trail. Although only a small proportion of NERL costs are handled in this way, the time taken to review this part of the overall process is significant and there remains scope for transparency to be improved. We consider this further in Chapter 5.

3.2.3. Consistency

The RSL allocations processes are systematic and consistent. NATS has implemented a significant change in the form of a single asset management driver and a more systematic way of deriving and maintaining workstation drivers. This change was implemented in 2018 with the new drivers applying for the remainder of RP2 and for RP3. NERL has undertaken its own testing to confirm that the new drivers give similar results to the previous drivers and believes the allocation process is a more precise approach. Our review and testing of cost and revenue allocation considered whether there has been any significant change in service line output as a result of the new asset management and workstation drivers. Consistency of allocation is considered further in each of the following chapters.

3.2.4. Conclusions

In this review we have considered whether the system is fit for the purpose of regulation and whether the cost allocation methods are suitable and appropriately maintained. **Our conclusion is that the system as designed is fit for the purpose of regulation.** The system is also capable of full-transparency evidenced by the reports that have been run for our review when we have been on site. However, in undertaking our analysis and testing we found the information provided to lack transparency and have made recommendations regarding this in Chapter 5.

There have been changes made following our recommendations from the last review. The following sections will address whether these has impacted the regulatory allocation outcomes.



The cost allocation methods are sophisticated and suitable for the purpose. There is clear evidence of well-designed processes and their operation. This is also evidenced by the number of International Organisation for Standardisation (ISO) accreditations currently held by NATS.

We have no recommendations to make regarding the design of the allocation system and associated off-system processes. Specific issues relating to the operation of the system are raised in the following sections.



4. ALLOCATION OF REVENUE AND OPERATING COSTS

In this Chapter we focus on the amount of cost and revenue allocated to each service line since the last review and forecast over RP3. In particular, the focus is on drivers, as this is the method through which NERL ultimately allocates costs and revenues to each of its regulatory service lines. These are the various services NERL provides under its licence, such as London approach, Ministry of Defence contract, North Sea Helicopters etc. We will describe some of these drivers, their derivation and their application within the cost allocation process.

Following the context discussion below, the Chapter is structured around the recommendations that we made in our RP2 review and NERL's responses to those. We then discuss how allocation has been applied to the business plan for RP3, with a particular focus on the new asset management model. Lastly, we discuss the revenue and cost allocation by service line and by drivers, before presenting our conclusions.

4.1. COST ALLOCATION CONTEXT

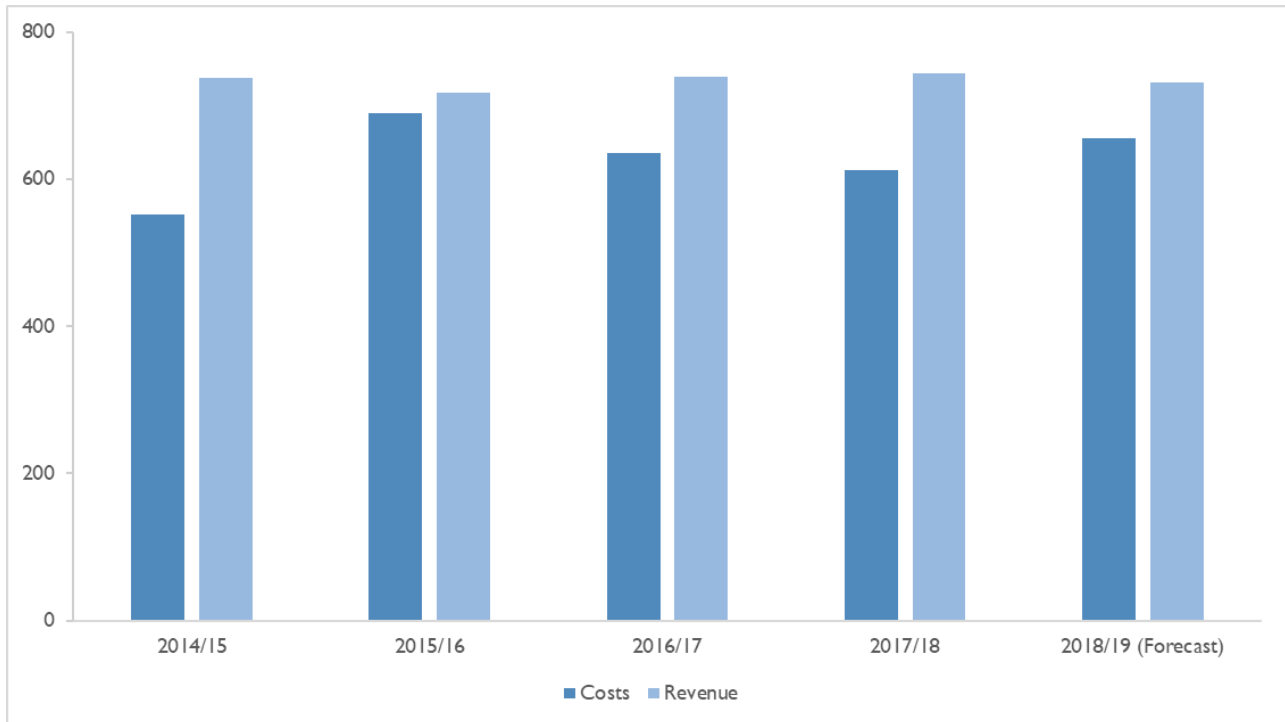
NERL's costs and revenues are allocated to the service lines by drivers, which are usually based on a single variable. Since the last review most of these drivers (turnover, FTEs etc.) and the service line concept have remained mostly unchanged, although the values allocated to them are subject to change and review. The exception to this is the adoption of the new asset management model which primarily allocates asset management operating expenditure (which are essentially services provided by the Asset Management team to workstations at the NATS controlled centres) via a new driver and supports other workstation drivers. Section 4.10 provides a review of this new model and an overview of the revenue and cost allocation and drivers.

The allocation process is used to apportion the significant costs and revenues generated by NERL in RP2. Figure 4.1 provides an overview of costs and revenues over the course of RP2. As illustrated in the figure revenues have remained steady at around £740m, with costs rising over the period from £552m in 2014/15 to a peak of £690m in 2015/16 before falling back to £612m in 2017/18. Nonetheless, revenues exceeded costs in all years provided.

All revenues over this period were allocated to a single service line (100% Oceanic or 100% Eurocontrol for example) with no drivers required to split these out. For costs, a smaller proportion (in the range of 35-40%) was directly allocated, with the remaining costs split across the service lines using the various drivers and the allocation system. Both revenues and cost allocations are discussed and tested further in sections 4.10 - 4.13 and in Appendix A.



Figure 4.1: NERL revenue and costs



Source: Final management accounts (Financial years 2014-18), NERL Business Review August 2018 (FY 2019 forecast).

4.2. ALLOCATION OF REVENUE AND OPERATING COSTS – SYSTEM INTEGRATION

In this sub-section we consider the recommendations made at the time of the cost allocation review for RP2 and the actions taken by NERL leading up to the RP3 review.

The main issue raised in RP2 with regards to the cost allocation approach was that important parts of the cost allocation process were not fully integrated within the SAP solution. This included the use of off-system parallel driver spreadsheets and calculations for asset and depreciation allocation. As indicated in Chapter 3 the SAP system has been upgraded and new driver models have been created. We discuss the driver model in more detail below.

Recommendation made:

Given the risk of error/misallocation arising from the use of off system spreadsheets we consider that it is appropriate to consider full integration of the system as part of the process of deciding how to address the end of life issue for the SAP BPS module.

Action taken:

In the early part of RP2, NERL continued to utilise the SAP business modelling tool BPS (Business Planning and Simulation) but migrated to the latest and significantly more powerful tool BPC (Business Planning and Consolidation) in 2016.

In 2017 NERL examined the feasibility of streamlining the driver maintenance process and as a result changes have been implemented during 2018. A new model was developed for the asset management drivers based on linking activities to assets and the customers that utilise those assets. This rationalised the asset management drivers to a single driver (named BAM01) and has allowed workstation drivers to be generated



systematically based on workstation complexity and cost. The spreadsheets that derive the driver information are uploaded to SAP and retained as the driver support files for asset management and workstation drivers.

A further change has been made which dispenses with the maintenance of a parallel set of driver allocation tables previously used for allocating fixed assets and assets in the course of construction by service line (plus the allocation of the associated depreciation charges). While some off-system processing continues to be required annually because of the differing approaches to regulatory and financial accounting depreciation, the changes that have been made represent a significant improvement.

4.3. ALLOCATION OF REVENUE AND OPERATING COSTS - CAPABILITY / COMPLEXITY WEIGHTINGS

For RP2 allocation percentages were weighted towards greater capability/ complexity measured via a score of 1 to 5 (5 being the most complex) reflecting the number of systems used in each air traffic workstation for the routes that apply to it. The weightings were subject to specialist review. The recommendation made in 2013 concerned providing greater explanation for the choice of complexity weightings.

Recommendation made:

NERL undertakes some additional high-level analysis into the costs of different workstation capabilities/ complexities to ensure that the scoring matrix is formed in as objective a fashion as possible.

Action taken:

NERL's response was that costs cannot be re-analysed in any meaningful way that provides an alternative to the current scoring matrix. NERL undertook further analysis using a complexity weightings range of 1 to 10 to assess the sensitivity to greater complexity granularity. The conclusion was that the impact of this change was not significant. The conclusions were accepted by the Service Line Managers.

Despite this response to the recommendation, NERL has now developed a driver model for asset management based on linking activities to assets and the customers that utilise those assets. This change, implemented in 2018, has allowed the asset management drivers to be rationalised. The same model also derives workstation driver percentages based on air traffic control workstation complexity. While this achieves a similar outcome to the complexity weighting, it is evidence based and systematic. The importance of the driver model has been recognised by NERL and it has been subjected to scrutiny, review and approval internally and by PwC which undertook an independent review of the model and NERL's spreadsheet modelling standards.⁹

In Section 4.10 we have included a detailed examination of the asset management and workstation driver model as this covers over half the activities requiring service line allocation. We consider that this change represents a further improvement over the position at RP2.

4.4. ALLOCATION OF REVENUE AND OPERATING COSTS – UPDATING TURNOVER DRIVERS

A number of variations in turnover drivers were noted as part of the RP2 review. NERL explained that the differences arise out of the use of forecast turnover data in advance of actuals being available. At the time, NERL stated that it was not useful to routinely update turnover drivers for the purpose of the management

⁹ PWC - NATS Spreadsheet Review. Executive Summary. March 2018. Filename: I&I9. PwC spreadsheet review - NATS_Executive Summary_draft 15.3.18 and PWC - NATS RP3 Readiness Report. February 2018. Filename: I&I9. NATS RP3 Readiness report Cost Allocation extract for CAA - draft 21022018



accounts. However, the recommendation was that this should be done to ensure consistency between the statutory and regulatory accounts.

Recommendation made:

NERL develops a process for updating the turnover drivers used for cost allocation in BPS, subject to it being a manageable task, to ensure that statutory and regulatory accounts are consistent.

Turnover drivers are used where turnover by service line is seen as the best approximation of costs to be allocated across them. There are several of these 'BIN' turnover drivers as there are different combinations of service lines needed based on the activity which needs to be allocated. These are discussed in some detail in Section 4.14 and in Appendix A.

These drivers are initially set using planned turnover and are later upgraded to 'forecast turnover' when presenting actual data. The recommendation suggested using actual data instead of forecast data when allocating the costs, in order to increase accuracy and ensure consistency between statutory and regulatory accounts. NERL's response to this is that the issue is timing, with the actual data not yet available at this stage but that "there is no material difference between the forecast and active data at the time the data is produced. There is also no impact on the case showing of statutory and regulatory accounts." Given our analysis of past and future actual and projected turnover drivers and their consistency over time, we are satisfied with this response and conclude that only marginal improvements would be made at the expense of slowing down the process.

4.5. ALLOCATION OF REVENUE AND OPERATING COSTS – DRIVER RATIONALE/ EXPLANATION

At the time of the RP2 review it was noted that the driver support files contained limited explanation and could be improved.

Recommendation made:

As part of the process of next updating driver support files greater rationale/explanation for the driver should be provided where limited explanation is currently provided.

NERL's latest response is as follows:

"This has been actioned in that as full an explanation as practical is included in the driver support files."

In the course of this review we have found that the driver support files (in particular the various iterations of the 'Driver Summary' spreadsheet we have received from NERL) have provided a sufficient amount of clarity. In particular, there are detailed records of which service lines each driver applies to, the respective proportions to those service lines and the basis of their derivation (business plan, asset management model etc.).

4.6. ALLOCATION OF REVENUE AND OPERATING COSTS – DRIVER VARIABLES CONSIDERED CONSTANT

The RP2 review (and the review for the previous price control) commented that although NERL generally made annual updates to drivers applied to historical costs, they did not update drivers for future years. i.e. for planned allocations and assumed a constant percentage split between service lines for all future years.



Recommendation made:

For driver variables which are currently considered constant over time (as forecasts are “not practical”), consider whether simplifying assumptions could be made to ensure that forecasts for all drivers are variable over time.

Action taken:

NERL’s latest response is as follows:

“Some drivers make use of forward forecasts where these are available and logical, e.g. turnover. In other cases it is not logical to predict a future position and in such cases no ‘forecast driver’ is created or used. The Air-Ground-Air Communication Stations (AGA) driver is one such case where it is not logical to try to predict the future number of channels – hence we do not create a “forecast” driver.”

NERL’s response here seems proportionate given that these drivers make up a relatively small amount of overall costs and ‘forecast drivers’ (turnover, 100% service line drivers, asset opex etc.) cover the majority of costs. Appendix A.1, tables A1 - A4 show that these top drivers have been quite consistent over RP2 and the forecasts for RP3 in tables A5 – A8 are in line with this.

4.7. ALLOCATION OF REVENUE AND OPERATING COSTS – EPMU DRIVERS

NERL’s default driver for an activity where none other has been identified as appropriate, is a driver based on turnover across the various service lines. For the last two price controls it has been suggested that EPMU (equi-proportionate mark-up) drivers could replace some or all turnover drivers. The reason given was that the use of turnover for cost allocation involves some circularity and that the use of an alternative basis of allocation based on EPMU principles could have a material impact on the lesser service lines that absorb lower costs. EPMU would apply to around 10-12% of costs to be allocated over RP3 and while changing to EPMU would likely have only a small impact on the cost allocations we still think NERL should reconsider its position.

Recommendation made:

On balance we feel that further consideration should be given to replacing turnover with EPMU drivers.

NERL’s latest response is as follows:

“This idea was dismissed by CAA and this fact was noted by CEPA.”

We have discussed the use of EPMU drivers with CAA as part of the RP3 review. The CAA has stated that their comments were made in 2008 and have asked us to consider whether the adoption of this alternative approach to turnover drivers would give rise to a materially different outcome.

We still feel that further consideration should be given to replacing turnover with EPMU drivers,. NERL however have provided a rationale for continued use of turnover drivers. Their justification is driven by the following rationale:

- **Materiality** – the use of EPMU drivers would not make a material difference to service line outputs. This is because the margins on their activities (Oceanic, UKATS, MOD, Intercompany) are very similar, and hence the use of cost based EPMU drivers, rather than revenue based turnover drivers would not lead to any material change in service line results. Therefore the potential benefit of changing is, in their view, very small and the additional effort involved in making this change is not justified.



- Potential impact on FMARS – the MOD customer is content to pay a share of common services using turnover driver allocations. The MOD internal auditors have approved this principle. Changing the drivers either now or at any stage could add uncertainty to FMARS income levels, potentially increasing prices paid by airlines.
- Consistency – with previous price controls. They only use turnover drivers in cases where more specific drivers are not appropriate.

4.8. ALLOCATION OF REVENUE AND OPERATING COSTS – RENAMING DRIVERS FOR CLARITY

Suggestions for clearer labelling of drivers for the RP2 review resulted in the following recommendations:

NERL rename the ‘Turnover – UKATS’ driver (BIN25) as ‘UKATS - External’.

and

NERL rename the “Income – Eurocontrol; MOD Shared Facs” revenue nominal account code.

NERL has changed the UKATS driver label as recommended but noted that it was the WBS label that needed renaming for the second driver.

4.9. ANALYSIS OF COSTS BY SERVICE LINE 2018-24

The Business Plan for RP3 provides forecast and planned revenues by service lines which we use as an estimate as to whether likely costs to be allocated will remain steady over this period.



Table 4-1: Costs by Service Line, RP3

En route determined cost

2017 CPI prices (calendar year) £m	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP2	RP3
	Actuals	Actuals	Actuals	Forecast	Forecast	Plan	Plan	Plan	Plan	Plan	Total	Total
Efficient operating costs:												
– Staff & direct underlying costs	347	359	349	379	410	417	415	432	430	419	1,845	2,113
– Exceptional costs	1	1	1	7	12	2	2	2	2	2	23	8
– Opex flexibility fund	0	0	0	0	0	7	7	7	7	7	0	35
Cash pension contributions - defined benefit	76	75	74	68	63	62	61	60	58	39	356	281
Cash pension contributions - defined contributions	5	5	6	7	7	11	12	13	14	15	30	65
Cash pension contributions - pension cash alternative	0	0	0	0	0	16	15	14	13	12	0	71
Regulatory depreciation	193	193	186	172	165	187	154	137	141	152	909	771
Regulatory return (inc. tax charges)	69	64	59	56	57	49	55	58	58	57	305	277
Non-regulatory income	(106)	(115)	(115)	(97)	(94)	(97)	(93)	(92)	(91)	(91)	(527)	(464)
Total	585	583	560	592	620	655	628	631	631	611	2,940	3,155

Oceanic determined cost

2017 CPI prices (calendar year) £m	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP2	RP3
	Actuals	Actuals	Actuals	Forecast	Forecast	Plan	Plan	Plan	Plan	Plan	Total	Total
Efficient operating costs:												
– Staff & direct underlying costs	16	15	14	16	17	17	18	18	18	17	78	88
– Exceptional costs	0	0	0	0	1	0	0	0	0	0	1	0
– Opex flexibility fund	0	0	0	0	0	0	0	0	0	0	0	0
Cash pension contributions - defined benefit	3	3	3	3	3	2	2	3	2	1	16	11
Cash pension contributions - defined contributions	0	0	0	0	0	1	1	1	1	1	1	3
Cash pension contributions - pension cash alternative	0	0	0	0	0	1	1	1	1	1	0	3
Regulatory depreciation	6	5	5	4	4	7	6	5	6	6	24	30
Regulatory return (inc. tax charges)	2	2	2	2	3	2	2	2	2	2	11	10
Non-regulatory income	(1)	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(3)	(3)
Total	26	26	24	26	27	29	29	29	28	27	129	143

Total NERL non-regulatory income

2017 CPI prices (calendar year) £m	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP2	RP3
	Actuals	Actuals	Actuals	Forecast	Forecast	Plan	Plan	Plan	Plan	Plan	Total	Total
MOD revenue	48	49	46	44	43	45	43	42	42	42	229	215
London Approach	12	13	13	13	13	13	13	13	13	14	64	66
North Sea helicopters	9	9	9	8	9	9	9	9	9	9	44	43
Income from NSL	25	27	27	26	23	23	22	21	21	21	127	108
Other revenue	12	18	21	7	7	8	7	7	7	6	66	35
Total	106	115	115	98	95	97	94	92	92	92	530	467

Source: Business Plan for RP3

Between 2018 – 2024, revenues across the board are forecast to remain steady in absolute terms, with the total amount increasing by 2% over the period. The largest service line by far is En Route/Eurocontrol which accounts for 83% of all revenues in 2018 and 84% by 2024, representing a real increase of 3%. The other service lines combined decrease by 4% over the same period. There is however some material variation in percentage terms within these as follows: North Sea Helicopter (flat), London Approach (+6%), Oceanic,



(+4%), MoD Revenue (-4%), Other Revenue (-12%) and Income from NSL (-18%) although associated revenues are small.

Given this overall stability in revenues in absolute and relative terms over the period, it is reasonable to conclude that there should not be any major changes to the costs allocated to the different service lines.

4.10. NEW ASSET MANAGEMENT DRIVER MODEL

Since the last review, the majority of the service line driver process has remained unchanged, in particular the different types of drivers: 100% allocation to service lines, turnover drivers and other drivers relating to channel legs, IT costs etc. however as indicated previously, one new area which has been developed is an asset management model, introduced in financial year 2018/19. This is primarily used in two areas of the cost allocation process: to create a new driver (BAM01), which allocates asset management opex and also in the workstation model, which produces drivers (BWS) based on services delivered to workstations across location (Prestwick and/or Swanwick) and different combinations of service lines. These feed into other costs such as capex and depreciation discussed in other sections of this report.

4.10.1. Rationale for changes in approach

The key concept behind the new asset management model is the idea that activities are mapped to assets, which are then mapped to the services they use before determining which consumers use these services and charging them accordingly. This differs from the previous approach which saw each activity (of which there are more than 1500) mapped directly to customers. Because many activities were used by multiple customers, this made the allocation process difficult and drivers were based on service line manager knowledge of activity use which could change over time.

The new system is more stable, without changing the overall costs for each service line significantly. It also produces a single driver for all asset management opex (BAM01) rather than each activity being assigned to a driver, which were based on managerial knowledge. The new model simply counts the number of instances a service is used by each service line in order to derive BAM01 and then applies this to the total c. £50m in annual asset management opex.

The same rationale is then used to create the workstation drivers (BWS), by using the detailed floorplans and workstation use data. While BAM01 allocates across all of the service lines, for some other costs it is useful to have different combinations of weightings for the service lines (e.g. BWS21 'Workstations NERL WIDE – non MOD' which is Eurocontrol + Oceanic + London Approach). By using the allocation values derived in BAM01, it is straightforward to calculate these drivers. We find that the descriptions/names for some of these drivers could be more clear.

Apart from BAM01 there are two other drivers in the asset management models used to allocate asset management opex, which are smaller and more straightforward. The first is for radio frequency services which are different from the other types of asset management opex and easily calculated for each service line based on the number of channel legs used. The subsequent driver (B0A52) produces allocations that are significantly different enough from BAM01 as to justify this separate approach. There are also various other costs allocated 100% to the North Sea Helicopters service line, which are obviously allocated directly (B0040).

4.10.2. Management of model

Work breakdown structure elements (WBSEs) are the basic units of activity from a cost collection perspective used in the model. These are planned in SAP. There is recognition of a tradeoff between complexity and size of budget being managed when defining WBSEs. They are defined at four levels – asset group/service function, location, asset cluster and type of activity/cost (there are further levels below this,



but they are allocated at these levels). The allocation of the three service line drivers used in this model (BAM01, B0A52 and B0040) to the WBSEs is agreed with service line managers and also held in SAP.

In the other direction – to get from WBSEs to eventual customer apportionment percentages – there are two main phases, which are held in external excel spreadsheets. These have been reviewed and audited by PWC and are described below.

The first phase is the cost apportionment model which is held in a series of spreadsheets (one for each financial year). The WBSEs are imported from SAP and characterised and grouped based on their level 3 (L3) codes. The costs for each of these L3s are then apportioned to individual assets or asset groups (or in some cases directly to customer facing services which have L3 codes). In this way the WBSEs, through their L3 codes, have been directly apportioned to assets.

The total costs apportioned to individual assets and asset groups are then calculated and used to calculate the allocations for supporting services to customer-facing services. The individual asset and group asset costs are then manually apportioned themselves to customer-facing services and the costs are then calculated. Therefore, at the end of the first phase, WBSEs have been apportioned to customer facing services, via assets.

The second phase is the demand management model held in a separate spreadsheet (which covers the entire planning period). This essentially takes the customer-facing services identified as the output of the previous model and maps them to the service lines; creating the BAM01 driver. It is also used to create the BWS drivers as previously described. Each of the services is characterised with reference to the workstation configurations and detailed floorplans, which are described in the spreadsheet. The demand for these workstations by each service line is then identified, based on the number of instances of use by each service. The proportionate demand can therefore be calculated and aggregated - BAM01 - and then used to apportion actual costs in the SAP model for each service line.

We find that system is robust and a significant improvement over the complexity weightings used previously in terms of accuracy and transparency. The mapping process allows users to see the total cost of providing individual services which may be useful for costs control. We have carried out tests in Annex A to see if the introduction of the model has had any significant impact on costs for each service line based on planned spending from its introduction.

4.11. REVENUE ALLOCATION BY SERVICE LINE

The revenue allocation process remains mostly unchanged from the previous review, as will be reflected in this sub-section. Table 4.2 shows NERL's planned revenue for 2018/19 by service line, which separates out intercompany revenues.

Table 4-2: NERL planned revenue 2018/19, £m

Revenue Category	EC	LA	MoD	NSH	From NSL ICA	Other	OC	Total
Inter-company revenue	-	-	-	-	23.8	-	-	23.8
Other revenue	592.5	13.4	49.5	8.7	-	7.0	30.2	701.4
S/L total revenue	592.5	13.4	49.5	8.7	23.8	7.0	30.2	725.3
S/L as % of NERL total	81.6%	1.8%	6.8%	1.2%	3.3%	0.9%	4.2%	100%

Source: Service Line Generic Report provided by NERL

The Eurocontrol service line remains by far the largest revenue source (81.6%), followed by the Ministry of Defence contract (6.8%) and Oceanic (4.2%), with intercompany revenues at 3.3%. We have checked that



the actual revenue allocations to service lines match these percentages using a year to August file provided to us. This is in Appendix A.3, table A9.

4.12. REVENUE ALLOCATION DRIVERS

All revenue items (i.e. excluding intercompany allocations) were allocated to a single service line.

As in the prior review, the largest single activity line is “Income – Eurocontrol” which is 100% allocated to the Eurocontrol service line. This accounts for £590.4m, or 80.5% of total. Indeed, the top five revenue line items (as in Table 4.3) account for 95.5% of all revenue.

Table 4-3: NERL top five planned revenue activity lines and drivers 2018/19, £m

Revenue Line	Driver	EC	LA	MoD	NSH	From NSL ICA/MS A	Other	OC
Income – Eurocontrol	100% EC	590.4						
Income – MoD	100% MoD			49.3				
Income – Oceanic	100% OC							30.4
Income – NERL Services to NSL	100% NSL					23.6		
Income – –London Approach CP3 Settlement Adj	100% LA		13.4					

Source: Service Line Generic Report provided by NERL

The other major activities are also quite straightforward, with the second and third revenue line items being analogous to the “Income – Eurocontrol” driver for the Ministry of Defence contract and the Oceanic service lines respectively. The fifth is similar, although the North Sea Helicopters revenues are split between a ‘North’ and smaller ‘South’ revenue line. The fourth, ‘Income – London Appr CP3 Settlement Adj’ is based on payments to the London Approach service line due to adjustments in the initial CP3 allocation.

In our view this process remains largely unchanged since the last review, where we found it sufficiently robust. Indeed even a higher proportion of revenues are allocated among the top five revenue line items, which mostly consist of straightforward direct income allocations.

4.13. COST ALLOCATION BY SERVICE LINE

Table 4.4 shows NERL’s planned costs for 2018/19 by service line, which separates out intercompany revenues.

Table 4-4: NERL top five planned costs 2018/19, £m

Cost Category	EC	LA	MoD	NSH	From NSL ICA	Other	OC	Total
Inter-company costs	-	-	-	-	24.0	-	-	24.0
Other costs	478.8	45.9	41.1	8.4	-	7.3	25.1	606.6
S/L total costs	478.8	45.9	41.1	8.4	24.0	7.3	25.1	630.6
S/L as % of NERL total	75.9%	7.3%	6.5%	1.3%	3.8%	1.2%	4.0%	100%

Source: Service Line Generic Report provided by NERL

As with revenues, the Eurocontrol service line dominates costs, with 75.9%. This is followed by London Approach (7.3%) and the Ministry of Defence contract (6.5%), with all other service lines below 5%. We have



checked that the actual cost allocations to service lines match these percentages using a year to August file provided to us. This is in Appendix A.3, table A10.

4.14. COST ALLOCATION DRIVERS

As with revenues, costs are allocated by drivers. However most of the costs are allocated across multiple service lines as opposed to single service lines, making the process more complicated. Single service line drivers account for 37% of costs.

Sub-sections 4.9-4.10 outlines some of these drivers, in particular the single new driver for all asset management opex (BAM01) which is being used in 2018/19 for the first time. The asset management model is now also used to derive the B0A52 driver for radio frequency, and the BWS workstation drivers, which previously existed but were calculated differently (e.g. complexity weightings).

There are other types of drivers, the main category of which are turnover drivers. These are proportionately allocated based on turnover to each service line and, as with the workstation drivers, the differences between them are generally based on different combinations of service lines. Other drivers depend on various other services and aspects of the business, such as employees, training costs, information solutions and management services. These are derived from various sources, such as business plan projections, invoice data or FTE forecasts. These drivers remain largely unchanged since the last review.

Table 4.5 shows the top ten drivers used in the cost allocation planning process for 2018/19. These drivers account for £451.0m or 71.5% of total costs to be allocated. (Note that this analysis is not at the cost activity line level, this is contained in Annex A).

Table 4-5: NERL top ten planned cost drivers 2018/19, £m

Driver Code	Driver Name	Cost (£m)
B0100	Eurocontrol 100%	167.9
BWS22	Workstations NERL WIDE (non-Oceanic)	52.3
BAM01	AM Single Driver	49.5
BWS20	Workstations NERL WIDE (all service lines)	40.0
BIS02	Information Solutions - Turnover_CustAcs	28.0
BIN27	Turnover - NERL Excl. NSL and NS Helis	25.1
BWS31	Workstations SWANWICK (total non-MOD)	23.8
BWS33	Workstations SWANWICK (AC)	22.3
B0030	London Approach 100%	21.7
BIN24	Turnover - NERL Total External	20.4

Source: Service Line Generic Report provided by NERL, Driver Summary FY1819 spreadsheet

Of the ten drivers, two are to single service lines, including the largest overall 'Eurocontrol 100%' with £167.9m and London Approach 100% with £21.7m.

The third largest driver is the new asset management opex BAM01, discussed at length in sub-sections 4.8-4.10, with £49.5m.

There are four BWS workstation drivers, including the second and fourth largest drivers. These were also derived from the asset management model and the different drivers generally refer to different combinations of service lines in different locations. For example, the second largest driver BWS22 'Workstations NERL WIDE (non-Oceanic)' refers to services delivered to workstations across all of NERL (i.e. Swanwick and Prestwick) but which are not used by the Oceanic service line.



There are two BIN turnover drivers, which are generally derived from business plan estimates and similarly to the workstation drivers refer to different parts of the business and different combinations of service lines.

The final driver, BIS02 'Information Solutions - Turnover_CustAcS' is a blended turnover and IT driver.

The naming conventions for some of the drivers were unclear and could only fully be worked out with reference to the Driver Summary spreadsheet provided to us by NERL. We suggest standardising naming conventions, especially across the workstation and turnover drivers in order to clearly indicate the parts of the business and the service lines they refer to.

4.14.1. Process and governance

NERL provided extensive documentation regarding their business planning procedures and the RSL allocation process, which were also described in person. There is an extensive annual review of drivers to and their suitability carried out as part of the business planning process. There are also monthly SLM meetings which test the line-by-line allocations and determine whether any changes need to be made, which needs to be checked and confirmed with the relevant technical expert or manager. There are also new WBSEs created on a monthly basis which need to be assigned drivers, which are also discussed at this meeting. Any changes or debates around these issues are documented and tracked.

The driver allocation process is supported by flowcharts for various actions (reporting process, RSL structure review, driver data management etc). These are sufficiently detail to provide comfort that the process is managed carefully and ownership for each step of the process is well-defined.

4.15. CONCLUSIONS

In our review of the revenue and operating costs we have found that the system of drivers which is used to allocate these amounts to service lines is robust, proportionate and accurate.

Since the last review there have been few changes, the most significant one being the introduction of the new asset management driver model. In our analysis of this model we have found it to be a logical and substantial improvement for allocating costs in this area, reducing the need for service line managers to have to make individual decisions on these costs and ensuring that it is integrated into the SAP system.

Our review of costs and revenues driver amounts since RP2 and forecast for RP3 showed no unexpected or unexplained deviations. Revenues in particular are very steady with more deviations within cost drivers, as there are many more used in this area.

In terms of process and governance there is extensive documentation of the decision-making process, with monthly updates where necessary and in-depth annual reviews.



5. OPERATION OF INTER-COMPANY AGREEMENTS

In this Chapter we focus on the nature, scale and control of inter-company agreements, their impact on cost and revenue allocation within NERL, and consider whether costs/revenues are being charged in a way that ensures a proportionate and fair allocation. We also assess whether the same rules are applied to costs allocated from NERL to affiliates as from affiliates to NERL.

Inter-company trading represents a small percentage of NERL's cost and revenue allocation but is an area that is complex because: there are significant shared costs; the "selling" and "buying" transactions are all within the same group/ system; the group comprises regulated and unregulated entities; and there are no invoices supporting the inter-company transactions because the entities are all in the same VAT group.

It is because of these complexities that NERL sets out its governance structure for inter-company trading as follows: compliance with legal and regulatory obligations; arm's length commercial terms with no cross subsidies; fair allocation of costs based on evidence and a reasoned approach using market prices where available; consistent application of the approach which is fit for purpose; margin levels determined by type and risk for the contract; and an annual review of all inter-company charges.

In our review of RP2 we concluded that there were transparency issues in tracing inter-company costs and revenue from source through to legal entity and service line allocation. We also commented that no market testing had been undertaken as a check on intra-group charging. NERL's response to these issues was to provide a briefing pack for RP3 and to ask PwC to consider the issues as part of the readiness review for RP3. No specific systems or procedural changes have been made since our last review.

We have examined the inter-company policies and procedures which have been fully updated by NERL. As documented, these are sound and we have no issues to raise. The types of inter-company agreement that exist are unchanged from RP2 except that NERL now distinguishes MSAs into two types: (1) NATS Limited's MSAs for recharging its costs at zero profit to NERL and NSL; and (2) NERL's and NSL's ASAs for recharging costs with no margin added between each other. ICAs are for traded services that could be provided by a third party and should be the result of arm's length trading arrangements with the value based on the scope of the work and risk ownership. For this reason, the prices charged include a mark-up.

Projected inter-company income for NERL is due to decline over RP3 because of a reduced pipeline of ICA work from NSL. The value of MSAs and ASAs is expected to remain fairly constant.

Projected inter-company costs for NERL are expected to rise slightly (by approximately 3%) because of increased requirements to ensure the safety of airspace users due to increasing drone activity.

We set out to undertake a limited review of the annual planning cycle which sets the budget for shared costs and concludes with agreement across the group as to how those budgeted costs should be shared. NERL had provided an example of the management review process in the form of a presentation covering HR costs. This could not be directly compared with costs as apportioned and we sought clarification. We also asked for documentation covering a further corporate function. Limited further information was made available. As this same issue of transparency has been the case for this review and the last, we recommend that NERL re-examines the trail of information it makes available for the price control review in this area.

While we have found no errors in the allocation of intra-group charging, confirming so required significant back and forth on materials provided by NERL on the operation of inter-company trading income, the associated costs, the way those costs are allocated, and the single till adjustments.

We noted that a number of activities had been variously marked with a "#" and text indicating that the activity was closed. NERL responded that as reports always utilise the latest table of activities and associated drivers, the closure change would have occurred after the report had been run and NERL would not expect costs to be charged against the closed activity in the future. We found that there were several activities in the Business Plan for RP3 where costs have been planned through to 2024 against closed activities. NERL has



confirmed that the ‘closed activities’ were identified for internal planning purposes, and that there is no material impact on the future costs because any costs allocated to ‘closed activities’ will be reallocated to other codes as part of the business planning process.

The last three price control reviews have reported transparency issues relating to inter-company trading. We recommend that at the next and subsequent annual planning processes NERL consider what information should be retained and presented so that reviewers are able to trace inter-company costs from source through to regulatory service line.

The last three price control reviews have concluded that NERL has undertaken no market testing. We accept that this is a difficult area. As part of managing competitiveness NERL could examine its own internal shared services and whether these are cost effective. We also suggest that NERL considers whether there are any industry clubs for sharing information on a strictly confidential basis. We accept that this information would not be available for future reviewers, but it would provide some reassurance that NERL is seeking to implement its stated policy. If the intention is that nothing is to change, then we recommend that NERL re-examines its policies in this area as the “do nothing” option appears to have become the norm.

5.1. INTRODUCTION

NATS is a public private partnership between the Airline Group, which holds 42%, NATS staff who hold 5%, UK airport operator LHR Airports Limited with 4%, and the government which holds 49%, and a golden share. There are several legal entities in the NATS group:

- NATS Holdings Limited is the parent company of NATS Limited and the indirect owner (via NATS Limited) of the following:
 - a. NATS (En Route) PLC (NERL)
 - b. NATS Services Limited (NSL) which is also the owner of NATSNav Limited and NATS Solutions Limited

There is significant trading between these entities although, in relation to overall turnover, intra-group activity is small excluding staffing. NATS Limited’s statutory accounts state that the company “*is responsible for employing the staff engaged in the activities carried out by both NERL and NSL under the terms of the respective MSAs dated 25 July 2001 the services of certain employees are seconded to NERL and NSL*” by NATS Limited. The costs incurred by NATS Limited are charged 100% to NERL and NSL so that the statutory accounts for NATS Limited shows an operating profit of zero. Over 4,200 staff are employed by NATS Limited of which over 99% are seconded to NERL and NSL. The re-charging of staff and related costs at zero margins is evident from the published accounts for NATS Limited which all show zero operating profits.

Excluding these long-standing MSA secondment agreements between NATS Limited and NERL/ NSL, the following types of inter-company agreements exist:

- MSAs, which are used to recharge the cost of corporate functions between NATS Limited and NERL/NSL. The MSA is a legal framework and schedules detailing the service provided are approved and signed off under the framework. Examples of the services are finance, legal, insurance, corporate health and safety, facilities management, and board activities. Services recharged under MSAs are provided at cost i.e. without a mark-up.
- ASAs are a subset of MSAs and are used by NERL and NSL to recharge costs between group companies. Like the MSAs’ the ASA is a legal framework and schedules detailing the service provided are approved and signed off under the framework. Examples of services are corporate functions (communications, facilities management, executive costs, human resources, information systems and safety), shared business functions (training services, service operations and operations safety), and



shared management teams. Services recharged under ASAs are provided at cost i.e. without a mark-up.

- ICAs are the contractual arrangements for traded services provided directly by one group entity to another. The ICA is a legal framework and schedules detailing the service provided are approved and signed off under the framework. ICAs cover services which could have been provided externally by a 3rd party (e.g. ‘beneficial’ services), and therefore are treated as commercial agreements. Examples of services are analytics, onward routed radar data, winds farms and delegated functions. Services under ICAs include a mark-up and NERL states that these services are the result of discreet arm’s length trading arrangements with the value based on the scope of the work and risk ownership using market reference points where appropriate.

Inter-company invoices are not raised for the services provided because all companies are part of the NATS VAT group. Intra-group cross charging is achieved through journal transfers. NERL has stated that the only change to the NATS VAT group since the last review is the addition of NATS Solutions, a wholly owned subsidiary of NSL incorporated on 28 July 2014 and added on that date. NATS Solutions Limited employs staff TUPE transferred to NATS on award of new contracts, for example, for MoD airbases and to Belfast City Airport.

In contrast to the allocation of external revenue and costs, the accounting for MSA and ASA inter-company revenue and costs is a two-stage process: the first stage involves the collection of Corporate shared costs to be charged internally and the apportionment of those costs across the group companies that have utilised or benefitted from those services; the second stage is the service line allocation of the costs (incurred by the receiving group company) and revenues (income for the supplying group company). The two processes are different. The charging of intra-group costs does not involve the use of activity-based service line drivers but is part of the annual planning process requiring a more granular analysis of the nature of the costs and how they should be shared across the group. This is done via a review and approval process that culminates in the cross-charging spreadsheet. Once finalised, the charging basis applies for the whole year.

ICAs similarly require a two-stage process. The first stage utilises pricing models to derive the amounts to be charged while the second stage is the service line allocation utilising activity-based service line drivers.

There is an added complication with the charging of staff costs. All staff are required to complete timesheets which provide the activity-based actual costs that are incurred against the fixed charging bases that are derived via the planning process for MSA/ICA charging. They also provide actual staff costs incurred against the fixed ICA charges that are derived via pricing models.

It is important to recognise that different service line drivers may be applied to the revenue and cost elements of the same inter-company transactions resulting in variations between service lines. NERL states that all service line costs (NERL to NSL, external business, North Sea Helicopters and MoD) apart from Oceanic go into the UKATS price control. The revenues from intercompany, FMARS, North Sea Helicopters and other external customers are deducted from the UKATS cost to establish the unit charges paid by airlines (as part of the Single Till arrangement). This is illustrated in the following table which forms the basis of the Eurocontrol unit pricing model:

Table 5-1: Illustration of Eurocontrol unit pricing model

2017 £M (CPI prices)	UKATS	Oceanic
NERL costs for 2018 excluding accounting depreciation	472	21
Regulatory depreciation	188	6
Total regulatory costs before single till offset	660	27
Deduct NERL MoD income	-49	
Deduct NERL Other External Income	-7	



Deduct NERL North Sea Helicopters income	-9
Deduct NERL NSL income	-24
NERL net cost used to calculate unit prices paid by airlines	571

Source: NERL Powerpoint slide ICA/MSA charging mechanism v RSL Cost Allocations

In summary therefore, the first stage of cost apportionment for intra-group charging is transaction-based while the second stage is handled through the service line allocations process. This has resulted in issues of transparency.

5.2. RP2 RECOMMENDATIONS AND ACTIONS TAKEN

There were two issues raised at the last review in relation to the operation of inter-company agreements. The first concerned difficulties experienced in tracing MSA (including ASAs) and ICA credits and charges through the system and the conclusion was that transparency should be improved. For RP2, NERL provided information on the quantum of MSA inter-company costs recharged and the breakdown between different cost categories but it proved difficult to trace costs from the MSAs through the cost allocation system (using the system alone) and into the accounts. NERL identified the amount of revenue, but not the level of MSA costs and acknowledged that the resulting costs and revenues by service line would not match exactly.

RP2 recommendation made:

In relation to both MSAs and ICAs, a lack of transparency is the key issue that we identify. Overall it seems that this is an area where there is established custom and practice but that this is not formally captured in any one place. We recognise that in the scope of NERL operation the costs associated with MSA's are very small. However, we recommend that NERL improve the audit trail associated with these agreements. We also consider that NERL should establish whether it is feasible to separate MSA costs from other costs within a given business area such that it can improve the accuracy of reports that depend on this information.

Action taken:

NERL responded that for RP3 a presentation as a briefing pack¹⁰ has been made available to CEPA that sets out the various types of inter-company costs, the process that is followed and how the information is stored and tracked.

In addition as part of its readiness review for the RP3 price control, NERL asked PwC to review the findings and recommendations from the RP2 review, the legal agreements and supporting documentation. PwC reported that it was able to trace the charges and that these were in accordance with the agreements. NERL has therefore taken no substantive action in relation to the issues raised. NERL further comments that where there are functions which provide services to both NERL and NSL, activity costs for both are grouped together on one consolidated activity, and are then allocated to different services using the service line drivers. In some circumstances costs which relate either to NERL only or NSL only are separated out. However, it would not be feasible or logical to separate MSA costs out on unique activity codes.

We also note that in the course of our RP3 work NERL has been able to provide reports separating MSA and ICA costs.

¹⁰ The following documents were provided: Initial briefing pack for PwC.pptx; NATS RP3 Readiness report Cost Allocation extract for CAA - draft 21022018.pdf; PwC spreadsheet review - NATS_Executive Summary_draft 15.3.18.pdf; CAA Cost Allocation Review - Briefing Note for CEPA.docx; and Cost Allocation recommendations report 02.08.17 v5.docx.



RP3 observation

We have examined the current system and procedures and consider the implication of this in our testing below.

The second issue concerned evidence of market testing and arm's length pricing negotiations for ICAs as no evidence of this being undertaken was available at the time of the last review. Concern was expressed about the degree to which NERL is complying with its own procedures in this area and the level of the margin being applied to some of its projects. Although no formal recommendations were made at the time of the RP2 review, a number of observations were made in relation to ICA's and NERL has responded to those.

RP2 observations made:

Details were requested of recent market testing or other evidence that supports the principle of arm's length pricing. Despite these items forming part of NATS internal procedures no information was been provided. In the case of market testing we understand that this is because none has been undertaken. In the case of arm's length pricing we are assuming that this is also not routinely carried out. We therefore have some concerns about the degree to which NERL is complying with its own procedures in this area and some concern about the level of the margin being applied to at least some of its projects.

and

The RP2 review of ICAs indicated that at the highest level there was strong relationship between the agreements, the cost allocation system and the accounts. There was less transparency about the costs at a more granular level i.e. for assessing the intra- group profit margins (by analysing allocations alone) because of the way that overheads are managed. NERL stated that it reviewed gross margins monthly through its management accounts. It accepts however that the BPS system is limited in applying overheads to individual agreements.

Action taken:

NERL commented that "Whilst there are no specific recommendations on ICAs there is a comment on lack of transparency" and referred CEPA to the briefing pack¹¹ provided.

RP3 observation

Our understanding based on the information provided is that NERL has taken no substantive action in relation to the issues raised. We have examined the current system and procedures and consider the implications of this in our testing below.

5.3. SUMMARY OF THE INTER-COMPANY PROCESSES AND THEIR CONTROL

NERL emphasises that there is a sound governance structure for its inter-company trading as follows:

- compliance with legal and regulatory obligations;
- arm's length commercial terms with no cross subsidies;
- fair allocation of costs based on evidence and a reasoned approach using market prices where available;

¹¹ Ibid.



- consistent application of the approach which is fit for purpose;
- margin levels determined by type and risk for the contract; and
- an annual review of all inter-company charges.

NERL also emphasises that a contract such as the MoD FMARS contract is “open book” and the subject of annual review by the MoD. We have summarised the processes in the subsections below.

5.3.1. The charging of staff costs

As already stated, NATS Limited employs all staff engaged in the activities carried out by both NERL and NSL. The following table shows the effect of the secondment agreements, the remaining staff of NATS Limited and the employees of the remaining companies in the group:

Table 5-2: Average number of employees 2017/18

Company	Employees	Comment
NATS (En Route) plc	3,237	Employees seconded by NATS Limited to NERL
NATS (Services) Limited	951	Employees seconded by NATS Limited to NSL
NATS Limited	33	Employees of NATS Limited only
NATS Limited Sub-Total *	4,221	
NATS Solutions Limited	69	
NATS Services DMCC	11	
NATS Services (Asia Pacific)	9	
National Air Traffic Services Limited	0	
NATSNV Limited	0	
NATS Holdings Limited Total	4,310	

Source: NERL from the Annual Report

Staff costs are initially captured at cost-centre level to record the effect of the secondment agreements which NERL does not record as inter-company trading within the SAP system (see inter-company trading policy below). The balance of NATS Limited costs being the cost of central management services are charged as inter-company transactions at cost with no margin. The schedule of management services to be provided by both NATS Limited and NERL and the basis of allocation to each receiving company is agreed each year between the parties as part of the annual planning process.

All payroll related costs are planned for and posted as activities to cost centres. Cost centres group together a number of work centres. Work centres are a grouping of similarly skilled people allowing hourly charge out rates to be applied. There are two levels of hourly charging: (1) average work centre rates are used for charging the actual time costs at cost; (2) grade rates are used in the pricing models where projects include overheads and profit margins.

As a matter of policy NERL and NSL do not sell services to NATS Limited as the costs would need to be re-charged back to the subsidiaries for the recovery of the costs from external customers.

All staff complete timesheets so that staff costs may be captured at activity level to allow for allocation by service line. However, it is the planned costs that are charged and allocated so the charging of actual costs against planned costs will give rise to differences. As already stated, NATS Limited costs are recharged in full at a cost that generates no operating profit or loss.

Table 5-3: Recharging of NATS Limited operating costs

NATS Limited statutory accounts £M (nominal prices)	2015/16	2016/17	2017/18
Staff costs seconded to NERL/ NSL	479.1	449.1	474.0
Secondment recoveries from NERL/ NSL (not treated as inter-company in SAP)	-479.1	-449.1	-474.0



NATS Limited own staff costs	3.9	3.5	3.9
Other costs	11.7	7.3	7.5
MSA recoveries from NERL/NSL	-15.6	-10.8	-11.4
Operating profit	0.0	0.0	0.0

Source: NATS Limited published accounts

The following table illustrates how MSA charges to NERL and NSL cover the non-secondment costs for NATS Limited (see comment following the table below for the £4.6m difference for 2015/16). NATS Limited operates a quarterly true-up process for agreed variances.

Table 5-4: NATS Limited charges to group companies

MSA charges to NERL/NSL £M (nominal prices)	2015/16	2016/17	2017/18
NERL	8.6	8.4	9.0
NSL	2.4	2.4	2.4
	11.0	10.8	11.4

Source: NERL's schedules of inter-company charges

During 2014/15 and into 2015/16 NATS Limited undertook a redundancy programme and relocation of staff. These one-off costs fall outside the MSA charging regime and give rise to the difference in recoveries in 2015/16 shown across the two tables above.

5.3.2. Inter-company trading policy

In Appendix E we have described NERL's inter-company trading policies and principles as set out in the document PP05ICT issue 4 dated December 2007 and the process description document NP040116 issue 9 dated July 2018. We find both documents fit for purpose.

5.4. ANALYSIS OF INTER-COMPANY COSTS AND INCOME 2015 TO 2024

5.4.1. Inter-company income

The following table shows NERL's non-regulatory income including income from NSL.

Table 5-5: Business plan analysis of income

Total NERL non-regulatory income

2017 CPI prices (calendar year) £m	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP2	RP3
	Actuals	Actuals	Actuals	Forecast	Forecast	Plan	Plan	Plan	Plan	Plan	Total	Total
MOD revenue	48	49	46	44	43	45	43	42	42	42	229	215
London Approach	12	13	13	13	13	13	13	13	13	14	64	66
North Sea helicopters	9	9	9	8	9	9	9	9	9	9	44	43
Income from NSL	25	27	27	26	23	23	22	21	21	21	127	108
Other revenue	12	18	21	7	7	8	7	7	7	6	66	35
Total	106	115	115	98	95	97	94	92	92	92	530	467

Source: NERL Business Plan for RP3 Appendix H

NERL states in its Business Plan for RP3 that "income from NSL represents revenue earned by NERL from intercompany transactions with NSL including a contract to modernise air traffic management assets and services over 100 MoD locations (Project Marshall). Total income is projected to decline in RP3 due to a reduced pipeline of expected work from NSL. This follows the completion of [✂] and our reduced capacity to provide training services to NSL as we train more of our controllers."



NERL's inter-company revenue from NSL has been around 3.5% of total income over RP2. Prior to RP2 it was less than 3% with the increase being a doubling of income from MSAs. The income from NSL can be further analysed between MSAs and ICAs as follows. This illustrates that the planned reduction in NERL inter-company income does not apply to MSAs which remain fairly constant with the principal reduction in RP3 being for non-annual ICAs with a slight reduction in annual ICAs:

Table 5-6: NERL income from NSL analysed between MSAs and ICAs (annual and non-annual) £M (2017 CPI prices)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP3
ICA annual	7.3	6.7	6.7	6.8	6.5	6.4	6.3	6.3	6.2	6.2	31.4
ICA non-annual	6.4	7.9	7.6	6.6	5.3	4.8	3.7	3.0	2.8	2.7	17.0
ICA total	13.7	14.6	14.3	13.3	11.8	11.2	10.0	9.3	9.0	8.9	48.4
MSA	11.1	12.2	12.2	12.2	11.7	11.7	11.9	12.0	12.1	12.1	59.8
MSA and ICA total	24.8	26.8	26.5	25.5	23.5	22.9	21.9	21.3	21.0	21.0	108.2

Source: NERL query against BPC allocated data

The MSA charges to NSL are shown at functional level in Appendix B.1 which shows a consistent level of charge for all functions. The following summarises MSA charges to NSL by functional grouping:

Table 5-7: NERL MSA income from NSL analysed by functional group £M (2017 CPI prices)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP3
10 corporate functions	7.8	8.7	8.6	8.7	8.4	8.3	8.3	8.3	8.3	8.3	41.5
4 shared business functions	1.9	2.1	2.2	2.2	2.3	2.6	2.8	3.0	3.0	3.0	14.4
5 shared management teams	1.4	1.4	1.4	1.3	1.0	0.8	0.8	0.8	0.8	0.8	3.8
Total NERL MSA to NSL	11.1	12.2	12.2	12.2	11.7	11.7	11.9	12.0	12.1	12.1	59.8

Source: NERL query against BPC allocated data

The schedule of ICAs shows about 200 non-annual ICAs and 100 annual ICAs over the RP2 and RP3 periods. The non-annual ICAs show a reduction of £19 million between RP2 and RP3 with [✂] and Heathrow DCB Implementation another £2 million. No new ICAs are shown as commencing during the RP3 period and this accounts for the remainder of the reduction as existing ICAs are completed.

5.4.2. Inter-company costs

The following table shows NERL's staff and direct underlying costs including inter-company charges in the final detail row of the table.



Table 5-8: Business plan analysis of costs

Total NERL staff & direct underlying costs

2017 CPI prices (calendar year) £m	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP2	RP3
	Actuals	Actuals	Actuals	Forecast	Forecast	Plan	Plan	Plan	Plan	Plan	Total	Total
Staff costs	273	275	282	304	304	315	319	320	314	313	1,439	1,580
Capitalised internal labour	(53)	(47)	(57)	(54)	(46)	(52)	(60)	(44)	(40)	(46)	(256)	(242)
Non-staff costs	115	121	112	121	143	146	147	149	147	143	613	732
Intercompany costs	27	26	26	24	25	26	26	26	26	26	127	131
Total	363	375	363	395	427	434	433	450	447	436	1,923	2,201

Source: NERL Business Plan for RP3 Appendix H

NERL states in its Business Plan for RP3 that “intercompany costs (charges to NERL from NSL or the NATS group) are projected to rise slightly in RP3 primarily due to increased requirements to ensure the safety of all airspace users due to increasing drone activity.”

The following table summarises inter-company charges to NERL via NATS MSAs and NSL ICAs. The information is in calendar years and the costs for future years have been inflated using an estimate for CPI which accounts for the differences compared with the Business Plan data in 2017 prices on a calendar year basis. However, the table does show the broad split between ICA and MSA costs within NERL

Table 5-9: Charges to NERL via MSAs and ICAs from NATS Limited and NSL £M (nominal prices with future costs inflated via CPI estimate)

	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21	2021 /22	2022 /23	2023 /24	2024 /25
ICAs from NSL (incl small MSA charges)	17.6	16.4	17.1	17.4	18.3	19.4	19.9	20.4	20.7	21.1
MSAs from NATS Ltd	8.6	8.4	9.0	10.1	10.8	11.4	11.7	12.1	12.3	12.3
MSA + ICA total	26.2	24.8	26.1	27.5	29.1	30.8	31.6	32.5	33.0	33.4

Source: NERL query against BPC allocated data

The following table shows the NATS Limited MSA charges to NERL by business area. The information is on a calendar year basis and in 2017 prices so does not fully align with the MSA/ICA split shown above. NATS Limited’s charges to NSL in RP2 range from 19% to 22% of NATS Limited’s total costs. In RP3 the percentage ranges from 16% to 17%.

Table 5-10: NATS Limited MSA charges to NERL analysed by functional charge £M (2017 CPI prices)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP3
Corporate	0.3	0.5	0.5	0.3	0.3	0.4	0.4	0.4	0.4	0.5	2.1
Facilities Management	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.3
Finance	6.8	6.3	6.4	7.0	7.6	7.9	8.0	8.1	8.0	7.9	40.0
Gen Counsel & Co Sec	0.3	0.4	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	2.4



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP3
NATS Board	0.7	0.7	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	4.9
Safety	0.5	0.4	0.4	0.6	0.7	0.7	0.7	0.7	0.7	0.7	3.5
Total charges to NERL	8.8	8.6	8.9	9.5	10.2	10.7	10.8	11.0	10.9	10.8	54.2
Total charges to NSL and NERL	11.2	11.0	11.2	12.0	12.6	12.9	12.9	13.1	13.0	13.0	64.9
Charges to NERL as a % of total NATS charges	78.6%	78.3%	78.9%	79.5%	80.8%	82.7%	83.4%	83.9%	83.8%	83.1%	

Source: NERL query against BPC allocated data

NATS Limited charges to NERL as a percentage of all NATS Limited charges increase from 78.6% in 2015 to 83.8% in 2023. NERL explains that the apportioned charges use turnover as one of the drivers and NSL's share of group income is forecast to decrease in RP3 resulting in a higher proportion of costs being apportioned to NERL.

5.5. APPORTIONMENT OF INTER-COMPANY CHARGES BY COMPANY AND ALLOCATION BY SERVICE LINE

5.5.1. Apportionment of corporate, shared and management functions as part of NERL MSA charges to NSL

The annual planning process includes a detailed review of corporate, shared and management functions across the group and how these should be apportioned. We understand that the information is presented at meetings across the group for discussion, revision and approval before being signed off as the basis for cross charging for the coming year. NERL has provided an example of one of these presentations for the Human Resources (HR) function which gives a summary indication of how each activity is apportioned. It has not been possible to trace the values in the presentation through the service line allocation process but we have examined total costs which include the shared HR costs.

5.5.2. Allocation of inter-company income from NSL

While we have found no errors in the allocation of intra-group charging, confirming so required significant back and forth on materials provided by NERL on the operation of inter-company trading income, the associated costs, the way those costs are allocated, and the single till adjustments.¹²

¹² The misunderstanding started when we raised questions over the nature of the MSA reports that had been run for the review. The initial responses from NERL didn't explain why the information did not align with other MSA data, the output from these reports were subjected to closer scrutiny, particularly in relation to the single till arrangements which include compensation for intra-group charging. The initial issue was eventually explained and was due to an error in the MSA reports in that they included ICA charges.



5.5.3. Allocation of NERL inter-company costs

We have carried out testing of the allocation of NERL’s inter-company costs. Appendix B.5 includes our detailed workings including the driver percentage allocations we used as supplied initially by NERL. A number of discrepancies were noted and queried with NERL who responded that the percentages had been updated subsequently. A copy of the revised driver table was supplied which explained all discrepancies.

For ICA charges to NERL from RSL for activity B0145/XX/XX/C55/ARC (Air C2 & MII ATM) we noted that driver B0A91 (Direct MoD only) was used to allocate 2015/16 costs for the activity but in 2016/17 B0045 (Other External Income) was used. We queried this inconsistency with NERL. NERL explained that the costs on this activity were those incurred by NERL to investigate possible future revenue opportunities which might increase the scope of the work that NERL does with the MOD. Through the regular service line allocation review process, NERL decided that it would be inappropriate for these ‘investigative’ bid costs to be charged to the MoD (FMARS), so these were corrected to go to the external business service line, as ultimately any successful revenue growth would have probably to a new revenue stream for NERL. The example here concerned the possibility of NERL providing ATCO training for the MoD. This was not taken up because neither party is in a position to consider this possibility at present, but this does illustrate the scrutiny that the allocation process is subjected to.

5.6. ANALYSIS OF PROFIT MARGINS FOR ICAs

NERL has provided an extract of ICA charges by NERL to NSL showing revenue and direct costs for each ICA. NERL emphasises that the apparent margin shown by this analysis can be seen as a contribution to overheads and other indirect costs because it does not take account of the following:

- Actual staff costs are charged at work centre rate whereas inter-company trading allows charging of time costs at grade rates which absorb overheads and a profit margin;
- Charges for asset usage, licensing and data usage are factored into ICA contract prices but are not accounted for as actuals and are therefore missing from the analysis that follows;
- Where a contract spans more than one accounting year, there are likely to be timing differences where revenues do not match costs.

The following table shows ICA revenue, direct costs and the difference which is viewed as a contribution to overheads and other costs.

Table 5-11: Summary of NERL ICAs for the first five months of 2018/19 by allocation driver showing direct costs £k (2018 CPI prices)

Driver	Driver description	Revenue	Direct costs	Contribution
B0A95	NERL Services to NSL	[✂]	[✂]	[✂]

Source: Summary by driver of NERL extract of ICA charges by NERL to NSL

We have examined the contributions shown at ICA level within the above detailed extract and extracted the following for those with the largest turnover during the period:

However, by this time we had raised a further issue concerning a possible cross-subsidy from the Oceanic service line to the UKATS service lines which has since been fully explained by NERL and there is no cross subsidy.



Table 5-12: Summary of larger ICAs charges to NSL for the first five months of 2018/19 showing the contribution and percentage contribution £ (2018 CPI prices)

ICA activity	ICA description	Revenue	Contribution	Contribution %
B1003/LL/XX/X30/2476	2476 FP Heathrow	[✂]	[✂]	[✂]
B1003/NS/XX/E130/B	FP Analytics Supt to NSL Airports (3402)	[✂]	[✂]	[✂]
B1003/NS/XX/E130/C	FP Analytics Supt for Strategic NB (3407)	[✂]	[✂]	[✂]
B1031/LL/XX/E13/5475	5475 C+ HAL IPA EMT	[✂]	[✂]	[✂]
B1031/NS/XX/E13/4597	FP Human Factors Resource Call Off -Time	[✂]	[✂]	[✂]
B1031/NS/XX/E13/4969	4969 C+ Customer Solutions Call off	[✂]	[✂]	[✂]
	Total	[✂]	[✂]	
	Total for first 5 months of 2018/19	[✂]	[✂]	
	%age of YTD total	[✂]	[✂]	[✂]
	2018/19 planned total	[✂]		

Source: Extracted by CEPA from NERL report of ICA charges by NERL to NSL for first 5 months of 2018/19

Within the ICA description there is an indicator of the type of contract with NSL. “FP” indicates a fixed price and NERL states that the first example shown above is for the provision of radar data at a fixed price list level, a service that attracts a very high level of contribution because there are few direct costs. “C+” indicates cost plus with the difference between work centre rates and revenue charges by grade generating the contribution (plus any variance between expected hours and actual hours). Other fixed price contracts are usually a guarantee of resources up to a set level (with any excess being at cost plus). NERL has investigated ICA 4969 where it believed the contribution to be too high. NERL’s response is as follows:

The higher than anticipated contribution is because the expected costs in the ICA were based on a representative mix of staff grades. The actual charges are based on the actual staff used, and in this case reflect the use of more senior staff. Actual mix of staff used may differ from the standard mix for a number of reasons e.g. because the task is more complex than anticipated, or because junior staff are not available.

The explanation as given would imply that the actual contribution outturn would be lower than expected as more senior staff were charged into the project but this project relates to a cost plus contract. More costly staff were used resulting in a higher margin from the staff costs. NERL explained that the process for cost plus charging is as follows:

The Pricing model prices up the contract based on specific grades being used, applying an overhead, and an agreed margin.

The income charged is based on taking the individuals bookings to the contract looking at their grades and then calculating the charge using the same price list, overhead, and agreed margin that is in the pricing model.

Grade rates calculated based on the average of all employees sitting within each grade (each grade represents a specific level of competency/seniority).

This allows NERL to price and charge on a commercial basis, based on the requirements of the request.

Work centre rates calculated based on mix of individuals that sit within a work centre (each work centre represents an organisational unit and will be staffed by a mix of individuals at various grades).

This allows appropriate planning of resources with the core services that NERL provides.



We asked whether we could examine the pricing models for some of these contracts and summarise the position that two of these show below:

Activity BI031/NS/XX/EI3/4597 called FP Human Factors Resource Call Off –Time shows a contribution in table 5.17 of [redacted] while the pricing model shows an expected contribution of [redacted] for 2018 [redacted]. The pricing model shows the expected add-ons giving a net profit of [redacted].

Activity BI031/NS/XX/EI3/4969 called 4969 C+ Customer Solutions Call off shows a contribution in table 5.17 of [redacted] while the pricing model shows an expected contribution of [redacted] for 2018 [redacted]. The pricing model shows the expected add-ons giving a net profit of [redacted].

The difficulty is that Table 5.17 is a snapshot view of the ICA contract outturn and is subject to timing inconsistencies. We have not been able to draw any conclusions from the above outcomes but have been able to confirm the basis of charging including add-ons is as we expected.

5.7. THE “CLOSURE” OF ACTIVITIES

In examining service line allocations for inter-company trading, we noted that a number of activities included descriptions that indicated the activity had been closed. As costs were shown against the activities we queried this with NERL. The response was that they will have been marked closed because of completion of a contract or an internal decision having been made to change the structure of the activities. NERL states that the work breakdown structure will have been locked/closed to prevent further bookings and the description amended. NERL also noted that the description is a live field so will always show the current description when reports and queries are run. Finally NERL commented that there will be costs incurred up to closure date but not beyond.

This seemed to be a reasonable explanation but we have noted further examples where costs are shown for the whole of RP3. The indicator for closure is not entirely consistent as some are marked “Closed” while others are marked “Locked”. There are also several alternatives for the word closed but all appear to be marked “#” as a consistent indicator of closure.

NERL has confirmed that the ‘closed activities’ were identified for internal planning purposes, and that there is no material impact on the future costs because any costs allocated to ‘closed activities’ will be reallocated to other codes as part of the business planning process.

5.8. CHARGES TO JOINT VENTURES AND ASSOCIATES

In this sub-section we summarise charges that have been made to associated companies and joint ventures. These entities are outside the NATS VAT group.

NATS has performed a role as SESAR Deployment Manager on behalf of The Deployment Alliance (a group of industry stakeholders incl NATS). As part of this role NERL incurred 3rd party costs and seconded staff to work in Brussels, the costs of which are recoverable from the EC via grant agreements. These costs were charged directly to specific activities and no more general recharges were booked to these codes.

In addition, NATS is also a member of the Borealis Air Navigation Services Alliance which consists of NATS (UK), IAA (Ireland), ISAVIA (Iceland), AVINOR (Norway), LGS (Latvia), EANS (Estonia), LFV (Sweden), ANS (Finland). NATS is entitled to recover the costs it incurs through a cost sharing mechanism agreed between the alliance members.

NERL provides Facilities management support including a lease for office space with AQUILA (a joint venture between NATS Services Ltd and Thales (UK)).



5.9. CONCLUSIONS

We have found no major issues with the operation of cost and revenue allocation for inter-company trading. We have the following observations and recommendations.

5.9.1. The apportionment and allocation of NERL's inter-company costs

The last three reviews, including this one, have included observations that there should be greater transparency around how inter-company charges are derived and then allocated. Our review objectives from the CAA include the transparency of the processes and whether the same rules are applied for costs allocated from NERL to affiliates as from affiliates to NERL. It is for this reason that we, and those involved in prior reviews, have probed this area. Also, assuming that the CAA's requirements will not change, others in the future will wish to probe this area. The conclusion from every review is that NERL has not provided information that shows how shared inter-company costs have been apportioned and then allocated. NERL's response has been that the revenue to NERL is not what should be examined, it is the basis of the costs.

While we have satisfied ourselves about the allocation of costs and revenue and have no specific issues to raise, we believe that NERL should anticipate this continuing line of inquiry for future reviews. We recommend that at the next annual planning process NERL considers carefully what information should be retained and presented so that reviewers are able to easily trace inter-company costs from source through to regulatory service line.

5.9.2. Market testing

NATS' policies and procedures for inter-company trading include a requirement that prices should be market-based "wherever possible". This includes establishing prices via open tender or comparison with published list prices or with market prices. The policy does acknowledge that the services are specialised and that this may be feasible in only a limited number of cases. We asked for details of any market testing that had been undertaken and NERL's response was that no market testing of services provided by NSL has been undertaken since the last review. There was similarly no market testing undertaken for the previous review. NERL further commented that customers have the choice to go elsewhere and that some have chosen to do so over the five-year period since the last review.

We accept that this is a difficult area. As part of managing competitiveness NERL could examine its own internal shared services and whether these are cost effective. We also suggest that NERL considers whether there are any industry clubs for sharing information on a strictly confidential basis. We accept that this information would not be available for future reviewers, but it would provide some reassurance that NERL is doing something in relation to its policy. If the intention is that nothing is to change, then we recommend that NERL re-examines its policies in this area as the "do nothing" option appears to have become the policy.

5.9.3. Closed activities

We noted that some activities have a description indicating the activity is closed but costs/ revenue is shown against them. NERL states that the work breakdown structure will have been locked/closed to prevent further bookings and the description amended. NERL also noted that the description is a live field so will always show the current description when reports and queries are run. Finally, NERL commented that there will be costs incurred up to closure date but not beyond.

This seemed to be a reasonable explanation, but we have noted further examples where costs are shown for the whole of RP3. It is not clear whether closure is systematic and prevents any further costs being charged or is simply an information indicator.



NERL has since confirmed that the 'closed activities' were identified for internal planning purposes, and that there is no material impact on the future costs because any costs allocated to 'closed activities' will be reallocated to other codes as part of the business planning process.



6. ALLOCATION OF CAPEX COSTS

In this Chapter we consider NERL's approach to the allocation of costs relating to capital expenditure, changes since the last review and our findings following our analysis. The main points made in this Chapter are:

Fixed assets and the associated depreciation charges are allocated to RSL using the same driver percentages used for income and opex, based on what is the most appropriate driver for the use of the asset.

For RP2 an off system Regulatory Asset Base (RAB) spreadsheet was utilised to restate calculated depreciation charges and other fixed asset adjustments in line with the Regulatory Accounting Guidelines. This included the use of a copy of the driver table for allocating costs. We recommended that NERL integrate this functionality when the allocations system was next subject to major upgrade. This has occurred during the period between the RP2 and RP3 reviews.

There continues to be a need for some off-system handling for regulatory accounting purposes. This includes some regulatory service line allocation using downloaded data from SAP but NERL assures us that parallel driver files are no longer used for this purpose. We accept that further integration of the regulatory accounting requirements is constrained by the features of the system and cost/ benefit considerations. Our conclusion is that NERL has taken appropriate steps to increase the level of integration.

For statutory accounting purposes, assets held as Assets Under Construction are not depreciated until commissioned. For regulatory accounting purposes, assets are added to the RAB and depreciated immediately (using regulatory depreciation percentages that differ from those based on statutory asset lives). The SAP and BPC systems are used for allocating assets brought forward, capital additions, and accounting depreciation by service line. The system is also able to allocate Assets Under Construction by RSL and this together with other assets information is extracted for off-system modelling for regulatory reporting purposes. NERL has emphasised that this off-system handling is a relatively small part of the overall system and is a process performed once a year only. NERL has also confirmed that no overheads are capitalised.

We have undertaken some testing of the allocation process at asset level and more extensive testing of a full year's data (2018-19) extracted by NERL from the SAP BPC accounting records. The allocations were agreed in full and there are no matters arising.

We have found no issues with the operation of allocation of capex and the associated accounting depreciation.

6.1. RP2 RECOMMENDATIONS AND ACTIONS TAKEN

For RP2 an off system Regulatory Asset Base (RAB) spreadsheet was utilised to restate calculated depreciation charges in line with the Regulatory Accounting Guidelines. The driver allocation ratios used for operating costs were used for allocating the following movements to service lines via a standalone spreadsheet developed for this purpose:

- additions to tangible fixed assets;
- proceeds of the disposal of tangible fixed assets; and
- grants and contributions to tangible fixed assets.

The recommendation was to increase the integration of the driver data and allocation routines with less dependence on off-system files and processes.



Recommendation made:

We consider that the capex allocation process should be brought within the NIBS system. NERL has stated it will consider this when the time is right but will not change the system to accommodate it unless the benefits outweigh the costs.

Action taken:

NERL states that “As part of the BPC project, functionality was added to achieve this objective and include capex allocations.”

There continues to be a need for some off-system handling for regulatory accounting purposes. This includes some regulatory service line allocation using downloaded data from SAP but NERL assures us that parallel driver files are no longer used for this purpose. We accept that further integration of the regulatory accounting requirements is constrained by the features of the system and cost/ benefit considerations. Our conclusion is that NERL has taken appropriate steps to increase the level of integration.

6.2. SERVICE AND INVESTMENT PLAN TO RP2 PROGRAMME PLAN

At the time of the last review, NERL was still publishing its investment plan as its Service and Investment Plan (SIP) which had been used throughout the price controls (called CPn for Control Period) that preceded the alignment to the EU review periods (RPn). The former CP3 programmes were mapped to RP2 Programme Areas with the mapping explained in SIPI6. Following consultation, a revised capex programme was agreed in 2017 and forms the baseline against which the Long-Term Investment Plan (LTIP) is measured. NERL told us that the plan was revised to take account of changes in both the business environment and technological landscape, for example, higher than expected traffic growth, reduced fuel prices, new legislative requirements (the Pilot Common Project), progress in the development of SESAR capable systems, and the imperative to implement the airspace change plan as soon as possible.

The following table shows for UKATS and Oceanic the historical ratio of capex to opex based on information extracted from NERL regulatory accounts which switched to a calendar year basis in 2015 (previously financial year to 31 March). The table shows the scale of capex in the years leading up to the RP3 review.

Table 6-1: Ratios of capex to opex for UKATS, Oceanic and combined

	2013/14	2014/15	2015	2016	2017	Average
UKATS	28.8%	40.7%	38.5%	41.2%	50.6%	39.8%
Oceanic	37.7%	33.1%	21.6%	33.3%	36.3%	32.3%
Combined	29.1%	40.6%	40.4%	38.2%	37.7%	39.5%

Source: Derived by CEPA from NERL regulatory accounts

The following table shows the revised capex programme (referred to as Condition 10) as remapped for RP2 and separating External from Internal costs.



Table 6-2: RP2 capex programme £M (2017 CPI prices)

Capex		CY					Total
IntExt	C10 TRC Cat	2015	2016	2017	2018	2019	
External	Airspace Development	1	1	1	2	4	9
	Platform & Deployment	1	13	20	19	6	58
	Trajectory Services	33	36	30	30	27	158
	Comms Info & Surv Services	0	12	9	21	5	48
	Critical Facilities	6	1	11	12	1	31
	Foundation Services	3	16	20	10	9	60
	Non-LE Facilities/Services	16	9	18	10	6	60
	Legacy Systems	17	10	10	11	11	59
	Facilities Management	6	4	3	3	2	18
	CO2 and Fuel Saving	0	0	0	0	4	5
	Oceanic	1	2	6	3	0	12
	Military	5	1	1	2	1	9
External Total		91	105	129	125	77	527
Internal	Airspace Development	9	4	6	12	15	47
	Platform & Deployment	2	9	13	13	6	42
	Trajectory Services	17	15	12	6	4	54
	Comms Info & Surv Services	2	2	4	3	1	12
	Critical Facilities	2	0	1	0	0	4
	Foundation Services	1	3	5	2	0	12
	Non-LE Facilities/Services	6	5	3	4	8	27
	Legacy Systems	8	3	2	1	0	15
	Facilities Management	1	1	0	0	0	2
	CO2 and Fuel Saving	0	0	0	0	0	0
	Oceanic	1	1	2	1	0	6
	Military	1	0	0	0	0	2
Internal Total		50	45	49	43	35	223
Total		141	151	179	168	112	750

Source: NERL paper on RP2 capital investment

The following table shows actual spend to date against the RP2 plan and similarly separates External from Internal costs.



Table 6-3: Actual spend RP2 capex programme £M (2017 CPI prices)

Capex IntExt	LTIP TRC Category	CY			Total
		2015	2016	2017	
External	Airspace Development	1	1	1	3
	Platform & Deployment	0	12	21	34
	Trajectory Services	33	36	30	100
	Comms Info & Surv Services	0	12	12	24
	Critical Facilities	6	1	8	15
	Foundation Services	3	16	26	45
	Non-LE Facilities/Services	17	9	13	39
	Legacy Systems	17	10	9	36
	Facilities Management	6	4	3	13
	CO2 and Fuel Saving	0	0	0	0
	Oceanic	1	2	3	6
	Military	5	1	0	6
External Total		91	105	126	322
Internal	Airspace Development	9	4	7	20
	Platform & Deployment	1	11	12	24
	Trajectory Services	17	15	13	45
	Comms Info & Surv Services	2	2	3	7
	Critical Facilities	2	0	2	5
	Foundation Services	1	3	7	12
	Non-LE Facilities/Services	7	3	5	16
	Legacy Systems	8	3	3	14
	Facilities Management	1	1	0	2
	CO2 and Fuel Saving	0	0	0	0
	Oceanic	1	1	2	4
	Military	1	0	0	2
Internal Total		50	45	56	152
Total		141	151	182	474

Source: NERL paper on RP2 capital investment

In Appendix B, table B.1 we have included the major asset additions by project definition code for the period 2015 to 2017. We have selected individual projects for limited testing from this table.

The following table shows NERL's capex programme for RP3 with the same ratios of capex to opex highlighting the scale of capex investment early in the period, returning to lower more normal levels in the second half of RP3.

Table 6-4: Ratios of capex to opex for UKATS, Oceanic and combined

	2020	2021	2022	2023	2024	Average
UKATS	45.3%	40.6%	24.6%	21.8%	28.8%	32.1%
Oceanic	23.5%	11.1%	27.8%	5.6%	17.6%	17.0%
Combined	44.4%	39.9%	39.4%	24.1%	24.7%	31.5%

Source: Derived by CEPA from NERL regulatory accounts

This is further evidenced by the Programme Capex table extracted from the Business Plan for RP3 below.



Table 6-5: Business plan capex by programme

Programme capex (2017 prices)	2020 £m	2021 £m	2022 £m	2023 £m	2024 £m	RP3 £m
Airspace	17	34	31	21	12	115
Delivering capability (DSESAR)	117	85	16	18	64	299
Technical resilience	25	27	35	31	26	144
Domestic en route service improvement	9	6	8	8	5	37
Business resilience	22	18	17	17	13	88
Oceanic [^]	4	2	5	1	3	15
Total NERL forecast	195	173	112	96	123	698
Military [*]	2	2	2	2	2	8
Total forecast	197	174	114	97	124	706
Contingency		5	8	8	13	34
Total forecast including contingency	197	180	121	106	137	740
Accelerated to RP2						23
Total including RP2 acceleration						763

[^] Oceanic programme subject to oceanic specific customer consultation.

^{*} Military programme subject to agreement with MOD under future military radar services contract.

Source: NERL Business Plan for RP3 Appendix L

6.3. NATURE OF THE SYSTEM COMPONENTS USED FOR CAPEX

Fixed assets are accounted for within SAP through the assets module. Capital projects are established within SAP at activity level with each project having multiple activities for phases and other monitoring requirements. External capex charges are coded direct to the project activities. Capitalised staff costs are derived from time sheet recording to reallocate staff costs to activities (capital projects) based on the hours charged at standard hourly charge out rates. A further process charges back to activities (both capital and non-capital) at year end any labour under/over recovery following charges being made at standard rates.

For statutory accounting purposes, assets held as Assets Under Construction are not depreciated until commissioned. For regulatory accounting purposes, assets are added to the RAB and depreciated immediately (using regulatory depreciation percentages that differ from those based on statutory asset lives). The SAP and BPC systems are used for allocating assets brought forward, capital additions, and accounting depreciation by service line. The system is also able to allocate Assets Under Construction by regulatory service line and this together with other assets information is extracted for off-system modelling for regulatory reporting purposes. NERL has emphasised that this off-system handling is a relatively small part of the overall system and is a process performed once a year only.

NERL has confirmed that no overheads are capitalised.

6.4. ANALYSIS AND TESTING

We have undertaken some limited testing of the allocation process at asset level and more extensive testing of a full year's data based on data extracted by NATS from the SAP BPC accounting records. We have focused our testing on data extracted from the SAP BPC system for 2018/19. The full tables of drivers are shown in Appendix B Table B.2, B.3 and B.5. We have checked the allocations between UKATS and Oceanic in full for 2018-19 and found no issues.



Our testing at asset level has focused on the RP3 plan. The details are included within Appendix B and there are no matters arising.

6.5. CONCLUSIONS

We have found no issues with the operation of allocation of capex and the associated accounting depreciation.



7. NERL'S NON-REGULATORY INCOME FORECASTS

In the following sections of this chapter, we set out NERL's approach to forecasting non-regulated income during RP3, our findings with respect to the reasonableness of NERL's approach, and sensitivity analysis undertaken with respect to key variables.

7.1. SOURCES OF NON-REGULATORY INCOME

Under the NERL licence, NERL is permitted to undertake activities beyond its core air traffic control services, so long as the revenue received through such activities ("other Connected Business") does not exceed 4.5% of the aggregate turnover of the En Route (UK) and En Route (Oceanic) businesses.¹³ Under the "single till" approach NERL's revenue requirement is reduced by any revenues earned from non-regulated sources, i.e. these revenue sources reduce the charges faced by commercial airlines.

Broadly, NERL has five recurring sources of non-regulatory income:

- **Future Military Area Radar Services (FMARS) contract with the UK Ministry of Defence (MoD).** This contract provides MoD controllers with facilities to provide an area radar air traffic control service to military aircraft. The MoD also provide an ATC service to certain civil and military aircraft operating outside controlled airspace. This contract is NERL's largest source of non-regulated income.
- **North Sea Helicopters.** NERL, under a condition of its Licence, charges users for the provision of North Sea Helicopter Advisory Services¹⁴ covering flights to, from and in the vicinity of, oil and gas installations situated in the North Sea.
- **Inter-company revenues.** Represents revenue earned by NERL through transactions with NSL supported by inter-company agreements. For example, NERL has provided support to NSL for work undertaken on behalf of the Civil Aviation Department in Hong Kong advising on the operational readiness of the new air traffic management system. It has also undertaken a large project implementing the Demand Capacity Balancing tool at Heathrow Airport, which allows HAL to consider the effects of key variables (local weather conditions, airport infrastructure availability etc) on the Airport Operating Plan.
- **Other revenues.** A broad category of revenues earned from a variety of sources, including income received from hosting third party assets, provision of radar to data to UK airports, European research & development programmes and other NERL assets.
- **London Approach services.** Revenues recovered through the London Approach charge, to reflect services provided by NERL with respect to the control and sequencing of flights between NERL's en-route service and the tower service at London airports.

Table 7-1 below sets out NERL's forecast income from each of the five sources outlined above for the RP3 period.

¹³ Condition 5, paragraph 12(a)(vi) of the NERL Licence.

¹⁴ In summary, this covers instructions or advice to helicopter operators as to their position or other aviation activity in the vicinity of the helicopter for the purpose of preventing collisions between aircraft and expediting search and rescue activities.



Table 7-1: Total NERL non-regulatory income, 2017 CPI prices (£m)

	2020	2021	2022	2023	2024	RP3
MoD revenue	45	43	42	42	42	215
London Approach	13	13	13	13	14	66
North Sea Helicopters	9	9	9	9	9	43
Income from NSL	23	22	21	21	21	108
Other revenue	8	7	7	7	6	35
Total	97	94	92	92	92	467

Source: NERL Business Plan for RP3: Appendix H

7.2. FUTURE MILITARY AREA RADAR SERVICES

The current FMARS contract between the MoD and NERL commenced in July 2006 and runs for 14 years and 8 months, expiring in March 2021. NERL told us that they are in advanced negotiations with the MoD to extend the current agreement (maintaining the current scope of services almost entirely). Since 2006 NERL has achieved significantly lower costs than those assumed in the current contract, so the contract extension has been priced to reflect these lower costs.

At the MoD's discretion, the new agreement will run for a period of either four or nine years. NERL has priced both options, with the main difference being that under the shorter four-year option, the MoD would pay an "accelerated" amount for the depreciation of certain assets which NERL would not otherwise provide for its civilian and commercial customers. NERL told us that from their negotiations with the MoD they have a high degree of confidence that the MoD will sign the longer nine-year extension, and this accords with their Business Plan for RP3 submission.

7.2.1. NERL's approach to forecasting FMARS revenues

NERL's projected revenue from the FMARS contract over RP3 (assumed to run from 2020 to 2024) is £215.2m in 2017 prices, as shown in Table 7-2 below.

Table 7-2: Forecast NERL revenues from the FMARS control during RP3, 2017 prices (£m)

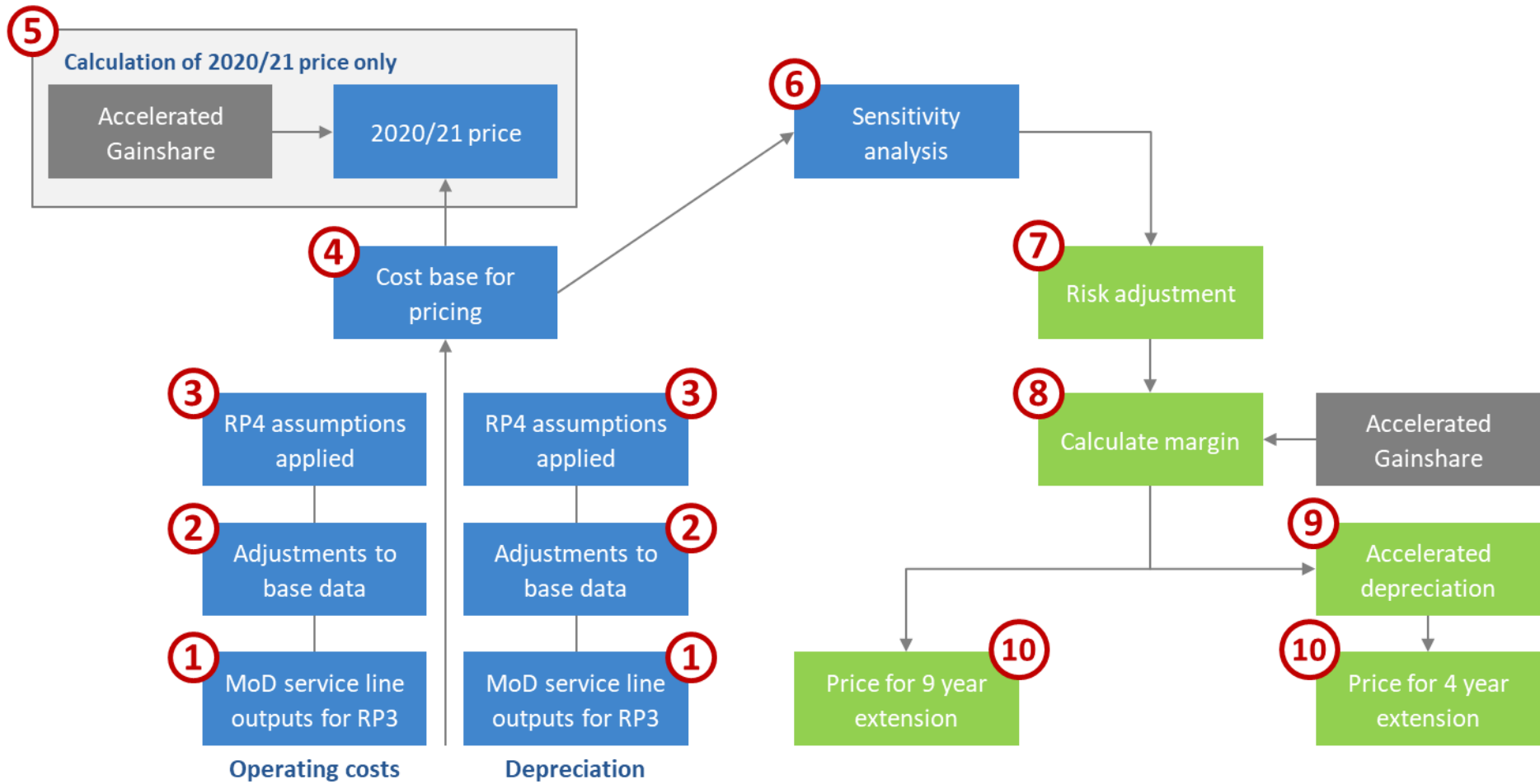
	2020	2021	2022	2023	2024	RP3
MoD FMARS	45.4	43.2	42.2	42.2	42.2	215.2

Source: NERL Copy of FMARS Pricing Model RBP.xls

At a high level, FMARS revenues are based on the capital and operating costs incurred by NERL in the provision of the specified MoD facilities and services at the Swanwick operations centre, plus a return. To review NERL's detailed approach to the FMARS revenue forecast, they provided us with a model which supported the contract pricing and a diagrammatic presentation of the approach taken to establish the price (see Figure 7.1). The 'cost base' in the FMARS contract is established through steps 1 to 4, below.



Figure 7.1: Overview of NERL FMARS pricing model



Source: NERL Copy of FMARS Pricing Model RBP.xls



Step 1 NERL undertakes a cost allocation exercise to establish, based on SAP service line outputs, which assets and operational expenditures are used in the provision of the FMARS services, and to establish what share of these costs are attributable to the MoD. This ensures that the MoD “pays its fair share” of the opex and depreciation costs incurred by NERL.

Step 2 NERL adjusts the cost baseline to remove any items from which the MoD does not benefit in relation to the FMARS contract or adds items which are exclusive to FMARS (i.e. where the SAP tool does not go down to the level of detail that is required).

Step 3 The extended contract may last beyond the end of RP3, and NERL only has detailed capex plans up to 2024. Therefore, a long-term depreciation profile is applied to represent NERL’s planning assumptions for capital investment in RP4.¹⁵

Step 4 Steps 1 to 3 are brought together to summarise the ‘cost base’.

Step 5 deals separately with FY2020/21. This is the final year of the current contract and includes an accelerated gainshare payment (to the MoD). This is a payment which NERL has negotiated with the MoD to bring forward a series of payments (of currently uncertain magnitude – it depends on cost performance over the next 2-3 years) which would otherwise have fallen due by 2023.

Step 6 is not carried out in the model but represents various ‘sensitivity tests’ which NERL undertook on key input assumptions (such as the ratio of civil to military workstations). As negotiations with the MoD progressed, NERL was able to firm up these input assumptions and move towards a view on the revenue forecast presented in the Business Plan for RP3.

Steps 7 to 10 then take the established cost base and apply a margin to arrive at the total revenue forecast:

Step 7 NERL applies a margin of 1.25% to the cost base to account for the risk that it costs more than expected to fulfil the FMARS contract (cost overruns are not shared with the MoD).

Step 8 NERL applies a ‘profit margin’ of 8.3% (equivalent to its proposed En Route regulatory return as a % of gross determined cost) to reflect the same effective mark-up on cost that is included through regulatory return within civil prices.

Step 9 To illustrate the additional cost that the MoD would incur under the scenario where it only extends the contract for 4 years, NERL accelerates the depreciation of assets it would not otherwise have invested in.

Step 10 Steps 7 to 10 are brought together to establish the price for the FMARS contract under the 4- and 9-year extension periods.

The contract is performance based, meaning that NERL’s revenues may be reduced if it fails to provide the contracted services. There is a performance regime which provides categories for a range of failure event types. Each type of failure has a value, which is multiplied by the number of minutes the service is affected (over and above an annual “allowance”) to calculate the value of any compensation payment due to the MoD. Therefore, when performance falls short of the regime, the net income which NERL is afforded under the contract is reduced. The value of compensation payments have historically been very low and so NERL has not assumed any revenue reductions due to performance failures. We explore this assumption in Section 7.2.2 below.

The amount of revenue which NERL will receive under the FMARS contract will also depend on:

¹⁵ For example, NERL have included £375m for D-SESAR Capability Programmes in RP4 and £433m of “sustainment” funding to ensure operational and business resilience. Overall expenditure levels are comparable to RP3 in real terms.



- **Outturn inflation.** The outturn value of revenue will depend on the actual rate of CPI inflation, which may differ from the index assumed in NERL’s pricing model, although we note that this would have only a marginal impact on the charges to be recovered from civil airlines as NERL’s regulated revenue requirement is also linked to CPI inflation.
- **Change requests.** The MoD can request additional services from NERL which would be reflected in a change to the contract price. At the current time there are uncertainties around MoD-specific capital investments which may be incurred during RP3. Should these investments go ahead, the contract will include a 100% “true-up” to reflect NERL’s additional costs.¹⁶
- **Gainshare payments.** NERL shares any outperformance on specified cost items with the MoD through the life of the contract, so that the MoD benefits from any reduction in actual costs. Historically, around two thirds of the difference between actual and assumed costs have been passed back to the MoD, whilst NERL retains the remaining outperformance (which is included in single till revenue). Since the contract extension has been priced based on NERL’s actual, lower costs, it has not included any gainshare payments in the revenue forecast.

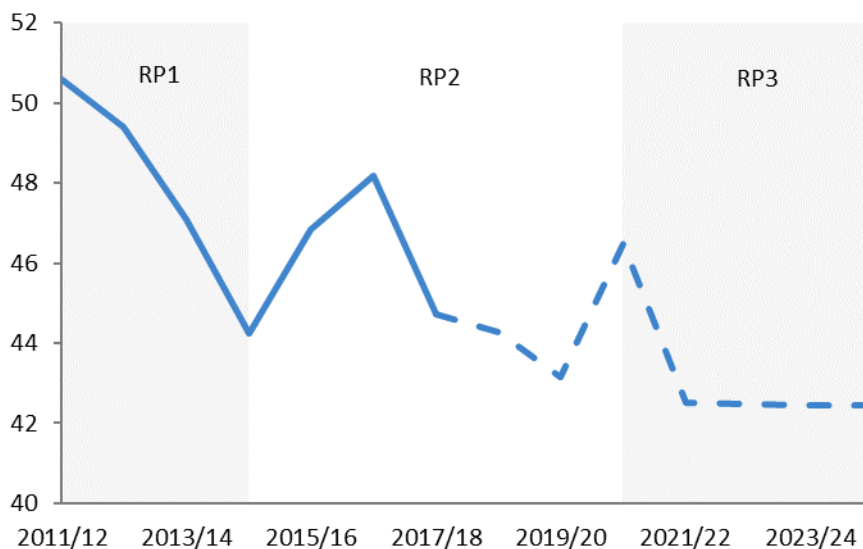
The following sub-section assesses the approach described above with respect to its historical revenues and some of the key uncertainties.

7.2.2. Analysis and sensitivities

The CAA asked us to look closely at the FMARS revenue forecast because it (a) represents 46% of all forecast non-regulated income in RP3, and (b) the RP3 forecast is a significant reduction in income relative to RP2.

Our examination of NERL’s income shows that, in real terms, there is indeed a significant reduction in RP3 income compared to actual revenues achieved to date (see Figure 7.2 below), although we note that in nominal prices NERL is forecasting some growth.

Figure 7.2: Total MoD Single Till Income, 2017/18 prices (£m)



¹⁶ First, the MoD’s surveillance requirements are still being developed which may involve replacing radar infrastructure that NERL would not otherwise require. The cost of these investments will not be added to the RAB, and the income from these investments will not be included in the single till. Second, it is assumed that the MoD will pay a share of key airspace change programmes (e.g. London Airspace Management Programme) which may, or may not, go ahead.



Source: NERL FMARS non reg rev 2011 – 2019 plus RP3.xls

Loss of gainshare benefits

NERL told us that the reduction in real revenues during RP3 is due to the ‘rebaselining’ of the contract extension to reflect that NERL has performed significantly better on costs than was envisaged in 2006 when the contract was originally signed. The forecast for the calendar years 2022 and beyond are based on the rebased prices established in the new agreement, which already reflect the historic cost reductions achieved by NERL. Therefore, NERL’s projections do not include gainshare payments (i.e. these are assumed to be zero).

NERL’s data which shows that, net of gainshare payments and other adjustments for items that are capitalised on NERL’s RAB, the reduction in real income in RP3 relative to RP2 is 4.7%.

NERL told us that approximately 70% of the cost efficiencies achieved are passed back to the MoD under the gainshare arrangement. Using NERL data on actual FMARS income since 2011/12, we estimate that NERL’s share of the gainshare efficiencies were approximately 7.2% of total MoD income (in 2017/18 prices). Therefore, it does not seem unreasonable to conclude that the rebaselining of the FMARS contract is the main contributor to the reduction in real income during RP3.

Interaction with the RP3 review

NERL’s forecast of FMARS income is based on NERL’s revised plan and is therefore dependent on changes made by the CAA to NERL’s determined cost base as part of the RP3 review. Specifically, any changes made to NERL’s efficient operating cost, capital expenditure, and the RP3 cost of capital are likely to have a ‘knock-on’ effect to FMARS.

NERL provided the CAA with a “ready reckoner” tool to enable the CAA to understand and model the approximate impact of any changes to these variables on FMARS income. Subsequently, the CAA asked us to assess whether the ready reckoner was appropriate for CAA’s use.

The current position is that:

- NERL’s view of its efficient operational costs are “baked” into the FMARS pricing model. Any changes to NERL’s efficient operational costs will require a re-run of the model to calculate the impact on FMARS income.
- NERL’s view of its efficient capital expenditure is also “baked” into the FMARS pricing model. Any changes to NERL’s assumed capital expenditure will require a re-run of the model to calculate the impact on depreciation costs, and therefore FMARS income.
- NERL uses its RP2 cost of capital (5.86%) to calculate the value of the accelerated gainshare payment that falls due in 2020/21. The cost of capital is also relevant to the calculation of the profit margin¹⁷ that NERL charges on the cost baseline: 8.3% based on the Business Plan for RP3. This affects FMARS income every year from 2021 onwards.

In simple terms, the ready reckoner allows CAA to make changes to NERL’s determined opex, capex and regulated return, and to see the effect of these changes by making a high level assumption about the MOD’s share of opex/capex (currently set to either 7% or 13%).

¹⁷ The profit element is calculated as NERL’s en-route regulated return as a % of gross determined costs.



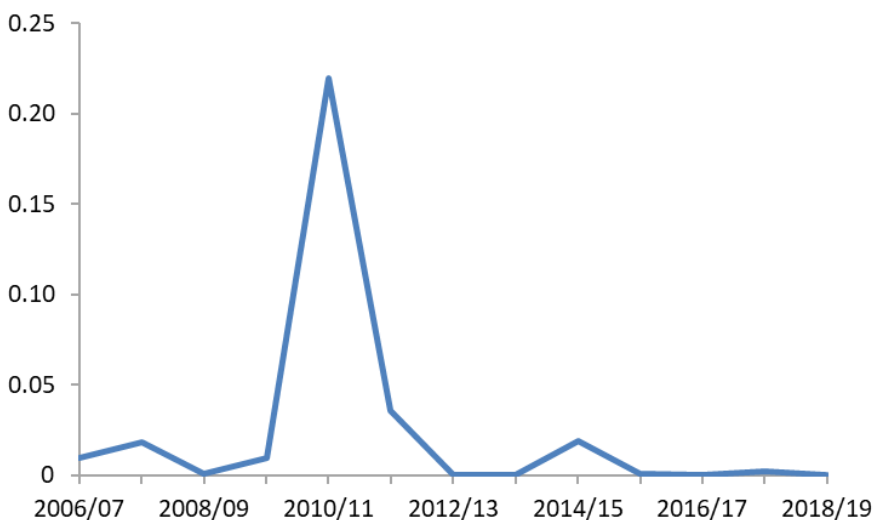
The CAA is not able to challenge the MoD share assumptions without also having access to the latest version of NERL’s FMARS pricing model (“Copy of FMARS Pricing Model RBP.xls”) which sets out activity-by-activity MoD’s share of expenditure.

Based on our interpretation of NERL’s explanatory note to the ready reckoner, the CAA should only include changes where the costs are shared by the MoD (e.g. the CAA should not include changes to operational staff costs as the MoD has its own operational staff).¹⁸ This requires a knowledge on CAA’s part of what costs are/are not shared by the MoD. It seems likely that the CAA would need to consult with NERL on the appropriateness of changes modelled in the ready reckoner, and NERL may be required to produce further evidence to justify their inclusion/exclusion.

NERL technical performance

As described in Section 7.2.1 above, any revenue earned from the FMARS contract is conditional on NERL meeting a performance regime specified in the contract. NERL told us that their forecast did not include any revenue deductions to account for possible failures to perform the contracted services. NERL recognised that there had historically been some compensation payments but argued that these were marginal in value. We asked NERL to provide historic compensation payment amounts, which are shown in Figure 7.3 below.

Figure 7.3: Historic FMARS technical performance annual compensation payments, 2006/07 to 2018/19 (£m)



Source: NERL FMARS tech perf compensation historics.xls

On average over the current contractual period, NERL paid the MoD less than £25,000 per annum in compensation for technical performance failures. This result is largely driven by a payment of approximately £213,000 in September 2010 related to the delayed deployment of a software tool that supports the NATS Area Radar Platform which is deployed in the Area Control Operations room, used by the MoD.¹⁹ This data

¹⁸ See ‘FMARS Ready Reckoner Tool – rBP – Oct 2018.doc’ page 2: “There are certain elements of NERL’s determined cost base which are not shared with the MOD through FMARS. Therefore, changes made to these costs by the CAA would not affect FMARS pricing. These include [...] changes to operational staff costs (e.g. ATCO or staff cost changes that only relate to operational staff). This is because the MOD has its own air traffic controllers / operational staff.”

¹⁹ The initial deployment of this tool (NERC build 21) in early February 2010 caused a failure which required the NERC system to be returned to its previous state (build 19). A second attempt to deploy build 21 was then made in late February 2010 but this led to another system failure which created capacity restrictions for the MoD. The third deployment of build 21 was made in early April



point aside, NERL’s historical performance appears to be reliable and, given that the historical payments are marginal relative to the headline price of the contract, NERL’s assumption is optimistic but does not appear to be unreasonable. This assumption is also consistent with the general principle that the cost of poor performance should be borne by NERL shareholders rather than customers.

7.2.3. Key findings and conclusion

From our review we conclude that NERL’s approach to forecasting income from the FMARS contract appears reasonable. Our analysis indicates that whilst there is a reduction in the real value of FMARS income in RP3 relative to RP2, this variance can be explained by the rebaselining of the extended contract to account for the lower than expected costs achieved since the original contract was agreed.

In our view, the FMARS contract with the MoD is a relatively stable source of revenue. Subject to NERL’s performance, projected revenue is fixed in advance, subject to an agreed inflation index, and there is a low likelihood of termination.

7.3. NORTH SEA HELICOPTERS

NERL earns revenue from the provision of North Sea Helicopter Advisory Services by charging the helicopter operators which service offshore oil platforms in the Northern and Southern North Sea regions. Some of its customers include Bristow Group, CHC Helicopter Services, NHV and Babcock.²⁰

The charges are set annually in consultation with the main customers based on the forecast number of round trips in each sector, with an adjustment mechanism to pass through any over-/under-recovery of charges in the previous year. Under- or over-recoveries are mainly due to the difficulty of accurately forecasting the number of helicopter round trips 12 months ahead. The charge for each round trip is based on NERL’s cost base for providing for the services plus a return – in this case an 8% Return on Capital Employed (ROCE).²¹

NERL’s projected revenue from the North Sea Helicopters service over RP3 is £42.1m in 2017 prices, as shown in Table 7-3 below.

Table 7-3: Historic and projected revenue from North Sea helicopter advisory services, 2017 prices (£m)

	2020	2021	2022	2023	2024	RP3
North Sea Helicopters	8.5	8.5	8.5	8.5	8.5	42.5

Source: NERL North Sea Helis – rBP Revenue and Costs ex ROCE.xls

7.3.1. Analysis of NERL’s forecast

There have been no material changes to the charging formula since the last price review. NERL’s cost base is particularly stable (it has reduced marginally over the last three years, as shown in Table 7-4 below, and NERL told us that it does not expect customers to require material new investment during RP3) and the required return is calculated the same way.

2010, but another fault was identified. This fault did not stop the MoD from using the system, but required the MOD to use a number of temporary workarounds.

The build issues were not technically rectified until mid-April 2010. Due to the Icelandic ash incident at that time, NERL and the MoD agreed to delay the introduction of the build solution further until airspace had reopened and traffic had returned to normal levels, which was on 29th April 2010. The total period between the initial deployment and final deployment was around 11 weeks.

²⁰ NATS plc (October 2015) “NATS secures contracts in Scotland” available [online](#).

²¹ Where Capital Employed is calculated as the Net Book Value of fixed assets plus trade debtors. Trade debtors is calculated as based on planned income from BP18 and the number of outstanding debtor days (i.e. income x 30/365).



Table 7-4: NERL cost base prior to return and recovery adjustments, as per annual Charging Proposal, outturn prices (£m)

	2015	2016	2017	2018	2019	RP3*
Northern North Sea Helicopters	7.28	7.20	7.02	7.01	6.95	7.06
Southern North Sea Helicopters	1.68	1.66	1.63	1.65	1.64	1.68
Total	8.96	8.86	8.65	8.70	8.59	8.73

Source: North Sea Helis charges consultation slides and NERL response to information request. RP3 value is an average of the period 2020-24.

The total cost base is adjusted to account for any over-/under-recovery of costs in the previous period, and then divided by the forecast number of round trips for the next 12 months. There are no reliable forecasts of helicopter flights in the North Sea regions, so NERL assumes that traffic will remain constant through RP3. This assumption is possibly optimistic as actual traffic has underperformed recent forecasts. Any forecasting error is factored into the over-/under-recovery mechanism. Therefore, if traffic is above or below the projections it has a marginal cashflow impact but any revenue impact is adjusted for in the following year.

7.3.2. Conclusion

Our review did not uncover any unreasonable methods or assumptions. Therefore, we conclude that NERL's approach remains a reasonable method for forecasting income from the North Sea Helicopters service, particularly noting the historic stability of the cost base and the consistency of forecast revenues for RP3 compared to those achieved during RP2.

7.4. INTER-COMPANY REVENUES

7.4.1. NERL's approach to forecasting inter-company revenues

NERL has two main types of inter-company revenues:

- **Managed Services Agreement (MSAs).** These are costs that are incurred by NERL on behalf of the whole group, i.e. shared corporate and business functions such as Facilities Management, Human Resources and Group Finance. Each individual activity may have a variety of drivers which are used to allocate the appropriate costs to NSL. The charges and allocation exercise are subject to annual reviews by the senior management of NERL and NSL. NERL does not charge a margin on those costs allocated to NSL (as explained in Chapter 5).
- **Inter-company agreements (ICAs).** These are contractual agreements between NERL and NSL under which NERL provides services either as part of NSL's operational needs or in support of external business activities. Some of these services are provided on a "fixed price" basis, but most adopt a "cost plus" method of pricing which ensures that NERL is reimbursed for its cost plus a mark-up. The pipeline of future ICA activities is therefore more difficult to predict. Some activities are expected to continue throughout RP3 (for example, where NSL uses NERL assets in the provision of terminal air navigation services at Aberdeen, Cardiff, Glasgow, Manchester, Stansted and other UK airports), others are shorter term in nature (such as the provision of resource for training or consultancy work).

NERL's forecast of inter-company revenues for RP3 is shown in Table 7-5 below.

Table 7-5: Forecast NERL RP3 inter-company revenues, 2017 prices (£m)

	2020	2021	2022	2023	2024	RP3
Managed service agreements	11.7	11.9	12.0	12.1	12.1	59.7



<i>Inter-company agreements</i>	<i>11.3</i>	<i>10.0</i>	<i>9.3</i>	<i>9.0</i>	<i>8.9</i>	<i>48.5</i>
<i>Total</i>	<i>23.0</i>	<i>21.9</i>	<i>21.3</i>	<i>21.0</i>	<i>21.0</i>	<i>108.2</i>

Source: NERL MSA and ICA Schedules 2015 – 2024.xls

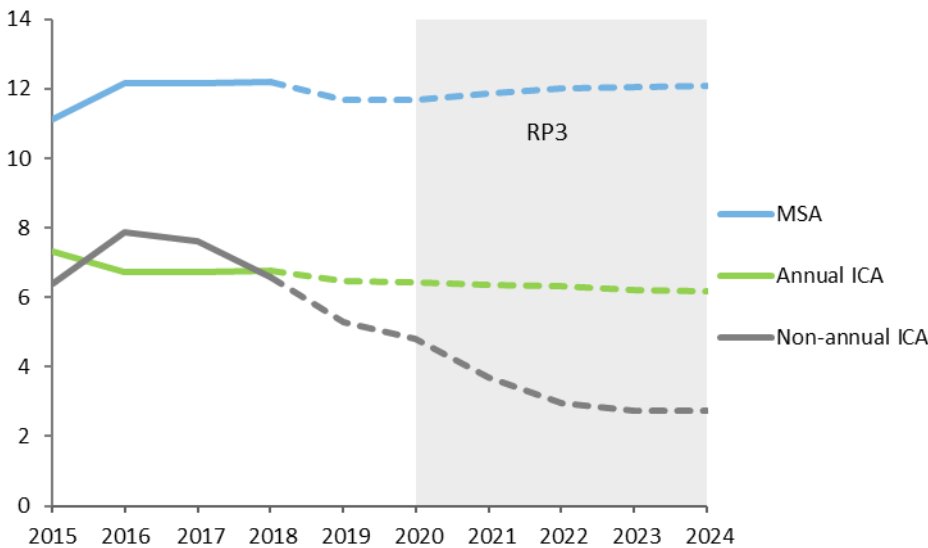
7.4.2. Analysis of NERL’s forecast

Table 7-5 shows that MSA income is forecast to remain relatively flat in real terms over RP3. NERL told us that these revenues are driven by inflation in staff costs, and although there are annual reviews of the allocation of corporate costs, overall these are not expected to change significantly.

Table 7-5 also shows that ICA revenue is projected to fall significantly in real terms over RP3. This aligns with NERL’s commentary on its overall non-regulatory income submission: it claims it will not be able to dedicate the same level of resource (both people and facilities) to other sources of revenue in RP3 as it did in RP2, due to the delivery of key outcomes which are a high priority for customers, growing traffic volumes, completion of its major technology upgrade programme and delivery of airspace modernisation.

Figure 7.4 puts NERL’s forecasts in the context of actual ICA revenue achieved in RP2 to date (with projected revenue for 2018 and 2019). This analysis shows that NERL is forecasting a very significant continuing reduction in “non-annual”²² ICA income during RP3, relative to the income it has actually received in RP2 to date. When we asked what particular activities drove the reduction in “non-annual” income relative to “annual” income, NERL explained that both the “annual” and “non-annual” ICA categories contained a diverse range of activities. NERL also told us that the predictability of the pipeline was more closely related to the nature of the underlying activity and NSL’s client (for example, it has a number of ongoing contracts with UK airport operators) than the internal categorisation between “annual” and “non-annual”.

Figure 7.4: NERL revenue from Inter-company agreements, 2014 – 2024 (£m, 2017 prices)



Source: NERL “MSA and ICA Schedules 2015 – 2024.xls”

The reduction in ICA revenues is not related to any change in NERL’s approach to forecasting. Based on our conversation with NERL stakeholders and the company position as per its Business Plan for RP3, the

²² The distinction between “annual” and “non-annual” ICAs is purely an internal NERL classification with both following the same pricing and approval process. The difference is that an annual ICA is signed-off and agreed for a period of one financial year, and typically consists of a standard service provided uniformly over the year.



reduction can be explained by NERL's decision to give higher priority (in terms of resource availability) to customer priorities rather than seeking opportunities to earn additional revenues through support to NSL.

We asked NERL what assessment it had made of the opportunities to exploit its expertise commercially, through NSL, with particular regard to the intellectual property that it has obtained through innovations such as Time-Based Separation. NERL told us that the appropriate division of labour is for NSL to identify commercial opportunities, and for NERL to support NSL where it has the resources available and at an acceptable (low) level of risk. Although we accept the distinction in roles between NERL and NSL, we consider that it is unclear whether and how NATS as a whole is maximising the potential to leverage NERL expertise and generate additional non-regulatory income. We recommend that NERL considers how it could improve the transparency of its internal processes to make clear how NERL and NSL identify opportunities to leverage NERL's expertise commercially.

We also asked NERL to evidence how it establishes the margin which it charges NSL on top of labour costs and overheads, given the concern expressed in CEPA's previous review about the degree to which NERL is complying with its own procedures in this area and the level of the margin being applied to some of its projects. NERL told us that it typically charges a mark-up of [redacted] on top of these costs, depending on the level of risk to NERL (which it argued is appropriately low). We were provided with two examples to illustrate how NERL priced the agreement:

- A fixed price agreement to deliver components of the Demand Capacity Balancing (DCB) contract between NATS and Heathrow Airport. NERL's standard pricing model was used to deliver a [redacted] margin.
- A cost plus agreement with Aero Thai (Thailand's state-owned air traffic control and aeronautical communication service) to carry out high level airspace design and improve airspace capacity. NERL's standard pricing model was used to deliver a [redacted] margin, although [redacted].

It appears that NERL routinely targets a given profit margin ([redacted] in the above examples) and only departs from this in exceptional circumstances. The general regulatory principle is that the return should be that required by a private investor, given the level of company risk. As we note in Section 5.9.2 above, where we discuss market testing in the context of inter-company trading, we acknowledge the services provided to NSL are specialised and market testing may be feasible in only a limited number of cases. NERL told us that there is some competition from other providers in the market (e.g. Helios and Integra Consult) but also that NSL typically uses these competitors only when NERL does not have available capacity to provide the required support. It does not appear that NERL is routinely outbid by other providers and it does not appear that NERL carries out market testing even in appropriate circumstances.²³

Although it is not possible to establish whether a margin of [redacted] is appropriate given the nature of services provided to NSL, our general observation is that it appears low by the standards of most commercial sectors, particularly for activities which do not benefit from the support of the regulatory regime.

We accept that this is a difficult area, but we also suggest that NERL takes action to consider whether there are ways to improve the transparency of the process followed with respect to a range of individual

²³ To provide evidence that it does carry out market testing, we asked NERL to provide us with information which would allow us to compare the charges provided by third party contractors (to NSL) with charges from NERL to NSL for similar services. NERL considered that it was not able to share this information with us because NSL's commercial agreements were outside the scope of this study and commercially confidential. As we have not been provided with evidence to the contrary, we conclude that NERL does not follow its own policies with regards to market testing and the margins it charges on its contracts to NSL may be below market rate



transactions, to provide some reassurance that it is following its internal policies with regards to market testing.

7.4.3. Conclusions

In conclusion, we have found that NERL's forecasts of future inter-company revenues represent a noteworthy reduction from the previous price control period.

In particular, NERL expects to receive much lower revenues from ICAs with NSL. Although we did not identify any material irregularities or omissions in NERL's approach to forecasting ICA revenue, we have made two specific recommendations regarding the transparency of NERL processes:

- NERL should take action to consider how it might improve the transparency of its internal processes to make clear how NERL and NSL identify opportunities to leverage NERL's expertise commercially; and
- NERL should take action to consider whether there are ways to improve the transparency of its pricing, to provide some reassurance that it is following its internal policies with regards to market testing and charging a return that would be required by a private investor.

We did not find NERL's approach to forecasting MSA revenue to be unreasonable and it appears to be consistent with actual revenue realised in the current price control period.

7.5. OTHER REVENUES

NERL receives revenue from a variety of other sources that do not fit neatly within any of the other categories. The major sources include:

- **Site sharing.** Income received for hosting third party assets on remote sites. Major customers are the telecom companies (e.g. Vodafone, O2 and Three).
- **Rental income.** Income received from a sub-lease of office space related to Project Marshall and an existing lease held by the Department for Business, Energy and Industrial Strategy (BEIS).
- **Onward Routed Radar Data (ORRD).** Provision of NATS radar data to UK airports.
- **European funding.** A range of miscellaneous research and development activities which are commissioned by Eurocontrol on an ad hoc basis.

There are a range of other sources which are individually less significant in value. Therefore, we did not review NERL's forecasts of these service lines in detail. Example include:

- **Exempt flights.** Recovery of costs (from the Department for Transport) for provision of civil flights that aren't charged through the NERL licence.
- **Height Monitoring Unit.** Recovery of costs for provision of height monitoring unit to calibrate aircraft systems.
- **Systems and data to airports.** Provision of engineering systems and data to non NSL air traffic control operations.
- Satellite distribution information systems (SADIS).
- **Borealis Alliance.** Provision of staff to assist the running of the alliance of Nordic ANSPs in development of free route airspace.

NERL's forecast of other revenues for RP3 is shown in Table 7-6 below.



Table 7-6: NERL RP3 other forecast revenues, 2017 prices (£m)

	2020	2021	2022	2023	2024	RP3
Leases	1.3	1.3	1.2	1.4	1.0	6.2
Site sharing	1.3	1.3	1.1	1.1	1.1	5.9
Deployment Manager	1.2	1.1	1.0	1.0	1.0	5.2
Onward Routed Radar Data	1.2	1.2	1.1	1.1	1.1	5.7
European funding	0.2	0.2	0.2	0.2	0.2	1.0
Exempt flights	0.7	0.7	0.7	0.7	0.7	3.5
Height Monitoring Unit	0.5	0.5	0.4	0.4	0.4	2.2
Systems and data to airports	0.4	0.4	0.4	0.4	0.4	2.1
SADIS	0.3	0.3	0.3	0.3	0.3	1.6
Borealis Alliance	0.1	0.1	0.1	0.1	0.1	0.7
Other	0.1	0.1	0.1	0.1	0.1	0.7
Total	7.4	7.2	6.9	6.9	6.5	34.8

Source: NERL Other Revenue Schedule 2015 – 2024 and 1314 – 1415.xls

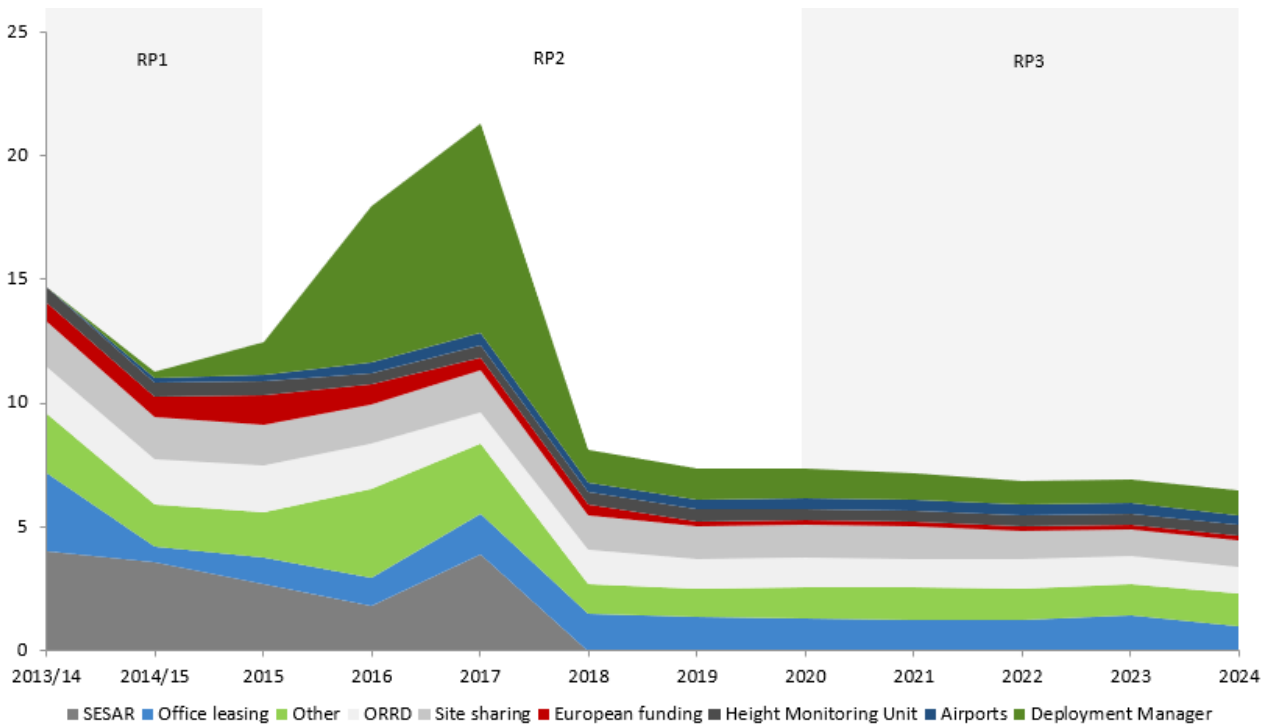
7.5.1. NERL’s approach to forecasting other revenues

NERL provided us with multiple presentations which explained in high level terms their approach to forecasting each line item. Because of the specific context of each source of revenue, there is no uniformity of approach, except to note that the forecasts are not model-based and are based on assumptions which are relatively simple and straightforward.

To provide some context to NERL’s forecasts for RP3, Figure 7.5 below shows the trend in actual revenues achieved at the end of RPI and in RP2 to date.



Figure 7.5: Actual and forecast other NERL revenues, 2015 to 2024, 2017 prices (£m)



Source: NERL (note: NERL could only provide RP1 data in financial years so direct comparisons cannot be drawn from pre-2015 trends)

Figure 7.5 shows that the largest source of other revenue in RP2 has been Deployment Manager. This entity was set up as an alliance between ANSPs, airlines and airports to fulfil the management function of the European wide SESAR deployment as set out in European regulations. Until 2018, NERL had provided a large amount of (mainly staff) resource to support the entity, the cost of which is recovered through grant funding from the European Commission’s Innovation and Networks Executive Agency. Now that Deployment Manager has established its own resource, there is a reduced need for NERL support. From 2018, the revenue forecast reflects the costs to be recovered from the remaining staff which are seconded to the organisation.

Two other significant sources of revenue during RP2 are SESAR and a collection of miscellaneous contracts:

- **SESAR revenue** represented the part recovery via grant claims for the Horizon 2020 R&D project which is managed by the SESAR Joint Undertaking partnership based in Brussels. Due to a change in accounting policy the revenue for NERL’s SESAR work is now shown as an offset to operating costs and no further grant funding has been assumed.
- **Miscellaneous income.** We include in this category revenue recovered from Exempt Flights, the Borealis Alliance, SADIS and other miscellaneous contracts. This category was bolstered in 2016 and 2017 by income from an “accession fee” as the Lithuanian and Polish ANSPs joined the iTEC Alliance.²⁴ Projected revenues remain relatively stable in RP3, although given the diverse nature of activities it is difficult to examine the forecast in detail. NERL told us that it did not foresee any future “one-off” events (e.g. further iTEC accession fees) and it would not be prudent to assume any.

The other significant line items which are also falling in real terms during RP3 are:

²⁴ iTEC (March 2017) “Lithuanian and Polish ANSPs join DFS System Group in European iTEC Alliance” available [online](#).



- **Rental income.** NERL expects the leases held by the MoD and BEIS to continue, but rental income is estimated to be 6% lower in RP3 due to the rents being agreed in nominal prices. We were able to reconcile NERL's forecasts to the underlying lease agreements, although we should note that NERL has assumed [✂]. No other potential sources of rental income were identified.
- **European revenue.** RP3 revenues are estimated to be 70% lower in RP3. In recent years, revenues earned from European research projects have not been large, but NERL has already experienced a reduction in commissions since the Brexit vote, resulting in lower revenues in 2017 and 2018. NERL has made a very simple assumption that European funding falls to £0.2m per annum from 2019 onwards. This may turn out to be a prudent assumption if NERL is awarded less European funding during RP3 (as it currently expects), but given the funding it has historically been able to secure there is potentially some additional upside which is not currently in NERL's forecast. We note that any such upside would not be material in the context of all non-regulatory income, and that NERL would pass the funding to customers in accordance with the mechanism agreed with customers and the CAA.
- **Site sharing.** Site sharing revenues are estimated to be 23% lower in RP3. NERL has estimated future revenues based on the expected income from existing contracts and its expectation of contracts that will be renegotiated upon expiry. NERL's offering in this market is limited by the extent of its existing radio mast infrastructure, which it claims will become less valuable to telecom companies as they find cheaper alternative sites. NERL also argues that the introduction of 5G technology will further reduce the advantage of NERL sites as it is able to cope with lower height requirements, bringing other tall structures into competition with its masts.
- **Onward Route Radar Data.** ORRD revenues are estimated to be 24% lower in RP3. The basis of NERL's estimate is its own internal pricing list for services which are priced consistently across all airports (depending on the number of feeds and services). NERL told us that the price list for radar data services is market tested, but it also told us that it is the only commercial provider of radar data. It is therefore difficult to assess the extent to which its forecast may be unreasonable. NERL told us that the market for radar data depends on airport requirements and some have developed their own radar infrastructure. This may reduce the value of potential ORRD revenue streams in the future.

7.5.2. Key findings and conclusions

The key finding from our review of other non-regulatory income is that NERL forecasts a significant (48%) decline in revenues during RP3 compared to RP2. In large part this can be explained by the reduction in income due to lower expected revenues from Deployment Manager and the change in accounting treatment for SESAR revenues.²⁵

We asked NERL to explain whether, and how, it was planning to offset the reduction in other revenues by seeking new sources of income. NERL told us that non-regulatory income was important, its Business Plan for RP3 does not allocate the same level of resource to non-regulatory income as it did in RP2 because it is critical that the company focuses on other priorities – specifically, delivering a resilient and high quality service to its customers while completing a major technology upgrade programme and modernising airspace.

While any additional non-regulated activities would only make a modest contribution (for example, an additional 10% of 'other' income would equate to ~0.6M per annum) via the single till, there may be scope

²⁵ NERL's auditors require other revenue from SESAR Horizon 2020 to be shown as a reduction in operating cost. Customers will still obtain the benefit of this income stream.



for more ambition if, for example, more resource was recruited to support these revenue sources or if NERL were able to make additional use of joint ventures to expand the resources available.

7.6. LONDON APPROACH CHARGES

London Approach consists of the control and sequencing of flights between NERL's en-route service and the tower service at London airports (which is provided at each by an air navigation service provider under contract with the airport operator).²⁶

The cost of providing the London Approach service is included in regulated en-route determined costs. However, as the London Approach charge is separate from the en-route charge for RP3, the resulting London Approach income has been included as a line item in NERL's non-regulatory income (so removed from the en-route required revenue) to prevent double-counting.

Within the scope of this study, CEPA carried out a check to ensure that the non-regulatory income line item for London Approach aligned with forecast costs to be recovered through the London Approach charge. We did not carry out a review of whether the overall quantum of charges is appropriate, or if they are reflective of the costs of providing the London Approach service as this did not form part of the terms of reference.

NERL's projected revenue from the London Approach charge over RP3 is £66.2m in 2017 prices, as shown in Table 7-7 below.

Table 7-7: Projected NERL revenue from London Approach charges, 2017 prices (£m)

	2020	2021	2022	2023	2024
London Approach	13.0	12.7	13.4	13.4	13.7

Source: NERL Non regulatory income 2017 – 2024 rBP.xls

We compared this to the determined costs to be recovered through the London Approach charge, shown in Table 7-8 below (note: total may not sum due to rounding). This check confirms that NERL's non-regulatory income forecast is aligned with the forecast costs to be recovered through the London Approach charge.

Table 7-8: London Approach costs to allocate (£m)

	2020	2021	2022	2023	2024
Wages & salaries	4.6	4.7	5.3	5.4	5.7
Pension costs	1.6	1.7	1.8	1.8	1.5
Non-staff opex	3.2	3.3	3.6	3.6	3.8
Exceptionals	0.0	0.0	0.0	0.0	0.0
Depreciation	3.4	2.9	2.8	2.9	3.4
Return	0.9	1.0	1.2	1.2	1.3
Total LA costs	13.8	13.7	14.7	15.0	15.6
Inflation index	1.057	1.076	1.096	1.117	1.139
2017 prices	13.0	12.7	13.4	13.4	13.7

Source: NERL

²⁶ Civil Aviation Authority (February 2014) "Regulatory treatment of London Approach charges in Reference Period 2: CAA conclusions" available [online](#)



7.7. SENSITIVITY OF NON-REGULATORY INCOME TO TRAFFIC VOLUMES

The CAA asked us to consider the impact of traffic volumes on NERL's non-regulatory income forecasts. It is worth noting that around 46% of NERL's RP3 non-regulatory income forecast relates to the FMARS contract with the MoD, the income from which is related to the performance of technical services and availability of required infrastructure, but not traffic volumes. Therefore, there is a significant base level of income which is relatively stable regardless of changes to traffic volumes.

The main source of non-regulatory income which is linked to traffic volumes is the London Approach revenue, which accounts for less than 15% of non-regulatory income during RP3. Actual income is the product of the London Approach unit rate and actual traffic values. Deviations in traffic volumes away from the assumed forecast would have a broadly 'one-for-one' impact on the amount of income that could be recovered through the London Approach charge.

North Sea Helicopter income is linked to traffic volumes *in the year in which charges are set*, but because of the over-/under-recovery mechanism described in Section 7.3.1 the impact of changes in traffic volumes are factored into the unit rates established for the following year. Therefore, changes in NSH traffic has only a cash flow impact on NERL whilst total income is largely unaffected.

The remaining sources of non-regulatory income – inter-company and other revenues – make up just over 30% of NERL's forecast for RP3. The majority of this income relates to MSAs between NERL and NSL which in our view is unlikely to be sensitive to traffic volumes, particularly in the short term. At the margin, some of the sources of 'other' revenue (e.g. the recovery of costs for provision of exempt flights²⁷ (£3.4m over RP3) and the demand for ORRD (£6.3m over RP3)) may be sensitive to changes in traffic volumes, but the overall impact on non-regulatory income would be small.

With respect to ICA income, lower traffic volumes could free up NERL resource which is fully allocated under the traffic forecasts in its Business Plan for RP3. This might present an opportunity for NERL to offset any fall in non-regulatory income by supporting additional NSL projects in overseas markets (i.e. there could be scope to earn additional ICA income). Conversely, an increase in traffic volumes would likely create additional pressures which, given NERL's assertion that it has reduced capacity to dedicate resource to non-regulatory activities during RP3, are unlikely to result in additional non-regulatory income.

Overall, we conclude that NERL's non-regulatory income forecast is unlikely to be correlated with traffic volumes and should remain stable through RP3.

²⁷ Certain flights are exempt from the payment of air navigation charges. See Eurocontrol (October 2017) "Exemption Table" available [online](#)



8. CAA'S PARTICULAR AREAS OF STUDY FOR RP3

The CAA asked CEPA to undertake further work in three specific areas. These are covered in the sub-sections below.

8.1. ALLOCATION OF COSTS ASSOCIATED WITH LONDON CITY AIRPORT REMOTE TOWER

The London City Airport remote tower facility is currently under construction at Swanwick. The contract for the build of the facility and operation of the service going forward is between NSL and London City Airport. NERL is providing resources to support NSL in setting up the facility and will receive an ongoing annual income for providing facilities and support to NSL for the service to London City Airport. NERL has created a number of ICAs to cover the costs and margin to be charged, separating the non-annual ICAs for set-up from the annual ICAs as follows:

Table 8-1: NERL planned income for ICA charges to NSL for London City Airport remote tower set up

£k (2017 prices)	ICA limit	Margin added to labour costs	Overall margin after add'l overheads
Labour charges for room fit-out	[✂]	[✂]	[✂]
Labour charges for engineering support - airports	[✂]	[✂]	[✂]
Labour charges for engineering support – service operations	[✂]	[✂]	[✂]
Labour charges for project support	[✂]	[✂]	[✂]
Total NERL set-up income	[✂]		

Source: NERL response to information request

The following table shows the ongoing NERL income for the remote tower service.

Table 8-2: NERL ongoing annual planned income for ICA charges to NSL for London City Airport remote tower operation

£k (2017 prices)	ICA limit	Margin added to labour costs	Overall margin after add'l overheads
Service accommodation (fixed price)	[✂]	[✂]	[✂]
Labour charges for engineering support – post engineering handover	[✂]	[✂]	[✂]
Total NERL ongoing annual income	[✂]		

Source: NERL response to information request

The above tables show NERL's own recoveries for the remote tower set-up and operation. The Chapter on non-regulatory income forecasts shows the total NATS income for operating the remote tower facility including costs incurred by NSL.

The set-up costs are labour charges at standard rates for NERL own staff and contract staff. The profit margins are within the allowed range as specified in the inter-company trading policy. The overheads allocation is at standard. The project is still in progress but, as defined, charges appear to have been arrived on the same basis as other charges to NSL.

The ongoing costs include serviced accommodation costs at the standard charge per square foot. The engineering support charges are labour costs at standard rates for NERL own staff and contract staff. The



profit margins are within the allowed range as specified in the inter-company trading policy. The overheads allocation is at standard. The charges appear to have been arrived on the same basis as other charges to NSL.

The following table summarises the actual and projected revenue and costs for NERL’s involvement in the project. After 2018/19 the revenue stabilise at the service accommodation charge. All revenue and costs are allocated using B0A95, NERL Services to NSL with 100% allocated to that service line.

Table 8-3: NERL actual and planned revenue and direct costs for its ICA to NSL for the London City Airport remote tower facility £k CPI prices

Year	Revenue	Direct costs	Contribution
2016/17	[✂]	[✂]	[✂]
2017/18	[✂]	[✂]	[✂]
2018/19	[✂]	[✂]	[✂]
2019/20	[✂]	[✂]	[✂]
2020/21	[✂]	[✂]	[✂]
2021/22	[✂]	[✂]	[✂]
2022/23	[✂]	[✂]	[✂]
2023/24	[✂]	[✂]	[✂]
2024/25	[✂]	[✂]	[✂]

Source: NERL response to information request

8.2. AMOUNT PAID BY NERL TO NSL FOR THE DELEGATED FUNCTIONS AT ABERDEEN AIRPORT

There are two activities covering the function.

Table 8-4: NSL charges to NERL for delegated functions at Aberdeen Airport

Activity & description £M ²⁸	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	RP 3
B0109/XX/XX/S22 Multilat Maintenance - North Sea Heli's	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
B0109/XX/XX/S22A Delegated ATS Function – NorthSea Heli's	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: NERL query against BPC allocated data

The above excludes local projects.

²⁸ Nominal with future cost inflated at CPI



Both activities are allocated using driver B0040 for North Sea Helicopters and are allocated 100% to North Sea Helicopters. This allocation has been checked.

We noted that there are no charges for activity B0109/XX/XX/S22A prior to 2018 and queried this with NERL. NERL's response is that prior to 2018 the North Sea Helicopters service charge from NSL was booked to WBSE B0109/XX/MG/151 Local Projects. We have located the charges as follows:

- 2015/16 [✂]
- 2016/17 [✂]
- 2017/18 [✂]

8.3. ALLOCATION OF COSTS ASSOCIATED WITH THE MOD FMARS PROJECT

We have reviewed the FMARS pricing model and there are nearly 1,300 activities making up the opex charges for the project. The following table summarises the main drivers by number of activities used to allocate MoD share of these activities across the first five years of the contract renewal. The full table is included in Appendix B.

Table 8-5: Main allocation drivers used in the FMARS contract renewal pricing model to determine MoD's share of opex (excl depreciation)

Driver	Driver description	Activity count	2020/21	2021/22	2022/23	2023/24	2024/25
B0A52	AGA channel legs NER	69	33.0%	33.0%	33.0%	33.0%	33.0%
B111A	Mgt Svces NATS NERL	34	5.0%	4.7%	4.7%	4.7%	4.9%
BAM01	AM Single Driver	723	13.2%	13.3%	13.3%	13.5%	13.5%
BIN24	Turnover - NERL Tota	44	6.2%	5.8%	5.8%	5.8%	6.0%
BIN27	Turnover - NERL Excl	30	6.3%	5.9%	5.8%	5.9%	6.1%
BIN29	Turnover - NATS Wide	64	4.9%	4.6%	4.6%	4.6%	4.7%
BIS02	Information Solution	130	5.1%	4.8%	4.8%	4.8%	4.9%
BWS20	Workstations NERL WI	62	12.3%	12.6%	12.6%	13.0%	13.1%
BWS22	Workstations NERL WI	89	12.7%	13.0%	13.0%	13.4%	13.4%
	Total number of activities	1,245					

Source: FMARS contract renewal pricing model

We have checked the allocation for MoD's share of opex costs for 2020/21 excluding depreciation (pre-normalisation) for RP3 from the FMARS contract renegotiation pricing model and found no issues. The full table of allocation percentages is included in Appendix B.

NERL's charge for depreciation is based on over 2,500 capex activities out of over 3,400 for RAB as a whole. The following table shows the proportion of each capex activity that is deemed to be used by the MoD under the contract, the driver for the group of activities (count shows the number of capex activities) and the MoD's share of the depreciation charge for RP3 (which is not necessarily the same as the share of the asset). The table shows the information for the largest of MOD's share of depreciation charges. The full table is included in Appendix B.



Table 8-6: MOD's share of NERL assets and the allocation drivers used in the FMARS contract renewal pricing model to determine MoD's share of depreciation

Driver	Capex total	MoD share of assets %	Activity count No	2020/21	2021/22	2022/23	2023/24	2024/25
	£M			£M	<-----Share of depreciation----->			
B0A91	47.2	47.2	100.0%	54	100.0%	100.0%	100.0%	100.0%
BWS20	123.5	17.1	13.9%	435	12.3%	12.6%	12.6%	13.0%
BWS22	1,901.9	272.4	14.3%	1120	12.7%	13.0%	13.0%	13.4%
BWS30	294.5	54.7	19.6%	298	19.8%	19.8%	19.8%	18.6%
Extract	2,367.1	391.4		1,907				
Overall Total	3,031.5	478.1		2,515				

Source: FMARS contract renewal pricing model

For capex activities grouped by driver, all but the first two show a differing share for the MoD when the share of the asset is compared with the share of the depreciation charge. We have followed up two of these exceptions with NERL as follows:

For activity B0502/XX/EB/W98G using driver BIS02, MoD's share of the asset is 14.3% compared to 5.5% for the remainder of the driver group;

For activity B0502/XX/EB/W98G using driver BWS30, MoD's share of the asset is 14.3% compared to 19.6% for the remainder of the driver group.

In response to the query, NERL has explained that the drivers for these two items were correctly set at BWS22 at the time of the Initial Business Plan but were changed in error for the Business Plan for RP3 to BIS02 and BWS30 requiring a clerical correction in the normalisation tab of the pricing model. We have examined the adjustment tab supporting normalisation and confirmed that these two corrections are present.

We have checked the allocation of accounting depreciation between UKATS and Oceanic for the MOD's share in 2020/21 and there are no matters arising.

The following table shows allocation percentages for the drivers used to allocate the largest proportion of MoD depreciation charges. The full table is included in Appendix B.



Table 8-7: For the drivers used in the FMARS contract renegotiation pricing model (depreciation drivers) we show the allocation by service line for 2020/21 as per the Summary Driver table. MoD's share should be compared to the 2020/21 percentages shown in the table above

Driver	Driver description	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
B0A91	Direct MoD only				100.00%			
BWS20	Workstations NERL WI	79.30%		5.34%	12.27%		3.09%	
BWS22	Workstations NERL WI	81.83%		5.51%	12.66%			
BWS30	Workstations SWANWIC	71.60%		8.61%	19.79%			

Source: NERL query against BPC allocated data and driver percentages for 2020/21 from the Summary Driver table 2018/19

The following table shows the larger elements of the MoD's share of depreciation (pre-normalisation) for RP3 from the FMARS contract renegotiation pricing model. The full table is included in Appendix B. The calculation for 2020/21 has been checked in full and there are no matters arising.

Table 8-8: MoD's largest shares of depreciation costs for RP3 based on the FMARS contract renewal pricing model (pre-depreciation normalisation) £K (inflated values using assumption for CPI inflation)

Driver	Driver description	2020/21	2021/22	2022/23	2023/24	2024/25
B0A91	Direct MoD only	-1,668	-1,774	-1,996	-2,208	-2,568
BWS20	Workstations NERL WI	-1,260	-1,287	-1,299	-1,034	-901
BWS22	Workstations NERL WI	-8,047	-8,848	-10,558	-13,175	-13,764
BWS30	Workstations SWANWIC	-2,726	-2,774	-2,797	-2,403	-2,260
	Total of larger elements	-13,701	-14,683	-16,650	-18,820	-19,493
	Total	-15,760	-16,662	-18,791	-20,899	-21,617

Source: FMARS contract renewal pricing model





8.3.1. Whether price charged by NERL to MoD for FMARS is determined on the same basis as NERL's other charges for services to third parties

NERL has been in negotiations with the MoD to extend the current FMARS contract for a period of either four or nine years, at the MoD's discretion. We understand that NERL has priced these options following a similar approach to that which was used to price the existing contract term. We have illustrated the approach taken to determining the FMARS price in greater detail as part of our review of non-regulatory income (see Chapter 7).

The general principle is that all costs incurred by NERL should be allocated to a Service. Where costs do not relate wholly to one Service (as is the case in the majority of costs relating to the FMARS contract), where appropriate, a market test approach will be adopted. However, it should be noted that the MoD is the only effective customer for military air traffic control services. Therefore the approach is based on cost allocation.

Under the forthcoming contract extension, which we understand is similar to the approach currently in place, the price charged by NERL to the MoD will follow the same cost allocation general principles which apply to the NATS group as a whole. This means that the MoD will pay the costs associated with the services they get and use in the same way as other customers.

The FMARS contract is significantly different from other services provided to third parties, for example in the asymmetric sharing of cost efficiencies to the potential benefit of the MoD. The distinct nature of such arrangements means that NERL adopts a different approach to the calculation of a "mark-up", than that which might apply to other services. The mark-up charged on the FMARS services are subject to negotiation with the MoD, and NERL's approach to the mark-up charged on non-regulatory income more generally is discussed in Chapter 7. Therefore, we do not raise any concerns with the basis on which the MoD is charged for FMARS by comparison to the basis on which NERL charges other third parties.



APPENDIX A DRIVER TESTING

We conducted some additional tests to check that drivers are being applied appropriately and consistently. The first tests compared the 2018/19 planned costs and revenues over the period since the last review. Secondly, we compared this same year to future planned costs and revenues. We paid particular attention to the changes as a result of adopting the new asset management model. Finally, we disaggregate the 2018/19 planned costs a further level than that analysed in Chapter 4, to activity line item level.

A.1. BACKWARD TESTING

Note that 2017/18 and 2018/19 include small revenue allocations from drivers that were not 100% allocated to service lines. This is due to the allocation of intercompany revenues.

All Revenues Drivers

Table A.1: RP2 revenues by driver (£)

Driver	Description	2018/19 (planned)	2017/18	2016/17	2015/16	2014/15
B0100	Eurocontrol 100%	590,392,058	604,357,894	593,275,149	579,086,087	612,389,631
B0A91	Direct MoD only	49,325,862	47,767,613	49,300,661	49,386,892	46,238,228
BOC01	Oceanic 100%	30,132,459	29,462,995	29,790,584	29,214,794	27,563,036
B0A95	NERL Services to NSL	23,613,123	26,405,434	25,947,563	25,521,133	22,379,117
B0030	London Approach 100%	13,353,239	12,738,419	12,356,827	12,162,294	12,096,208
B0040	North Sea Helicopter	8,731,497	8,736,810	8,826,860	8,441,351	9,259,076
B0045	Other External Capped Income	7,020,255	13,287,801	20,019,523	14,353,967	10,281,602
BIN27	Turnover - NERL Excl NSL and NS Helis	1,394,787	1,756,962			
BIN37	Turnover - NATS Wide Excl NS Helis & MOD	620,741				
BWS20	Workstations NERL WIDE - all Service lines	389,041				
BIN29	Turnover - NATS Wide Excl NS Helis	260,225				
BWS21	Workstations NERL WIDE - non-MOD	51,447				
B109A	Mgt Svces NATS NERL/NSL Costs+Capex	69				
	Total	725,284,803	744,513,928	739,517,168	718,170,715	740,209,435

Source: 'Driver summary – BP18 it4 rBP final' spreadsheet (driver names), '2018-19 Plan WBSE detail – income by SL' spreadsheet (planned 2018-19 revenues) and 'Top 12 Divers Summary revised 30.10.18' spreadsheet (FY 2014-2018 revenues)

Table A.2: RP2 revenues by driver (% of total)

Driver	Description	2018/19 (planned)	2017/18	2016/17	2015/16	2014/15
B0100	Eurocontrol 100%	81.4%	81.2%	80.2%	80.6%	82.7%
B0A91	Direct MoD only	6.8%	6.4%	6.7%	6.9%	6.2%
BOC01	Oceanic 100%	4.2%	4.0%	4.0%	4.1%	3.7%
B0A95	NERL Services to NSL	3.3%	3.5%	3.5%	3.6%	3.0%
B0030	London Approach 100%	1.8%	1.7%	1.7%	1.7%	1.6%
B0040	North Sea Helicopter	1.2%	1.2%	1.2%	1.2%	1.3%



B0045	Other External Capped Income	1.0%	1.8%	2.7%	2.0%	1.4%
BIN27	Turnover - NERL Excl NSL and NS Helis	0.2%	0.2%			
BIN37	Turnover - NATS Wide Excl NS Helis & MOD	0.1%				
BWS20	Workstations NERL WIDE - all Service lines	0.1%				
BIN29	Turnover - NATS Wide Excl NS Helis	0.0%				
BWS21	Workstations NERL WIDE - non-MOD	0.0%				
B109A	Mgt Svces NATS NERL/NSL Costs+Capex	0.0%				
	Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 'Driver summary – BP18 it4 rBP final' spreadsheet (driver names), '2018-19 Plan WBSE detail – income by SL' spreadsheet (planned 2018-19 revenues) and 'Top 12 Divers Summary revised 30.10.18' spreadsheet (FY 2014-2018 revenues)

Looking back at revenue drivers we see a consistent allocation over the period. As with 2018/19 planned, Eurocontrol has been by far the largest driver, accounting for 80-83% of total revenues each year. The remaining drivers are even more stable, with difference of just decimal places seen from year to year. No queries were necessary for this data.

Top 10 Cost Drivers

Table A.3: RP2 Top 10 cost drivers (£)

Driver	Description	2018/19 (planned)	2017/18	2016/17	2015/16	2014/15
B0100	Eurocontrol 100%	167,924,500	165,965,495	168,200,933	143,144,021	131,735,006
BWS22	Workstations NERL WIDE - non-Oceanic	52,277,496	50,536,206	29,641,709	28,099,033	24,167,768
BAM01	AM Single Driver	49,479,136				
BWS20	Workstations NERL WIDE - all Service lines	39,993,002	42,977,625	51,089,278	49,028,078	44,224,859
BIS02	Information Solutions - Turnover_CustAcs	28,002,034	25,637,204	23,032,392	24,170,190	24,699,125
BIN27	Turnover - NERL Excl NSL and NS Helis	25,105,970	19,650,827	28,407,830	120,525,368	43,425,205
BWS31	Workstations SWANWICK - total non-MOD	23,761,828	23,804,474	27,214,076	19,779,753	18,027,683
BWS33	Workstations SWANWICK - AC	22,309,357	23,587,002	32,857,594	28,814,918	19,853,259
B0030	London Approach 100%	21,743,821	23,344,088	26,729,995	26,896,943	25,193,258
BIN24	Turnover - NERL Total External	20,358,484	18,449,530	26,639,513	29,687,411	29,940,349
BWS21	Workstations NERL WIDE - non-MOD		20,083,390			
BWS35	Workstations SWANWICK - TC & LMARS			18,097,129	58,569,117	50,711,486
	Total Top 10	450,955,628	414,035,840	431,910,449	528,714,831	411,977,996
	Total	630,524,205	587,296,990	591,833,185	668,565,725	539,266,042

Source: 'Driver summary – BP18 it4 rBP final' spreadsheet (driver names), '2018-19 Plan WBSE detail – costs by SL' spreadsheet (planned 2018-19 costs) and 'Top 12 Divers Summary revised 30.10.18' spreadsheet (FY 2014-2018 costs)

Table A.4: RP2 Top 10 cost drivers (% of total)

Driver	Description	2018/19 (planned)	2017/18	2016/17	2015/16	2014/15
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B0100	Eurocontrol 100%	26.6%	28.3%	28.4%	21.4%	24.4%
BWS22	Workstations NERL WIDE - non-Oceanic	8.3%	8.6%	5.0%	4.2%	4.5%
BAM01	AM Single Driver	7.8%				
BWS20	Workstations NERL WIDE - all Service lines	6.3%	7.3%	8.6%	7.3%	8.2%
BIS02	Information Solutions - Turnover_CustAcs	4.4%	4.4%	3.9%	3.6%	4.6%
BIN27	Turnover - NERL Excl NSL and NS Helis	4.0%	3.3%	4.8%	18.0%	8.1%
BWS31	Workstations SWANWICK - total non-MOD	3.8%	4.1%	4.6%	3.0%	3.3%
BWS33	Workstations SWANWICK - AC	3.5%	4.0%	5.6%	4.3%	3.7%
B0030	London Approach 100%	3.4%	4.0%	4.5%	4.0%	4.7%
BIN24	Turnover - NERL Total External	3.2%	3.1%	4.5%	4.4%	5.6%
BWS21	Workstations NERL WIDE - non-MOD		3.4%			
BWS35	Workstations SWANWICK - TC & LMARS			3.1%	8.8%	9.4%
	Total Top 10	71.5%	70.5%	73.0%	79.1%	76.4%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 'Driver summary – BPI8 it4 rBP final' spreadsheet (driver names), '2018-19 Plan WBSE detail – costs by SL' spreadsheet (planned 2018-19 costs) and 'Top 12 Divers Summary revised 30.10.18' spreadsheet (FY 2014-2018 costs)

As described in Chapter 4, there are many more drivers used to allocate costs than revenues. Here we analyse the top 10 costs by year over the period. Overall we find more variation with these numbers, which we would expect given that there are far more costs to be allocated. However we find that, with some exceptions noted below, these variations are within a normal range and do not signal any serious issues with the costs in RP2. The top 10 drivers account for between 70-80% of costs every year.

As discussed in Chapter 4, 2018/19 saw the adoption of the new asset management driver model and the subsequent creation of a new catchall driver BAM01 for these costs, which is first used in that year, as shown in the tables above. As expected, it is a major driver (accounting for roughly £50 million in costs).

We queried why BIN27 (Turnover - NERL Excl NSL and NS Helis) was so unusually large in 2015/16. NERL's response: "BIN27 usage for 2015/16 is high because there was £89m of goodwill impairment cost in this year (this is an accounting entry only and does not affect determined costs or FMARS pricing). The £89m goodwill impairment cost was allocated across service lines using BIN27. If this cost is removed, the % used by BIN27 in 2015-16 is very similar to other years".

We also queried why the trend in BWS35 (Workstations SWANWICK - TC & LMARS) was decreasing over the period (and into RP3), given that it was one of the top 10 drivers between 2014-17. NERL's response: "[T]his driver was mainly used to allocate operating costs relating to Swanwick TC activities (e.g. manning functions) between the London Approach and Eurocontrol service lines. The Swanwick activity structure have been re-organised with separate activities set up to directly capture the effort expended on the London Approach and TMA (ie Eurocontrol) functions. This means that more of these activities can be attributed in full (100% allocation) to either the London Approach or Eurocontrol service lines, and, as a result, there is a much reduced need to split the costs of 'combined TC functions' using this driver."



A.2. FORWARD TESTING

Revenues

Table A.5: RP3 forecast revenues by driver (£)

Driver	Description	2020/21	2021/22	2022/23	2023/24	2024/25
B0100	Eurocontrol 100%	721,069,956	676,791,304	692,087,239	700,826,528	697,507,262
B0A91	Direct MoD only	58,401,408	48,703,178	49,538,841	50,441,357	51,377,300
BOC01	Oceanic 100%	35,063,416	48,507,882	50,178,057	50,683,406	50,814,898
B0A95	NERL Services to NSL	21,869,559	21,543,809	21,059,726	21,323,499	21,726,707
B0030	London Approach 100%	13,546,548	13,689,462	14,601,037	15,036,749	15,562,399
B0040	North Sea Helicopter	8,921,751	9,088,080	9,260,750	9,441,226	9,631,455
B0045	Other External Capped Income	7,037,682	6,864,419	6,886,629	6,923,517	6,784,371
BIN27	Turnover - NERL Excl NSL and NS Helis	1,444,479	1,401,321	1,266,485	1,267,538	1,268,682
BIN37	Turnover - NATS Wide Excl NS Helis & MOD	556,199	561,348	564,627	573,686	579,688
BWS20	Workstations NERL WIDE - all Service lines	917,880	1,027,829	1,238,392	1,248,878	1,260,142
BIN29	Turnover - NATS Wide Excl NS Helis	211,384	213,979	218,880	230,538	239,096
BWS21	Workstations NERL WIDE - non MOD	57,184	58,600	60,168	61,654	63,289
B109A	Mgt Svces NATS NERL/NSL Costs+Capex	69	69	69	69	69
	Total	869,097,514	828,451,279	846,960,901	858,058,646	856,815,358

Source: 'Driver summary – BP18 it4 rBP final' spreadsheet (driver names) and 'Rp3 Plan WBSE detail – income by SL' spreadsheet (RP3 planned revenues)

Table A.6: RP3 forecast revenues by driver (% of total)

Driver	Description	2020/21	2021/22	2022/23	2023/24	2024/25
B0100	Eurocontrol 100%	83.0%	81.7%	81.7%	81.7%	81.4%
B0A91	Direct MoD only	6.7%	5.9%	5.8%	5.9%	6.0%
BOC01	Oceanic 100%	4.0%	5.9%	5.9%	5.9%	5.9%
B0A95	NERL Services to NSL	2.5%	2.6%	2.5%	2.5%	2.5%
B0030	London Approach 100%	1.6%	1.7%	1.7%	1.8%	1.8%
B0040	North Sea Helicopter	1.0%	1.1%	1.1%	1.1%	1.1%
B0045	Other External Capped Income	0.8%	0.8%	0.8%	0.8%	0.8%
BIN27	Turnover - NERL Excl NSL and NS Helis	0.2%	0.2%	0.1%	0.1%	0.1%
BIN37	Turnover - NATS Wide Excl NS Helis & MOD	0.1%	0.1%	0.1%	0.1%	0.1%
BWS20	Workstations NERL WIDE - all Service lines	0.1%	0.1%	0.1%	0.1%	0.1%
BIN29	Turnover - NATS Wide Excl NS Helis	0.0%	0.0%	0.0%	0.0%	0.0%
BWS21	Workstations NERL WIDE - non MOD	0.0%	0.0%	0.0%	0.0%	0.0%
B109A	Mgt Svces NATS NERL/NSL Costs+Capex	0.0%	0.0%	0.0%	0.0%	0.0%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 'Driver summary – BP18 it4 rBP final' spreadsheet (driver names), 'Rp3 Plan WBSE detail – income by SL' spreadsheet (RP3 planned revenues)

As with the backward-looking figures, the forecast revenue drivers over RP3 are very consistent, with Eurocontrol being by far the largest.



Costs

Table A.7: RP3 forecast top 10 costs drivers (£)

Driver	Description	2020/21	2021/22	2022/23	2023/24	2024/25
B0100	Eurocontrol 100%	168,264,759	165,837,415	168,376,824	167,568,132	165,850,088
BWS22	Workstations NERL WIDE - non Oceanic	94,014,263	97,853,047	114,033,624	130,019,860	124,820,558
BAM01	AM Single Driver	75,213,342	76,555,078	78,310,809	66,715,352	66,112,418
BWS20	Workstations NERL WIDE - all Service lines	42,087,889	45,522,005	52,420,210	47,859,579	42,148,843
BIS02	Information Solutions - Turnover_CustAcS	24,017,161	26,562,568	27,639,110	29,000,343	30,152,371
BWS31	Workstations SWANWICK - total non MOD	23,770,138	24,155,114	36,500,098	32,971,645	36,221,271
BIN27	Turnover - NERL Excl NSL and NS Helis	21,186,555	24,127,609	27,259,398	29,641,736	33,192,732
B0030	London Approach 100%	21,124,312	20,615,916	23,014,059	22,226,412	21,483,557
BIN24	Turnover - NERL Total External	20,665,618	21,216,096	23,666,376	23,407,967	22,985,756
BWS21	Workstations NERL WIDE - non MOD	19,503,320				
BOC01	Oceanic 100%		28,167,252	29,042,568	30,043,447	31,352,762
	Total Top 10	509,847,357	530,612,100	580,263,078	579,454,474	574,320,358
	Total	683,573,948	712,814,300	757,967,772	758,798,923	756,699,194

Source: 'Driver summary – BP18 it4 rBP final' spreadsheet (driver names), 'Rp3 Plan WBSE detail – costs by SL' spreadsheet (RP3 planned costs)

Table A.8: RP3 forecast top 10 costs drivers (% of total)

Driver	Description	2020/21	2021/22	2022/23	2023/24	2024/25
B0100	Eurocontrol 100%	24.6%	23.3%	22.2%	22.1%	21.9%
BWS22	Workstations NERL WIDE - non Oceanic	13.8%	13.7%	15.0%	17.1%	16.5%
BAM01	AM Single Driver	11.0%	10.7%	10.3%	8.8%	8.7%
BWS20	Workstations NERL WIDE - all Service lines	6.2%	6.4%	6.9%	6.3%	5.6%
BIS02	Information Solutions - Turnover_CustAcS	3.5%	3.7%	3.6%	3.8%	4.0%
BWS31	Workstations SWANWICK - total non MOD	3.5%	3.4%	4.8%	4.3%	4.8%
BIN27	Turnover - NERL Excl NSL and NS Helis	3.1%	3.4%	3.6%	3.9%	4.4%
B0030	London Approach 100%	3.1%	2.9%	3.0%	2.9%	2.8%
BIN24	Turnover - NERL Total External	3.0%	3.0%	3.1%	3.1%	3.0%
BWS21	Workstations NERL WIDE - non MOD	2.9%				
BOC01	Oceanic 100%		4.0%	3.8%	4.0%	4.1%



Total Top 10	74.6%	74.4%	76.6%	76.4%	75.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 'Driver summary – BP18 it4 rBP final' spreadsheet (driver names), 'Rp3 Plan WBSE detail – costs by SL' spreadsheet (RP3 planned costs)

The forecast top 10 cost drivers are also projected to be quite stable over the period, though there are more inter-year fluctuations than in the revenues as we would expect. Nonetheless, the top 10 consist of around 75% of all costs per year, which is the middle of the range we found over RP2.

The BAM01 asset management opex driver remains the third highest single driver over the period, accounting for around 9-11% per year, which is in line with what the model predicted.

The other driver used in this model, BOA52 (AGA channel legs NERL wide), while not appearing in the top 10 drivers for RP2, was found in the larger dataset to decrease significantly after the introduction of the new model. We asked NERL to clarify this: "BOA52 forms part of the BAM01 driver, going forward. As such, the Asset Management activities which previously used BOA52 will now have a BAM01 driver applied instead. BOA52 can still be used on its own where appropriate, but its use will be much lower due to the BAM01 introduction."

One of the major changes between RP2 and RP3 in terms of cost drivers was the significant decrease in costs allocated using the BWS 33 (Workstations SWANWICK – AC) driver. This was one of the top 10 drivers throughout RP2, accounting for on average 4.2% of costs each year, but is only around the 30th most used driver during RP3. We queried this with NERL who responded: "BWS33 is used to allocate Swanwick AC costs between civil and military users. Costs allocated using this driver during RP2 related mainly to depreciation costs for the legacy NERC system, which is used by Swanwick AC only. This system will be replaced (along with other legacy systems) by the more generic iTEC system from the start of RP3. This new system covers both Prestwick, Swanwick AC and Swanwick TC (and is typically allocated using a NERL wide driver such as BWS22). By the end of RP2, NERC will be nearly fully depreciated, and hence very little cost will be allocated using the BWS33 'Swanwick AC specific' driver during RP3."

Finally, we see at the bottom of the table the use of the BOC01 (Oceanic 100%) driver, accounting for around 4% of costs per year, a 2% increase compared to RP2. According to NERL this is "due to addition of satellite data costs that the Oceanic business will pay to Aireon, from 1 January 2020 onwards. These costs are around £15m per annum and increase the size of the Oceanic cost base by around 50%."



A.3. YEAR TO DATE TESTING

Sections 4.10 and 4.12 show planned allocation of costs and revenue respectively for financial year 2019. In order to check the accuracy of planned allocations we tested the percentages allocated to each service line with the most recent year to date information NERL could provide at the time of writing this report, to August 2019. Tables A9 and A10 below show actual outturns and the percentages to service lines are in line with planned allocations as shown in tables 4-2 and 4-4.

Table A.9: NERL actual revenue to August 2019, £m (nominal prices)

Revenue Category	EC	LA	MoD	NSH	From NSL ICA	Other	OC	Total
Inter-company revenue	-	-	-	-	10.6	-	-	10.6
Other revenue	272.0	6.0	20.6	3.7	-	3.5	13.6	319.4
S/L total revenue	272.0	6.0	20.6	3.7	10.6	3.5	13.6	330.0
S/L as % of NERL total	82.4%	1.8%	6.2%	1.1%	3.2%	1.1%	4.1%	100.0%

Source: 'NERL Summary FY1819 – Aug18' spreadsheet

Table A.10: NERL actual costs to August 2019, £m (nominal prices)

Cost Category	EC	LA	MoD	NSH	From NSL ICA	Other	OC	Total
Inter-company costs	-	-	-	-	10.5	-	-	10.5
Other costs	188.9	18.6	15.6	3.5	-	2.8	10.4	239.8
S/L total costs	188.9	18.6	15.6	3.5	10.5	2.8	10.4	250.3
S/L as % of NERL total	75.5%	7.4%	6.2%	1.4%	4.2%	1.1%	4.2%	100.0%

Source: 'NERL Summary FY1819 – Aug18' spreadsheet



APPENDIX B DRIVER ALLOCATION TABLES AND TESTING

B.1. INTER-COMPANY CHARGES – MSA BY FUNCTION

The following table shows MSA charges to NSL by function.

Table B.1: NERL MSA income from NSL analysed by functional charge (£M, 2017 CPI prices)

£M	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RP3
Corp. Comms	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	2.6
Dir of Supply Chain	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	3.0
Executive	0.7	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.1
Facilities Management	0.6	1.0	1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.1	5.3
Finance	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	3.0
Gen Counsel & Co Sec	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1.9
HR	1.7	1.6	1.6	1.7	1.7	1.6	1.6	1.6	1.7	1.7	8.2
NERL HQ	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.3
NERL Info solutions	1.8	1.7	1.6	1.6	1.5	1.4	1.3	1.3	1.3	1.3	6.7
Safety	0.6	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	5.0
Corporate functions total	7.8	8.7	8.6	8.7	8.4	8.3	8.3	8.3	8.3	8.3	41.5
DAA & IA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
Operations Safety	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.8
Service Operations	0.0	0.0	0.1	0.2	0.3	0.7	0.9	1.0	1.0	1.0	4.6
Training Services	1.8	1.9	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	8.5
Shared business functions total	1.9	2.1	2.2	2.2	2.3	2.6	2.8	3.0	3.0	3.0	14.4
Comm'l - Cust Solut'ns	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Operations Integration	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
Serv Design and Transition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Strategic Assurance	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4
Tech Serv Bus Mgt	1.4	1.4	1.2	1.1	0.8	0.6	0.6	0.6	0.6	0.6	2.9
Shared management teams total	1.4	1.4	1.4	1.3	1.0	0.8	0.8	0.8	0.8	0.8	3.8
Total NERL MSA to NSL	11.1	12.2	12.2	12.2	11.7	11.7	11.9	12.0	12.1	12.1	59.8

Source: NERL query against BPC allocated data



B.2. ALLOCATION TABLES RELATING TO MOD FMARS CONTRACT RENEWAL – OPEX EXCLUDING DEPRECIATION

The following table shows the drivers by number of activities used to allocate MoD share of these activities across the first five years of the contract renewal.

Table B.2: Allocation drivers used in the FMARS contract renewal pricing model to determine MoD's share of opex (excl depreciation)

Driver	Driver description	Activity count	20/21	21/22	22/23	23/24	24/25
B0A52	AGA channel legs NER	69	33.0%	33.0%	33.0%	33.0%	33.0%
B0A91	Direct MoD only	5	100.0%	100.0%	100.0%	100.0%	100.0%
B109A	Mgt Svces NATS NERL	2	4.9%	4.5%	4.5%	4.5%	4.7%
B110A	Mgt Svces NATS NERL	1	4.1%	3.8%	3.8%	3.8%	3.9%
B111A	Mgt Svces NATS NERL	34	5.0%	4.7%	4.7%	4.7%	4.9%
B114A	Mgt Svces NATS NERL	9	5.5%	5.1%	5.1%	5.1%	5.3%
BAM01	AM Single Driver	723	13.2%	13.3%	13.3%	13.5%	13.5%
BFM01	Facilities - NATS Wi	4	10.4%	10.7%	10.7%	11.1%	11.1%
BIN23	Turnover - Eurocontr	9	6.3%	5.9%	5.9%	5.9%	6.1%
BIN24	Turnover - NERL Tota	44	6.2%	5.8%	5.8%	5.8%	6.0%
BIN27	Turnover - NERL Excl	30	6.3%	5.9%	5.8%	5.9%	6.1%
BIN29	Turnover - NATS Wide	64	4.9%	4.6%	4.6%	4.6%	4.7%
BIN35	Mgt Svces NATS NERL	1	4.9%	4.5%	4.5%	4.5%	4.7%
BIN36	AC Swanwick, AC Pres	2	6.2%	5.7%	5.7%	5.7%	6.0%
BIS02	Information Solution	130	5.1%	4.8%	4.8%	4.8%	4.9%
BWS20	Workstations NERL WI	62	12.3%	12.6%	12.6%	13.0%	13.1%
BWS22	Workstations NERL WI	89	12.7%	13.0%	13.0%	13.4%	13.4%
BWS30	Workstations SWANWIC	7	19.8%	19.8%	19.7%	18.6%	18.6%
BWS33	Workstations SWANWIC	1	24.8%	24.8%	24.8%	24.7%	24.7%
BWS36	Workstations SWANWIC	3	5.2%	5.2%	5.2%	4.5%	4.5%
BWS43	AC Swanwick, AC Pres	3	13.6%	13.5%	13.5%	14.9%	15.0%
BWS45	Swanwick AC, Prestwi	3	18.7%	18.6%	18.6%	19.0%	19.0%

Source: FMARS contract renewal pricing model



The following table shows MoD's percentage share of opex compared to the percentages absorbed by other service lines for the drivers shown above. The driver percentages are those for 2020.

Table B.3: For the drivers used in the FMARS contract renegotiation pricing model we show the allocation by service line for 2020/21 as per the Summary Driver table. MoD's share should be compared to the 2020/21 percentages shown in the table above

Driver	Driver description	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
B0A52	AGA channel legs NER	58.56%		5.29%	32.98%	1.48%	1.69%	
B0A91	Direct MoD only				100.00%			
B109A	Mgt Svces NATS NERL	67.86%	21.61%	1.28%	4.90%	0.84%	2.97%	0.55%
B110A	Mgt Svces NATS NERL	56.93%	34.24%	1.07%	4.11%	0.70%	2.49%	0.46%
B111A	Mgt Svces NATS NERL	70.17%	18.94%	1.32%	5.07%	0.87%	3.07%	0.57%
B114A	Mgt Svces NATS NERL	76.86%	11.21%	1.45%	5.55%	0.95%	3.36%	0.62%
BAM01	AM Single Driver	75.54%		5.99%	13.20%	0.07%	5.21%	
BFM01	Facilities NATS Wi	67.49%	14.90%	4.54%	10.44%		2.63%	
BIN23	Turnover Eurocontr	88.12%		1.66%	6.37%		3.85%	
BIN24	Turnover NERL Tota	86.56%		1.63%	6.26%	1.07%	3.79%	0.70%
BIN27	Turnover NERL Excl	87.50%		1.65%	6.32%		3.83%	0.70%
BIN29	Turnover NATS Wide	69.61%	20.45%	1.31%	5.03%		3.04%	0.56%
BIN35	Mgt Svces NATS NERL	69.01%	20.27%	1.30%	4.99%	0.85%	3.02%	0.56%
BIN36	AC Swanwick, AC Pres	85.81%	2.62%	1.62%	6.20%		3.75%	
BIS02	Information Solution	71.09%	18.75%	1.34%	5.14%		3.11%	0.57%
BWS20	Workstations NERL WI	79.30%		5.34%	12.27%		3.09%	
BWS22	Workstations NERL WI	81.83%		5.51%	12.66%			
BWS30	Workstations SWANWIC	71.60%		8.61%	19.79%			
BWS33	Workstations SWANWIC	75.19%			24.81%			
BWS36	Workstations SWANWIC	61.12%		33.72%	5.16%			
BWS43	AC Swanwick, AC Pres	86.44%			13.56%			
BWS45	Swanwick AC, Prestwi	81.33%			18.67%			

Source: Summary Driver table 2018/19

The following table shows MoD's share of opex costs excluding depreciation (pre-normalisation) for RP3 from the FMARS contract renegotiation pricing model.



Table B.4: MoD's share of opex costs for RP3 based on the FMARS contract renewal pricing model (pre opex normalisation) £K (inflated values using assumption for CPI inflation)

Driver	Driver description	20/21	21/22	22/23	23/24	24/25
B0A52	AGA channel legs NER	1,095	1,136	1,098	959	975
B0A91	Direct MoD only	1,595	1,252	1,338	1,299	1,378
B109A	Mgt Svces NATS NERL	21	20	21	21	22
B110A	Mgt Svces NATS NERL	11	11	11	11	12
B111A	Mgt Svces NATS NERL	234	210	216	211	240
B114A	Mgt Svces NATS NERL	85	86	87	93	98
BAM01	AM Single Driver	9,922	10,179	10,393	9,001	8,892
BFM01	Facilities - NATS Wi	686	728	752	720	727
BIN23	Turnover - Eurocontr	122	122	124	126	154
BIN24	Turnover - NERL Tota	1,279	1,222	1,360	1,350	1,374
BIN27	Turnover - NERL Excl	1,373	1,452	1,630	1,772	2,054
BIN29	Turnover - NATS Wide	459	436	449	460	484
BIN35	Mgt Svces NATS NERL	4	3	3	4	4
BIN36	AC Swanwick, AC Pres	12	12	12	12	13
BIS02	Information Solution	1,063	1,021	1,038	1,061	1,117
BWS20	Workstations NERL WI	3,789	4,315	5,552	5,461	4,485
BWS22	Workstations NERL WI	3,096	3,245	3,708	4,103	3,775
BWS30	Workstations SWANWIC	2,076	2,027	2,098	2,253	1,995
BWS33	Workstations SWANWIC	687	325	0	0	0
BWS36	Workstations SWANWIC	5	15	7	210	341
BWS43	AC Swanwick, AC Pres	25	0	0	0	0
BWS45	Swanwick AC, Prestwi	34	0	0	0	0
	Total	27,673	27,818	29,897	29,128	28,139

Source: FMARS contract renewal pricing model



B.3. ALLOCATION TABLES RELATING TO MOD FMARS CONTRACT RENEWAL – DEPRECIATION

The following table shows the proportion of each capex activity that is deemed to be used by the MoD under the contract, the driver for the group of activities (count shows the number of capex activities) and the MoD's share of the depreciation charge for RP3 (which is not necessarily the same as the share of the asset).

Table B.5: MOD's share of NERL assets and the allocation drivers used in the FMARS contract renewal pricing model to determine MoD's share of depreciation

Driver	Capex total		MoD share of assets %	Activity count No	20/21	21/22	22/23	23/24	24/25
	£M	£M			<-----Share of depreciation----->				
B0A52	32.0	10.5	33.0%	153	33.0%	33.0%	33.0%	33.0%	33.0%
B0A91	47.2	47.2	100.0%	54	100.0%	100.0%	100.0%	100.0%	100.0%
BFM01	10.2	1.2	11.8%	26	10.4%	10.7%	10.7%	11.1%	11.1%
BIN23	12.3	0.8	6.8%	41	6.3%	5.9%	5.9%	5.9%	6.1%
BIN29	9.4	0.5	5.1%	2	4.9%	4.6%	4.6%	4.6%	4.7%
BIN36	0.2	0.0	6.6%	2	6.2%	5.7%	5.7%	5.7%	6.0%
BIS02	116.6	6.9	5.5%	156	5.1%	4.8%	4.7%	4.8%	4.9%
BWS20	123.5	17.1	13.9%	435	12.3%	12.6%	12.6%	13.0%	13.1%
BWS22	1,901.9	272.4	14.3%	1120	12.7%	13.0%	13.0%	13.4%	13.4%
BWS30	294.5	54.7	19.6%	298	19.8%	19.8%	19.8%	18.6%	18.6%
BWS33	191.5	45.3	23.6%	163	24.8%	24.8%	24.8%	24.7%	24.7%
BWS36	262.3	17.2	6.6%	50	5.2%	5.2%	5.2%	4.5%	4.5%
BWS43	22.7	3.3	14.7%	9	13.6%	13.5%	13.5%	14.9%	15.0%
BWS45	3.6	0.7	18.0%	2	18.7%	18.6%	18.6%	19.0%	19.0%
BWS46	1.0	0.2	16.4%	3	15.1%	15.1%	15.1%	15.6%	15.6%
BWS47	2.6	0.1	4.2%	1	3.3%	3.3%	3.3%	3.5%	3.5%

Source: FMARS contract renewal pricing model



The following table shows the depreciation drivers for the FMARS contract renegotiation by service line for 2020/21 as per the Summary Driver table.

Table B.6: For the drivers used in the FMARS contract renegotiation pricing model (depreciation drivers) we show the allocation by service line for 2020/21 as per the Summary Driver table. MoD's share should be compared to the 2020/21 percentages shown in the table above

Driver	Driver description	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
B0A52	AGA channel legs NER	58.56%		5.29%	32.98%	1.48%	1.69%	
B0A91	Direct MoD only				100.00%			
BFM01	Facilities - NATS Wi	67.49%	14.90%	4.54%	10.44%		2.63%	
BIN23	Turnover - Eurocontr	88.12%		1.66%	6.37%		3.85%	
BIN29	Turnover - NATS Wide	69.61%	20.45%	1.31%	5.03%		3.04%	0.56%
BIN36	AC Swanwick, AC Pres	85.81%	2.62%	1.62%	6.20%		3.75%	
BIS02	Information Solution	71.09%	18.75%	1.34%	5.14%		3.11%	0.57%
BWS20	Workstations NERL WI	79.30%		5.34%	12.27%		3.09%	
BWS22	Workstations NERL WI	81.83%		5.51%	12.66%			
BWS30	Workstations SWANWIC	71.60%		8.61%	19.79%			
BWS33	Workstations SWANWIC	75.19%			24.81%			
BWS36	Workstations SWANWIC	61.12%		33.72%	5.16%			
BWS43	AC Swanwick, AC Pres	86.44%			13.56%			
BWS45	Swanwick AC, Prestwi	81.33%			18.67%			
BWS46	Workstations NERL exc Ocean & Prestwick Upper	81.33%			18.67%			
BWS47	Workstations Swanwick TC, Prestwick, D&D, Northolt	81.33%			18.67%			

Source: NERL query against BPC allocated data and driver percentages for 2020/21 from the Summary Driver table 2018/19



The following table shows MoD's share of depreciation (pre-normalisation) for RP3 from the FMARS contract renegotiation pricing model.

Table B.7: MoD's share of depreciation costs for RP3 based on the FMARS contract renewal pricing model (pre depreciation normalisation) £K (inflated values using assumption for CPI inflation)

Driver	Driver description	20/21	21/22	22/23	23/24	24/25
B0A52	AGA channel legs NER	-434	-463	-486	-510	-516
B0A91	Direct MoD only	-1,668	-1,774	-1,996	-2,208	-2,568
BFM01	Facilities - NATS Wi	-9	-18	-26	-36	-46
BIN23	Turnover - Eurocontr	-48	-37	-25	-19	-11
BIN29	Turnover - NATS Wide	-28	-11	-9	-5	0
BIN36	AC Swanwick, AC Pres	-1	-1	-1	-1	-1
BIS02	Information Solution	-272	-357	-387	-436	-492
BWS20	Workstations NERL WI	-1,260	-1,287	-1,299	-1,034	-901
BWS22	Workstations NERL WI	-8,047	-8,848	-10,558	-13,175	-13,764
BWS30	Workstations SWANWIC	-2,726	-2,774	-2,797	-2,403	-2,260
BWS33	Workstations SWANWIC	-773	-511	-561	-336	-300
BWS36	Workstations SWANWIC	-197	-197	-262	-319	-342
BWS43	AC Swanwick, AC Pres	-242	-334	-334	-368	-369
BWS45	Swanwick AC, Prestwi	-45	-45	-45	-46	-46
BWS46	Workstations NERL exc Ocean & Prestwick Upper	-2	0	0	0	0
BWS47	Workstations Swanwick TC, Prestwick, D&D, Northolt	-4	-4	-4	0	0
	Total	-15,760	-16,662	-18,791	-20,899	-21,617

Source: FMARS contract renewal pricing model



B.4. ADDITIONS TO CAPEX BY PROJECT DEFINITION CODE 2013 TO 2017

The following table shows the larger additions to capex over the period 2013 to 2017 by project definition code:

Table B.8: Additions to capex by project definition code for the years 2013 to 2017 £M (Outturn prices)

Project def'n code	Asset description	2013	2014	2015	2016	2017	Total
L4165	LAMP (London Airspace Mgt Prog)	3.82	5.38	5.49	0.31		15.00
L4258	DaVinci Enhancement	5.51	6.46	5.06	0.48	0.00	17.51
L4300	CLSD: Datalink	4.66	0.32				4.98
L4332	NERC Build N35	8.83					8.83
L4333	CLSD: NERC Build N37	5.09	1.06				6.15
L4531	Interim Multi Sector Planner	2.81	0.04				2.85
L4718	L4718 Military VCCS	1.95	0.01				1.96
L4734	PC Upper Airspace Defintion	21.45	35.05	32.53	10.61	0.02	99.67
L4741	iTEC v1	6.95	0.10				7.06
L4876	COAST @ PC	1.89	5.12	0.03			7.04
L4947	Insight – Business Intelligence	2.98	0.89	0.14	0.00		4.01
L5027	Time Based Separation	1.25	7.26	1.40	0.01	0.00	9.92
L5094	N38 System Ethernet & MSRS change	1.89	7.70				9.60
L5118	Mil on Foursight		1.37	4.05	0.87	0.21	6.51
L5139	Voice Comms Platform		0.06	1.69	13.16	10.78	25.68
L5142	Swanwick Temporary AC Ops Room		2.03	8.34			10.36
L5143	Swanwick Combined Strategic Operation				0.72	5.55	6.27
L5147	Strategic HMI		2.56	4.49	0.06		7.11
L5148	FourSight Proof of Concept		0.39	3.72	0.13		4.25
L5170	ExCDS			1.91	8.78	9.34	20.04
L5171	Service Operations Management					6.11	6.11
L5189	Platform Design Integrate & Verify RP2				11.41	14.97	26.38
L5203	Tactical Tools for En-route Airspace			0.30	8.95	4.05	13.30
L5214	Strategic iTEC Build 1.5.1			4.06	6.42	4.48	14.96
L5217	iTEC Build for AC			0.15	6.00	9.07	15.22
L5231	Deployment Programme			1.41	6.10	0.87	8.38
L5239	DP Enroute Deployment Project					5.85	5.85
L5325	Core Infrastructure & Hubs Service Group				14.40	19.80	34.20
L5360	ITEC & Controller Tools for DP EnRoute					9.93	9.93
	Capex shown above	69.10	75.81	74.77	88.42	101.01	409.10
	Total Capex in CY	124.44	140.34	139.11	150.93	181.96	736.78
	% Coverage	56%	54%	54%	59%	56%	56%

Source: NERL



B.5. ALLOCATION OF NERL INTER-COMPANY COSTS

The following table shows the 2018/19 NERL ICA cost total for allocation, analysed by driver and the percentages by service line for those drivers.

Table B.9: Drivers used to allocate 2018/19 NERL ICA charges from NSL

Driver	Driver description	Value allocated £k	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
B0040	North Sea Helicopter	£6,101.7					100.00%		
B0045	Other External Cappe	£813.6							100.00%
B0100	Eurocontrol 100%	£6,167.5	100.00%						
B0A91	Direct MoD only	£16.1				100.00%			
B0A95	NERL Services to NSL	£300.1		100.00%					
BAM01	AM Single Driver	£166.3	73.80%		6.69%	13.59%	0.10%	5.83%	
BIN29	Turnover - NATS Wide	£37.5	65.31%	24.09%	1.48%	5.15%		3.33%	0.64%
BWS20	Workstations NERL WI	£3,650.8	77.49%		5.61%	13.88%		3.02%	
BWS21	Workstations NERL WI	£97.1	89.98%		6.51%			3.51%	
BWS22	Workstations NERL WI	£0.0	79.90%		5.78%	14.32%			
	Total allocated	£17,350.7							

Source: NERL query against BPC allocated data and Summary Driver table 2018/19

The above allocations have been checked in total to actual allocations by service line for 2018/19 and all agreed with the following exceptions:

Table B.10: Drivers allocation differences – 2018/19 actual/forecast vs Summary Driver file (table shows only those regulatory service lines where differences in percentage allocation exists)

Driver	Source	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
BAM01	As calculated	73.49%		7.00%				
BAM01	As Summary Driver	73.80%		6.69%				
BIN29	As calculated	64.67%	24.89%	1.46%	5.07%		3.28%	0.63%



Driver	Source	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
BIN29	As Summary Driver	65.31%	24.09%	1.48%	5.15%		3.33%	0.64%
BWS20	As calculated	77.17%		5.93%				
BWS20	As Summary Driver	77.49%		5.61%				
BWS21	As calculated	89.61%		6.88%				
BWS21	As Summary Driver	89.98%		6.51%				
BWS22	As calculated	79.57%		6.11%				
BWS22	As Summary Driver	79.9%		5.78%				

Source: CEPA calculation compared to Summary Driver table 2018/19

We queried these differences with NERL and they have supplied an updated version of the driver percentages, Driver Summary - BP18 It2 v5 FINAL, which was used at the time the allocation reports were provided to us (18 October 2018). We had used the allocation percentages provided early in the review, NERL SUMMARY FY1819- Aug18.xlsx which has subsequently been updated. We have checked the allocations to the updated driver table and confirm that all are now agreed.

The following table shows the 2018/19 NATS limited MSA charges for allocation, analysed by driver and the percentages by service line for those drivers.

Table B.11: Drivers used to allocate 2018/19 NATS Limited charges to NERL

Driver	Driver description	Value allocated £k	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
BIN24	Turnover - NERL Tota	£8,486.1	86.56%		1.63%	6.26%	1.07%	3.79%	0.70%
BIN26	Turnover - NERL Civi	£1,648.2	91.05%		2.06%	0.00%	1.34%	4.65%	0.90%
	Total allocated	£10,134.3							

Source: NERL query against BPC allocated data and Summary Driver table 2018

We have checked the allocation of these costs and the following differences were noted:

Table B.12: Drivers allocation differences – 2018/19 actual/forecast vs Summary Driver file (table shows only those regulatory service lines where differences in percentage allocation exists)

Driver	Source	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
BIN24	As calculated	85.03%			6.66%		4.32%	0.82%



BIN24	As Summary Driver	84.96%			6.70%		4.34%	0.84%
BIN26	As calculated	91.12%		2.05%			4.62%	0.88%
BIN26	As Summary Driver	91.05%		2.06%			4.65%	0.90%

Source: CEPA calculation compared to Summary Driver table 2018/19

The differences have again been queried with NERL and all have been explained by the same updated driver table that we received in connection with the differences in table 5.13 above. The calculation has therefore been agreed.



B.6. CAPEX VALUES BY SERVICE LINE DRIVER

The following table shows the drivers associated with capex for UKATS and Oceanic and in total for the financial year 2018/19.

Table B.13: Financial year 2018/19 capex total and for UKATS and Oceanic with associated driver used for service line allocation £K (2018 CPI prices)

Driver	Driver description	Total capex	UKATS capex	Oceanic capex
B0030	London Approach 100%	767.9	767.9	
B0045	Other External Cappe	662.8	662.8	
B0100	Eurocontrol 100%	8,479.1	8,479.1	
B0A52	AGA channel legs NER	12,373.3	12,164.2	209.1
B0A91	Direct MoD only	3,470.0	3,470.0	
BIS02	Information Solution	6,339.6	6,114.5	225.1
BOC01	Oceanic 100%	4,334.4		4,334.4
BWS20	Workstations NERL WI	4,978.4	4,828.0	150.3
BWS21	Workstations NERL WI	158.1	152.5	5.5
BWS22	Workstations NERL WI	114,666.8	114,666.8	
BWS30	Workstations SWANWIC	3,953.2	3,953.2	
BWS31	Workstations SWANWIC	3,400.7	3,400.7	
BWS33	Workstations SWANWIC	811.5	811.5	
BWS35	Workstations SWANWIC	3,968.7	3,968.7	
BWS36	Workstations SWANWIC	2,150.7	2,150.7	
BWS43	AC Swanwick, AC Pres	1,680.3	1,680.3	
BWS45	Swanwick AC, Prestwi	1,921.5	1,921.5	
BWST001	Workstations NERL WI	8,141.3	8,141.3	
	Total	182,258.2	177,333.8	4,924.4

Source: NERL query against SAP BPC allocated data

The following table shows the drivers associated with accounting depreciation for UKATS and Oceanic and in total for the financial year 2018/19.

Table B.14: Financial year 2018/19 depreciation total and for UKATS and Oceanic with associated driver used for service line allocation £K (2018 CPI prices)

Driver	Driver description	Total capex	UKATS capex	Oceanic capex
B0030	London Approach 100%	2,111.8	2,111.8	
B0040	North Sea Helicopter	804.2	804.2	
B0045	Other External Cappe	637.0	637.0	
B0100	Eurocontrol 100%	28,427.8	28,427.8	
B0A52	AGA channel legs NER	1,705.2	1,676.3	28.8
B0A91	Direct MoD only	1,478.9	1,478.9	
B0A95	NERL Services to NSL	105.6	105.6	
BFM01	Facilities - NATS Wi	46.9	45.7	1.2
BIN23	Turnover - Eurocontr	1,135.4	1,085.4	50.1
BIN29	Turnover - NATS Wide	572.9	554.1	18.8
BIN36	AC Swanwick, AC Pres	11.5	11.0	0.5
BIS02	Information Solution	8,035.8	7,750.5	285.3
BOC01	Oceanic 100%	2,886.2		2,886.2
BWS20	Workstations NERL WI	8,369.5	8,116.7	252.8
BWS21	Workstations NERL WI	1,261.4	1,217.1	44.3
BWS22	Workstations NERL WI	30,260.0	30,260.0	
BWS30	Workstations SWANWIC	9,094.3	9,094.3	
BWS31	Workstations SWANWIC	963.2	963.2	
BWS33	Workstations SWANWIC	22,309.4	22,309.4	



BWS35	Workstations SWANWIC	3,196.9	3,196.9	
BWS36	Workstations SWANWIC	3,774.8	3,774.8	
BWS40	Workstations PRESTWI	4,754.3	4,214.2	540.1
BWS46	NERL exc Ocean & Pre	262.6	262.6	
BWS47	Wks LA TC, PK, D&D	134.4	125.2	9.2
BWST001	Workstations NERL WI	4,876.2	4,876.2	
	Total	137,215.9	133,098.7	4,117.1

Source: NERL query against SAP BPC allocated data



B.7. SERVICE LINE DRIVER PERCENTAGES FOR CAPEX

The following table shows the 2018 service line allocation percentages for the drivers used to allocate capex.

Table B.15: Service line allocation drivers used to allocate capex for 2018/19

Driver	Driver description	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
B0030	London Approach 100%			100.00%				
B0045	Other External Cappe							100.00%
B0100	Eurocontrol 100%	100.00%						
B0A52	AGA channel legs NER	58.56%		5.29%	32.98%	1.48%	1.69%	
B0A91	Direct MoD only				100.00%			
BFM01	Facilities - NATS Wi	65.95%	14.90%	4.76%	11.81%		2.58%	
BIS02	Information Solution	69.90%	18.75%	1.58%	5.51%		3.57%	0.69%
BOC01	Oceanic 100%						100.00%	
BWS20	Workstations NERL WI	77.49%		5.61%	13.88%		3.02%	
BWS21	Workstations NERL WI	89.98%		6.51%			3.51%	
BWS22	Workstations NERL WI	79.90%		5.78%	14.32%			
BWS30	Workstations SWANWIC	72.50%		7.91%	19.59%			
BWS31	Workstations SWANWIC	90.16%		9.84%	0.00%			
BWS33	Workstations SWANWIC	76.36%			23.64%			
BWS35	Workstations SWANWIC	64.33%		35.67%				
BWS36	Workstations SWANWIC	61.12%		33.72%	5.16%			
BWS40	Workstations PRESTWI	88.64%					11.36%	
BWS43	AC Swanwick, AC Pres	85.31%			14.69%			
BWS45	Swanwick AC, Prestwi	82.02%			17.98%			
BWST001	Workstations NERL WI	93.25%		6.75%				

Source: Driver percentages for 2018/19 from the Summary Driver table 2018/19

The following table shows the 2018 service line allocation percentages for the drivers used to allocate depreciation.



Table B.16: Service line allocation drivers used to allocate depreciation for 2018/19

Driver	Driver description	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
B0030	London Approach 100%			100.00%				
B0040	North Sea Helicopter					100.00%		
B0045	Other External Cappe							100.00%
B0100	Eurocontrol 100%	100.00%						
B0A52	AGA channel legs NER	58.56%		5.29%	32.98%	1.48%	1.69%	
B0A91	Direct MoD only				100.00%			
B0A95	NERL Services to NSL		100.00%					
BFM01	Facilities - NATS Wi	65.95%	14.90%	4.76%	11.81%		2.58%	
BIN23	Turnover - Eurocontr	86.77%		1.97%	6.84%		4.43%	
BIN29	Turnover - NATS Wide	65.31%	24.09%	1.48%	5.15%		3.33%	0.64%
BIN36	AC Swanwick, AC Pres	83.84%	3.37%	1.90%	6.61%		4.28%	
BIS02	Information Solution	69.90%	18.75%	1.58%	5.51%		3.57%	0.69%
BOC01	Oceanic 100%						100.00%	
BWS20	Workstations NERL WI	77.49%		5.61%	13.88%		3.02%	
BWS21	Workstations NERL WI	89.98%		6.51%	0.00%		3.51%	
BWS22	Workstations NERL WI	79.90%		5.78%	14.32%			
BWS30	Workstations SWANWIC	72.50%		7.91%	19.59%			
BWS31	Workstations SWANWIC	90.16%		9.84%	0.00%			
BWS33	Workstations SWANWIC	76.36%			23.64%			
BWS35	Workstations SWANWIC	64.33%		35.67%				
BWS36	Workstations SWANWIC	60.10%		33.33%	6.57%			
BWS40	Workstations PRESTWI	60.10%		33.33%	6.57%			
BWS46	NERL exc Ocean & Pre	77.01%		6.61%	16.37%			
BWS47	Wks LA TC, PK, D&D	76.23%		12.69%	4.24%		6.84%	
BWST001	Workstations NERL WI	93.25%		6.75%				

Source: Driver percentages for 2018/19 from the Summary Driver table 2018/19



B.8. CAPEX ALLOCATION TESTING

The following shows the results of testing by project definition code:

Project definition code L5139 – capex

Table B.17: RP3 planed capex additions £K (2017 CPI prices)

	<-----Additions----->				
Asset description	2020/21	2021/22	2022/23	2023/24	2024/25
Voice Comms Platform	97.6	171.5			

Source: Selected from list of planned capex in the MoD pricing model

The allocation of the capex additions been checked using the Summary Driver allocation table for driver B0A52 as follows:

Table B.18: Service line driver percentages for B0A52 AGA channel legs NERL wide

Year	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
2020/21	58.56%	0.00%	5.29%	32.98%	1.48%	1.69%	
2021/22	58.56%	0.00%	5.29%	32.98%	1.48%	1.69%	
2022/23	58.56%	0.00%	5.29%	32.98%	1.48%	1.69%	
2023/24	58.56%	0.00%	5.29%	32.98%	1.48%	1.69%	
2024/25	58.56%	0.00%	5.29%	32.98%	1.48%	1.69%	

Source: NERL's Summary Driver table

Project definition code L5189 – capex

Table B.19: RP3 planed capex additions £K (2017 CPI prices)

	<-----Additions----->				
Asset description	2020/21	2021/22	2022/23	2023/24	2024/25
Platform Design Integrate & Verify RP2	80.7	171.5			

Source: Selected from list of planned capex in the MoD pricing model

The allocation of the capex additions been checked using the Summary Driver allocation table for driver BWS22 as follows:

Table B.20: Service line driver percentages for BWS22 Workstations NERL Wide – non-Oceanic

Year	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
2020/21	81.83%		5.51%	12.66%			
2021/22	81.38%		5.65%	12.97%			
2022/23	81.37%		5.66%	12.97%			
2023/24	79.55%		7.03%	13.42%			
2024/25	79.59%		6.97%	13.44%			

Source: NERL's Summary Driver table

Project definition code L5360 – capex

Table B.21: RP3 planed capex additions £K (2017 CPI prices)

	<-----Additions----->				
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Asset description	20/21	2021/22	2022/23	2023/24	2024/25
ITEC & Controller Tools for DP EnRoute	6.2				

Source: Selected from list of planned capex in the MoD pricing model

The allocation of the capex additions been checked using the Summary Driver allocation table for driver BWS22 as follows:

Table B.22: Service line driver percentages for BWS22 Workstations NERL Wide – non-Oceanic

Year	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
2020/21	81.83%		5.51%	12.66%			
2021/22	81.38%		5.65%	12.97%			
2022/23	81.37%		5.66%	12.97%			
2023/24	79.55%		7.03%	13.42%			
2024/25	79.59%		6.97%	13.44%			

Source: NERL's Summary Driver table

Project definition code L5139 – depreciation charges

Table B.23: RP3 plan asset cost to be depreciated and the annual depreciation charge £K (2017 CPI prices)

		<-----Depreciation charge----->				
Asset description	Value being depreciated	20/21	2021/22	2022/23	2023/24	2024/25
CNS RADOMES (Allanshill)	110.3	9.2	9.2	9.2	9.2	9.2
Common Resourcing for SESAR	98.2			5.5	8.2	8.2
TEN-T FDP IOP	27.1	0.9	2.3	2.3	2.3	2.3

Source: Selected from list of planned capex in the MoD pricing model

The annual depreciation charge has been agreed and the allocation between UKATS and Oceanic has been checked using the Summary Driver allocation table for driver BWS20 as follows:

Table B.24: Service line driver percentages for BWS20 Workstations NERL Wide – all Service Lines

Year	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
2020/21	79.30%		5.34%	12.27%		3.09%	
2021/22	78.75%		5.47%	12.55%		3.23%	
2022/23	78.78%		5.48%	12.55%		3.19%	
2023/24	77.32%		6.83%	13.04%		2.81%	
2024/25	77.36%		6.78%	13.06%		2.80%	

Source: NERL's Summary Driver table

Project definition code L5325 – depreciation charges

Table B.25: RP3 plan asset cost to be depreciated and the annual depreciation charge £K (2017 CPI prices)

		<-----Depreciation charge----->				
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Asset description	Value being depreciated	20/21	2021/22	2022/23	2023/24	2024/25
AIRAC 17/18	110.3	9.2	9.2	9.2	9.2	9.2

Source: Selected from list of planned capex in the MoD pricing model

The annual depreciation charge has been agreed and the allocation between UKATS and Oceanic has been checked using the Summary Driver allocation table for driver BWS22 as follows:

Table B.26: Service line driver percentages for BWS22 Workstations NERL Wide – non-Oceanic

Year	Eurocontrol	NERL Services to NSL	London Approach	MoD Contract SL	North Sea Helis	Oceanic Services	Other External
2020/21	81.83%		5.51%	12.66%			
2021/22	81.38%		5.65%	12.97%			
2022/23	81.37%		5.66%	12.97%			
2023/24	79.55%		7.03%	13.42%			
2024/25	79.59%		6.97%	13.44%			

Source: NERL's Summary Driver table



APPENDIX C ACCOUNTING RECONCILIATIONS – REGULATORY 2016 AND STATUTORY 2016/17 ACCOUNTS

Reconciliation of NERL Regulatory Accounts to Statutory Accounts					
£ million					
Period: CY2016	CY 2016 Regulatory Accounts	CY 2016 Statutory Basis	Variance	FY 16/17 Statutory Accounts	Explained By
Revenue:					
UKATS	700.5	700.5	0.0		
Oceanic	29.6	29.6	0.0		
	<u>730.1</u>	<u>730.1</u>	<u>0.0</u>	<u>736.1</u>	
Customer funded projects	0	2.5	(2.5)	2.8	Revenue relating to customer funded capital projects is excluded from the regulatory accounts. The cost of these projects is accounting depreciation which is also excluded from the regulatory performance statement.
Other	0	0.8	(0.8)	0.7	Release of Eurocontrol discount is excluded from the regulatory accounts, as is the interest associated with this.
Reclassification				(2.4)	Year end stat adjustment - reclassification from revenue to operating income.
Total revenue	730.1	733.3	(3.3)	737.1	
Costs:					
UKATS operating	(356.7)	(356.7)	0.0		
Oceanic operating	(15.3)	(15.3)	0.0		
Operating costs before items covered below	<u>(372.0)</u>	<u>(372.0)</u>	<u>0.0</u>	<u>(369.1)</u>	
Reclassification				2.4	Year end stat adjustment - reclassification from revenue to operating income.
R&D tax credits	0.0	1.9	(1.9)	1.6	Regulatory performance is assessed before taxation. For statutory purposes R&D tax credits are reported "above the line". Ignored for Regulatory performance statement - Regulatory Asset Base is based on cash proceeds and reported through the RAB statement.
(Profit)/Loss on sale	0.0	0.1	(0.1)	0.1	
Depreciation	(192.7)	(142.8)	(49.9)	(147.0)	Regulatory performance is after regulatory depreciation, rather than accounting depreciation as reported in the statutory accounts.
Goodwill	0.0	(92.7)	92.7	(11.0)	Goodwill is posted in March each year. The CY 2016 figure relates to 2015/16. Goodwill is excluded from Reg Accounts.
Defined Benefit pension costs	(77.3)	(71.3)	(5.9)	(64.8)	Regulatory performance is assessed on the basis of the CAA's assumed cash contributions to the defined benefit pension scheme.
Net operating costs	(642.0)	(676.8)	34.9	(587.8)	
Regulatory profit compared with operating profit	88.1	56.5	31.6	149.3	
UKATS	82.0				
Oceanic	6.1				
Total:	<u>88.1</u>				



APPENDIX D ACCOUNTING RECONCILIATIONS – MANAGEMENT AND STATUTORY ACCOUNTS 2017/18

NERL P&L Reconciliation between Management and Statutory Accounts

2017/18	NERL	Comment
Profit before tax	134,226,387.9	
ABTL-Other operating income-excluded from management accounts	(1,239,947.0)	R&D ABTL regime nets tax credits against R&D expenditure. Management accounts reflect gross amounts to retain consistency with prior periods
ABTL-depreciation-excluded from management accounts	(511,921.1)	amount related to capital
Profit before tax per Executive meeting	132,474,519.83	
Profit before tax per Board meeting	132,474,519.83	Pre-Tax
Profit after tax	112,579,236.34	BS-ALL
ABTL-Other operating income/depreciation-excluded from management a	(1,751,868.07)	
ABTL -tax-excluded from management accounts	6,180,103.90	
PAT-per Executive meeting	117,007,472.17	
Profit after tax-per Board meeting	117,007,472.17	Post Tax
Reverse above	1,751,868.07	
Reverse above	(6,180,103.90)	
Late tax journal	19-Apr	
Late tax journal	23-Apr	1,160,908.00
Late tax journal	23-Apr	(899,544.00)
Late tax journal	23-Apr	1,554,858.00
Late tax journal	24-Apr	
Per Statutory accounts	114,395,458.34	
Per Statutory accounts	Linked	114.4
Per final trial balance	114,395,458.34	
ABTL = Above the Line Tax credits	-	





APPENDIX E **INTER-COMPANY TRADING POLICY**

E.1. INTER-COMPANY TRADING POLICY

NATS Limited's provision of staff to NERL and NSL under the MSA and secondment agreements falls outside the inter-company trading policy. They are handled as a direct recharge and the cost of staff provided to NERL and NSL is accounted for on the basis of the substance of the arrangement, i.e. as if they were NERL and NSL employees.

NATS Limited's charges to its subsidiaries for management services, and NERL's charges for management services fall outside the scope of the inter-company trading policy.

The following principles and policies should be applied to all other inter-company trading:

- Trading terms should be agreed between the companies before the transaction is carried out and recorded on an inter-company agreement which is signed by both parties;
- The terms, including the specification and price) should be at arm's length and on normal commercial terms;
- If one company is selling to an external party requiring the use of resources or assets of another group company then the selling company should agree terms with the supplying company before making any bid to the external party;
- Prices should be agreed between group companies before the goods or services are provided;
- Prices should be market-based wherever possible:
 - Prices established by open tender or comparison with published list prices;
 - Supplying company should review the cost of providing the service and compare it with the market price to assess whether and on what terms it is willing to provide the service;
 - However, it is recognised that the specialised nature of the services provided and, for the foreseeable future, this will be feasible in only a limited number of cases.
- Where no market price exists, the price should be agreed between the parties based on cost plus an appropriate margin. Prices charged must cover costs including appropriate overheads and earn a return that reflects risk. Cost is based on direct activity costs plus overheads including corporate recharges. The following is guidance on margin:
 - Margins should provide a return on capital and reflect risk;
 - The standard margin (defined as the percentage of sales price) will be 10% except in exceptional cases requiring advice from finance and approval at director level.
- No margin is added where services are traded at a negotiated or market price which is not based directly on cost;
- Services bought in from third parties should be charged at cost plus a handling fee and without any further margin; and
- If the agreement is a fixed price then the supplier carries the risks and rewards of cost over- or under-runs. In some cases it is appropriate for the customer to bear some or all of the risks (where the customer bears the risk of volume changes).



E.1.1.

MSAs and ASAs

Shared corporate functions operate a review process as part of annual business planning. The reviews involve a series of meetings to reach agreement on planned total functional costs and their apportionment for MSA purposes. The senior representatives at these meetings are an executive member or business manager of the corporate area (for corporate area reviews), financial director or head of business planning (for NERL reviews) and commercial director or head of commercial finance (for NSL reviews).

Corporate areas present their proposed business plans which detail objectives, goals, costings and a proposed apportionment of the costs. NERL and NSL challenge elements of the plan both from a NATS perspective and for their specific business requirements.

The apportionment basis differs for each corporate area driven by what NERL believes is the most appropriate method. Corporate areas are broken down into sub function and activity level and the apportionment basis is derived at this level. This typically results in a corporate area having multiple bases of apportionment. The apportionment calculations are performed in spreadsheets which are used as the basis for transaction processing.

E.1.2. **ICAs**

NERL has provided us with a process policy (dated December 2007) and process description/ map for ICAs (dated July 2018). These outline the bidding process and the steps undertaken by the Delivery Manager (separately for supplier and customer), the ICA Co-ordinator (supplier only) and the process authorisers (supplier and customer).

The Supply Delivery Manager is responsible for the creation of the ICA supported by a specialist capable of completing the pricing model for the ICA. The ICA is created with the knowledge, and agreement of the Customer Delivery Manager and reviewed by a finance representative before being sent to the ICA Co-ordinator. For NERL ICAs, approval is also required from Commercial to ensure that the ICA aligns with company strategy.

Upon receipt, the ICA Co-ordinator allocates a specific ICA number, registers the ICA as part of the inter-company Master Schedule and checks that the ICA complies with the NATS Commercial Process. The ICA Co-ordinator facilitates the further review and sign-off via electronic signature of the ICA. The ICA becomes a binding commitment between two NATS companies once approved by authorised representatives of both the supplier and customer companies. Once signed off, copies are sent to the Supply and Customer Delivery Managers.

NATS has an inter-company pricing matrix to be applied to all inter-company trading. The matrix is reviewed and revised annually and once approved will apply for the whole of the coming year. The rates in the matrix are reflected in the NATS pricing model which is similarly reviewed and revised annually.

A range of approval levels apply for ICAs. All NERL ICAs require the approval of the relevant Customer and Supply Delivery Managers having been approved by the appropriate Finance and Commercial representatives. NSL ICAs under £150,000 are similarly approved with those over £150,000 requiring Finance and Commercial representative sign off as for all NERL ICAs.

The ICA process may also be applied to quotations as part of bids for external work. The Customer Delivery Manager is responsible for ensuring that the ICA Co-ordinators are kept up to date with progress of any commercial bid that is dependent on an ICA quote. The ICA Co-ordinator will ensure that the Supply Delivery Manager is aware of the probability and timescale and when the resources and/or services are required (the Activation Notice). If there is a change in scope of work or a re-negotiation that impacts the ICA elements of the bid, the ICA will need to be re-issued and re-authorised. A quotation becomes binding once signed by authorised representatives of both parties and once an Activation Notice has been issued to the ICA Co-ordinator.



Queens House
55-56 Lincoln's Inn
Fields
London WC2A 3LJ
United Kingdom



CEPA Ltd



@CepaLtd