UK Civil Aviation Authority

Economic regulation of NATS (En Route) plc: Initial Proposals for the next price control review ("NR23")

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Civil Aviation Authority
Aviation House
Beehive Ring Road
Crawley
West Sussex
RH6 0YR

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

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Introduction

1. NATS (En Route) plc, known as NERL, is the monopoly provider of en route and certain approach air traffic services (ATS) in the UK. NERL is subject to economic regulation by the CAA under the Transport Act 2000 (TA00). NERL holds an ATS licence (the NERL licence) issued by the Secretary of State (SoS) under the TA00.

2. The TA00 gives the CAA a 'primary' duty to exercise its functions so as to maintain a high standard of safety in the provision of ATS and includes a number of 'secondary' duties. Setting price controls and service quality incentives for NERL is one of the CAA's core functions under the TA00. The TA00 also places duties on NERL, including to provide a safe system for ATS.

3. The UK is also party to the Eurocontrol Multilateral Agreement relating to Route Charges[1] and has agreed to adopt the Eurocontrol common policy in respect of charging for en route services, which is set out in the Eurocontrol Principles for establishing the cost base for en route charges and the calculation of the unit rates (the Eurocontrol Principles).[2] This international agreement has been notified to the CAA and so, in accordance with our secondary duty, we will continue to take account of the determined costs methodology set out in the Eurocontrol Principles.

4. This document sets out for consultation our Initial Proposals for the UK en route, London Approach and Oceanic price controls that will apply for the five calendar years from 1 January 2023 to 31 December 2027 (the 'NR23' period). These follow the Reference Period 3 (RP3) price controls, which were set following the review and determination by the Competition and Markets Authority (CMA), and which apply from 1 January 2020 up to 31 December 2022 (the CMA determination).

5. NERL's price controls, which reflect the maximum prices that NERL can recover from its airline customers, are formed from allowances for efficient costs (referred to as 'Determined Costs') and forecasts for traffic volumes (measured as service units) and revenues. The price controls are underpinned by the regulatory asset base (RAB), which allows the recovery of revenue, for example to finance new and efficient investments, enabling the costs of that investment to be spread out over multiple price control periods. The price control arrangements for NERL also include:

[1] https://www.eurocontrol.int/publication/multilateral-agreement-relating-route-charges

[2] Eurocontrol Principles for establishing the cost base for en route charges and the calculation of the unit rates, January 2020

- mechanisms to incentivise NERL's performance in respect of its quality of service and the environmental impact of air traffic; and
- risk sharing mechanisms to help ensure that it can obtain financing on reasonable terms and that in the longer-term prices to its customers are no higher than is necessary.

6. These Initial Proposals also include cost allowances for the Met Office, the CAA and the Department for Transport (DfT) for certain activities associated with airspace management and oversight. Taken together, the main elements of these Initial Proposals constitute a draft performance plan for the UK under the Eurocontrol Principles.

7. Following consultation on these Initial Proposals, we intend to give effect to our price control decisions through modifications to the NERL licence. As part of this document, we are consulting on draft licence modifications that would implement these proposals. This consultation does not, however, constitute the statutory consultation under section 11A(1) of the TA00.

8. This Executive Summary has four main parts:

- this introduction;
- an overview of our overall approach to the NR23 price review;
- a summary of the main components of our Initial Proposals; and
- the next steps in our process, including how to respond to this consultation.

9. Chapter 1 contains further detail on the background, context and approach to the NR23 price review.

Overall approach to the NR23 price review

Incentivising safe and reliable services

10. NERL is responsible for providing a safe and reliable service. NERL, like other ATS providers, must meet the requirements of an extensive safety regulatory framework.[3] Monitoring and oversight of this is done primarily outside the price control review process. When operational challenges arise, NERL will typically reduce the available capacity of the air traffic system (which in turn tends to increase delays to flights and passengers) to ensure safe operations and meet its safety obligations. NERL has confirmed that its NR23 business plan contained the resources required to manage

[3] This comprises requirements under UK regulations (the Air Navigation Order 2016) and former EU regulations, now transposed into UK law following EU exit.

safety appropriately. It also included a number of safety performance metrics to measure progress against these objectives in NR23.[4]

11. For NR23, as for past reviews, our overriding priority, in line with our primary duty under the TA00, is making sure that we set price controls that allow NERL to continue to provide a high standard of safety in the provision of ATS in UK airspace. These Initial Proposals include projections of the efficient levels of NERL's costs, which we consider are appropriate for NERL to deliver its plans, taking account of its safety obligations. If NERL considers these Initial Proposals are not sufficient to deliver an appropriate level of service to its customers, taking full account of its safety obligations, it will need to respond (and provide evidence) accordingly.

12. Consumer research by NERL shows that while safety is the main priority for consumers, the delivery of environmental improvements, particularly more efficient flight paths to reduce CO_2 emissions, and reductions in long, disruptive delay are also important priorities for consumers. Bearing this in mind, there are advantages in incentivising NERL to provide a resilient, efficient and high-quality level of services. We have proposed service quality targets and incentives that provide reputational and financial incentives on NERL to improve its performance on delay and the environment.

13. NERL will need to respond flexibly to changes and remain accountable for continuing to deliver its service to a high standard and for an efficient price, in order to justify the revenue it receives as the monopoly service provider. NERL's customers place a high value on a safe and reliable service, and we will continue to monitor and enforce NERL's licence obligations on this basis.

14. If, in due course, NERL accepts our final performance plan decision and the associated licence modifications that give effect to this, it should only do so on the basis that it is retaining responsibility and accountability for providing an appropriately high quality of service to customers and consumers. NERL's focus in delivering outcomes and outputs should always be in the context of maintaining and/or improving safety.

Dealing with change and supporting innovation

15. We expect to see a number of developments and changes across the air traffic control (ATC) sector in the coming years. In this context it will be important to modernise UK airspace and reasonably accommodate the changing use of airspace with the emergence of new users, including for drones and space launches. While some of

[4] In its NR23 business plan, NERL also said that: *"to remain in line with the UK State Safety Programme acceptable level of safety performance, and to continue to provide a safe service, [its] overarching objective is to maintain or improve safety levels by ensuring that the number of serious or risk bearing incidents per flight does not increase, and if possible decreases"*.

these changes may have a greater effect on the sector after the NR23 period, we need to start to prepare for these changes now.

16. These Initial Proposals are intended to support this wider change across the sector, by providing funding to allow NERL to continue with its work on airspace modernisation and by taking account of the emerging needs of new users of airspace. NERL will need to find innovative ways of dealing with these challenges and in due course reflect the changing environment in its charging arrangements in a way that does not unduly hinder or stifle innovation.

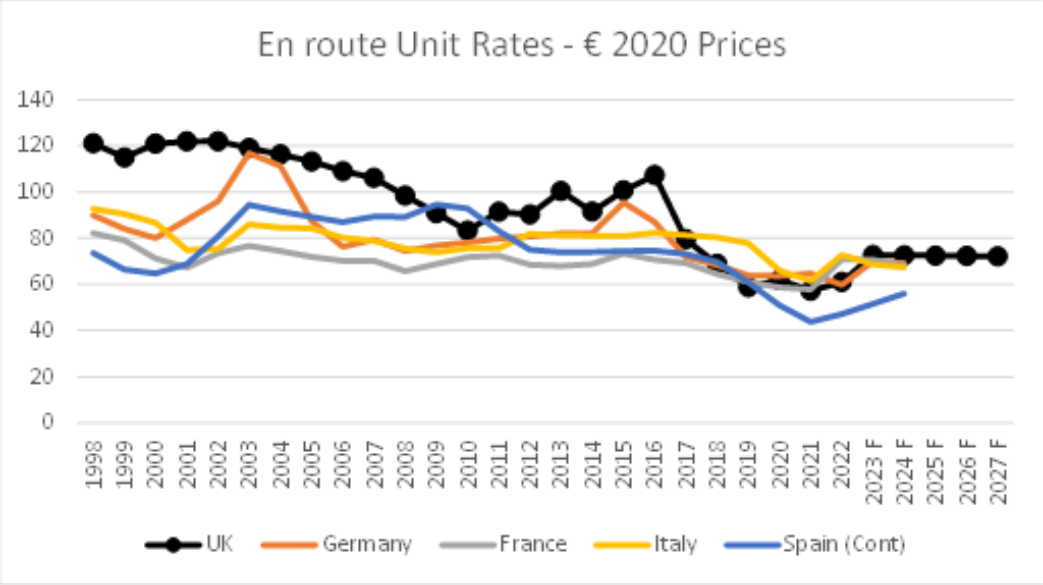
17. We will hold NERL fully accountable for playing a leading role in the delivery of airspace change and providing high quality services consistent with its licence obligations and TA00 duties.

The recovery from the impact of covid-19 and the importance of affordability

18. During 2020, following the unprecedented impact of the covid-19 pandemic, UK air traffic fell to around 40% of 2019 levels. The current RP3 price control period was shortened to end in 2022 due to the impact of the covid-19 pandemic. However, we are entering the NR23 period with continuing high levels of uncertainty about the recovery in traffic levels. Although the underlying levels of NERL's Determined Costs are projected to be relatively stable over NR23, the traffic forecasts for the early years of NR23 are below pre-pandemic levels. In addition, NERL had traffic risk sharing (TRS) arrangements in place prior to covid-19 and we are planning to allow NERL to recover revenues from the pandemic period. This recovery of revenue and relatively low levels of traffic put upward pressure on charges for NERL's customers and consumers, particularly in the first few years of NR23. While the price controls should support NERL in continuing to make essential investments in providing services, we are also seeking to ensure that charges are no higher than necessary.

19. We have considered how best to profile the recovery of TRS revenues from the period of the pandemic in RP3 (TRS revenues). To inform this decision we have considered a range of factors, including comparisons with the unit rates with other European air navigation service providers (ANSPs) and historical levels. The UK's unit rates have been, in recent years, similar to those of countries with comparable ANSPs as shown in Figure 1 below.

Figure 1: Comparison of en route unit rates – NR23 Initial Proposals



Source: CAA analysis of Eurocontrol unit rate dashboard, June 2022 CRCO tables and CAA Initial Proposals (flat).

20. Consistent with the recommendations made by the CMA determination, we have also adjusted TRS revenues on the basis of a backwards-looking reconciliation review where we have looked back to take account of NERL's efficient costs in RP3 (2020 to 2022). This takes into account the significant cost savings NERL made during the covid-19 pandemic and seeks to balance affordability for customers and consumers with NERL's financeability. To further reduce the impact on the unit rate in NR23, we propose to spread the recovery of TRS revenues over a ten-year period. Taking these issues together we expect that charges should remain broadly consistent with the levels experienced historically and with other large European ANSPs.

21. The last few years are unlikely to be representative of NERL's performance, as the traffic downturn due to covid-19 impacts meant that delays fell significantly across Europe. However, we have observed that NERL delays experienced by airspace users have historically been lower than those of European comparators for unit rates and unit costs that are broadly similar (see appendix F for further details).

22. Nonetheless, we have sought to further the interests of customers and consumers by focusing on setting price controls that provide value for money. We do this by providing incentives to NERL to improve:

- its cost efficiency, including by making sure that NERL's unit rates are reasonable and no higher than necessary; and
- its quality of service, including by setting more challenging targets in relation to reducing delays and achieving better environmental efficiency of airspace.

23. Consistent with our statutory duties under the TA00, we have taken other actions to further the interests of current and future customers and consumers and to prevent

wider consumer harm, to promote economy and efficiency, and to secure that NERL will not find it unduly difficult to finance its licensed activities. These include:

- proposing appropriate allowances that reflect our best estimate of efficient operating expenditure (opex) and capital expenditure (capex) in NR23, and also challenging the historical opex and capex incurred by NERL as part of our reconciliation review.[5] We are also retaining and strengthening the capex engagement incentive. Together, these should provide strong incentives on NERL to engage effectively with stakeholders on investment plans and deliver at efficient costs;
- setting efficient levels of financing and tax costs. The efficient level of these costs reflects the strong protections that NERL has for TRS and pension costs, while it also provides for NERL to finance new investment and its activities in the provision of ATS, to the benefit of current and future customers and consumers. This approach is also consistent with the discharge of our secondary duty to secure that it is not unduly difficult for NERL to finance its activities; and
- considering levers to reduce the increase in NERL's charges at the start of NR23. We have done this through profiling the recovery of TRS revenues, which includes delay of recovery of revenue into the next regulatory period, and profiling of NERL's revenue within NR23 to smooth prices.

24. This consultation on these Initial Proposals is an important opportunity for stakeholders to comment on and provide further evidence on whether these Initial Proposals:

- provide appropriately challenging efficiency targets for NERL;
- are based on a reasonable approach to assessing the affordability of NERL's charges; and
- include a reasonable recovery period for TRS revenues.

Dealing with uncertainty

25. As we have been developing our Initial Proposals for NR23, we have been aware of the difficulties and uncertainty arising from the impact of the covid-19 pandemic across the aviation sector. While we are seeing traffic recover quickly in 2022, the speed of this recovery for the medium to long-term remains uncertain. Given this ongoing uncertainty, we consider that stability, credibility and predictability of the regulatory

[5] In setting price controls for the period 2020 to 2022, the CMA did not take account of the impact of the covid-19 pandemic in its determination, but instead set a shorter control period from 2020 to 2022, and said that the CAA should conduct a reconciliation exercise, with reference to actual flight volumes and costs since 2020, as a relevant consideration for setting the NR23 price control. We refer to this as the reconciliation review for 2020 to 2022, which we have carried out as part of the NR23 price review.

framework is important for NR23 to support NERL's continued investment in new systems, the delivery of resilient services and to allow longer-term planning.

26. With this in mind, these Initial Proposals retain the core features of the existing regulatory framework including the RAB, TRS and the broad form of the price control. We also note that a number of new mechanisms were introduced for RP3 and following the CMA determination, such as incentives for capex governance, and we want to allow these mechanisms time, during NR23, to become established in order for them to demonstrate their value to customers and consumers. Nonetheless, we consider that there may be some opportunities for us to revise these mechanisms to take advantage of what we have learned from the early stages of the operation of these arrangements.

27. As we have been developing our Initial Proposals, we have also seen some significant changes in the economic environment and outlook. Since NERL submitted its plan to us in February 2022, we have seen a strong recovery of air traffic during the summer 2022, high energy prices and inflation, significant rises in interest rates, and predictions of recession and very high inflation rates (although the recently announced energy price cap may help mitigate some of these impacts).

28. Our Initial Proposals have been prepared on the basis of information available earlier in 2022 before some of these developments had emerged. This means that we have taken some account of these developments since NERL submitted its business plan, such as rising inflation and interest rates, but not the full extent seen by some recent forecasters,[6] which point to potential for even higher inflation and an uncertain outlook in the short-term. In addition, Eurocontrol STATFOR (the independent network forecasting team of Eurocontrol) has recently published updated traffic forecasts and NERL is currently consulting stakeholders on parts of its DP En Route and legacy escape capex programme.

29. Changes in forecasts for traffic, inflation, interest rates and capex could materially affect the price controls and the resulting balance of affordability and financeability during NR23. We expect to receive and consider more recent information and developments for our final decision on the UK's NR23 performance plan (our final performance plan decision) in 2023, which could lead to some material changes to our proposals prior to the further decision we take to amend NERL's licence to implement the NERL components of the NR23 price control (our decision on NERL's licence). To illustrate the potential impact of these changes, we include two alternative scenarios, for higher inflation rates and lower traffic forecasts than assumed in setting the base case for these Initial Proposals.[7] We are seeking stakeholder views on these matters

[6] For example, we assume CPI inflation in 2022 below the recent range of forecasts summarised in HM Treasury, Forecasts for the UK Economy, August 2022 (7.7 to 12.4 per cent).

[7] We note that the regulatory framework protects NERL from differences between outturn inflation and the forecast of

and, to support our decision making, we have also requested further information from NERL to better understand the impact of these uncertainties on its opex, capex and other parts of its business plan.

Summary of the key elements of our Initial Proposals

30. To develop our Initial Proposals, we have assessed information from a range of sources to identify a set of proposals that will meet our statutory objectives, and where appropriate used our judgement and regulatory discretion. We have weighed up often contradicting views and evidence from NERL and other stakeholders and taken account of future uncertainties.

31. We set out below a summary of our Initial Proposals, which covers the following key aspects of our approach:

- traffic forecasts;
- service quality targets and incentives;
- Determined Costs and the underlying building blocks;
- approach to the recovery of TRS revenues from 2020 to 2022 and the overall revenue and charges;
- our assessment of affordability and financeability;
- regulatory mechanisms to manage uncertainty and support innovation; and
- London Approach and Oceanic price controls.

Traffic forecasts

32. For our Initial Proposals, we have used traffic forecasts from Eurocontrol STATFOR. This has the important benefit of being an independent view on UK traffic forecasts, which was also the source of forecasts used in the CMA determination. The use of STATFOR forecasts has been consistently supported by airlines throughout customer consultation and beyond.

33. At the time of producing our analysis, the most recent full forecast from STATFOR was published in October 2021. While there have been a number of developments since then, we consider that this continues to represent a reasonable forecast for

inflation used to calibrate the regulatory settlement. We are not proposing to change this approach for NR23. However, we want to understand how higher inflation forecasts than those included in NERL's February 2022 Business Plan could affect NERL's forecast cost base for NR23, and consequently its charges, all other things being equal. This is what we have tested as part of the alternative higher inflation scenario. We also expect NERL to explain in more detail as part of its response to these Initial Proposals how its cost base is affected by the higher inflation environment, and submit updated cost forecasts reflecting updated expectations about inflation. This is important in terms of having a robust starting point for the NR23 settlement, in terms of NERL's cost forecasts.

traffic levels based on comparisons with actual traffic in 2022 and other sources of forecasts. The forecasts show UK en route traffic recovering to around 84% of 2019 levels in 2022, and then continuing to recover more slowly, rising above 2019 levels by 2026.

34. STATFOR does not publish a specific forecast for NERL's Oceanic services,. We have reviewed and used a forecast from NERL, which is based on STATFOR assumptions around traffic flows over the North Atlantic. This is discussed further in chapter 9.

35. While STATFOR produced an updated forecast in June 2022, we have concerns over the reliability of the UK forecast and have not used the June 2022 forecast to inform these proposals.

36. We recognise the high degree of uncertainty around this traffic forecast assumption. While there may be some concern with using a forecast from October 2021 in these Initial Proposals, we consider it to still be a reasonable expectation for NR23 as we observe that traffic recovery has been strong in 2022 and STATFOR's October 2021 forecast assumes recovery to 89% of 2019 traffic levels in 2022 in terms of flights and around 84% in terms of service units. We understand NERL's internal analysis points to this being a reasonable estimate and it appears broadly consistent with actual observed recovery to date.

37. As we proceed to our final performance plan decision, we expect to take account of updated forecasts from Eurocontrol STATFOR (published in October 2022) and any other relevant developments and forecasts available at that time.

38. For further details on the traffic forecast assumptions we have used, see chapter 1.

Service quality targets and incentives

39. Consumer research by NERL indicates that while safety is the main priority for consumers, other important priorities are the delivery of environmental improvements, particularly more efficient flight paths to reduce CO2 emissions, and reductions in long, disruptive delays.[8] To incentivise the delivery of high levels of service and the delivery of benefits from its capex investment and increasing opex, we are proposing to set targets that provide strong incentives for NERL to improve its performance. These financial incentives should drive improved levels of performance over NR23 and protect customers and consumers from lower quality of service.

40. We summarise our Initial Proposals below and provide further details on the targets and incentives in chapter 2.

[8] Blue Marble Research, Passenger research for price control reset, December 2021

Environment targets and incentives

41. NERL needs to contribute to UK government targets for net zero and aviation decarbonisation.

42. These Initial Proposals include targets for environmental performance (3Di metric) that we consider should reflect the benefits to customers and consumers from NERL's planned capex and opex. However, we have not seen clear evidence that traffic variations within reasonable bounds will have a direct effect on expected performance, and so we have not accepted NERL's proposals to adjust the target for increases in traffic levels. This results in more ambitious targets than set out in NERL's business plan.

43. We also propose to retain financial incentives on these metrics that are similar to RP3, for example we retain deadbands and maximum bonuses and penalties at +/- 0.5% of Determined Costs. We have not accepted NERL's proposals for modulation of the target or re-opener for events outside NERL's control, as they do not appear to be robustly estimated, and could dilute incentives to maintain and/or recover service levels.

Delay targets and incentives

44. These Initial Proposals include targets for NERL to improve its quality of service over NR23 as traffic increases. For example, we have proposed NERL achieves a 17% improvement in the target for NERL attributable delay (8.95 seconds per flight) compared with NERL's business plan (10.80 seconds per flight) and the targets in Reference Period 2 (RP2 – 2015 to 2019). These targets are more ambitious than NERL's business plan and we consider they better reflect performance that has been achieved historically and the benefits to current and future customers and consumers from NERL's planned capex and opex.

45. We intend to retain financial incentives on these metrics that are similar to RP3. We have not accepted other adjustments that NERL has proposed to modulate the target with traffic, increase exemptions and allow additional re-openers to the price control. These do not appear to be supported by robust analysis and could dilute incentives on NERL to improve services in response to unexpected changes in traffic.

46. In our recommendations following the Palamon investigation,[9] we recognised stakeholder concerns that current practices for coding different causes of delay can lead to inconsistences and difficulties in monitoring ANSPs' performance. In response to this, we have considered options for introducing triggers where bonus payments for delay can only be earned in part or in full if NERL demonstrates good performance for

[9] Project Palamon was a CAA investigation initiated following complaints brought by Ryanair plc and Stansted Airport Ltd regarding the compliance of NERL with its obligations under its ATS licence and the TA00. The complaints related to air traffic flow management delays experienced by airlines and passengers of Stansted and Luton airports. The final report of this investigation is available at www.caa.co.uk/cap2100

the C1 delay metric (where coding of causes of delay is not required). We welcome views from stakeholders on this option, including whether it would provide additional safeguards or could introduce unintended consequences.

Determined Costs and the underlying building blocks

UK en route Determined Costs and Determined Unit Costs

47. The Determined Costs are made up of regulatory building blocks, described below. The Determined Unit Costs (DUC) are Determined Costs per total service unit (TSU).[10] Unless otherwise stated, costs are expressed in 2020 CPI prices.

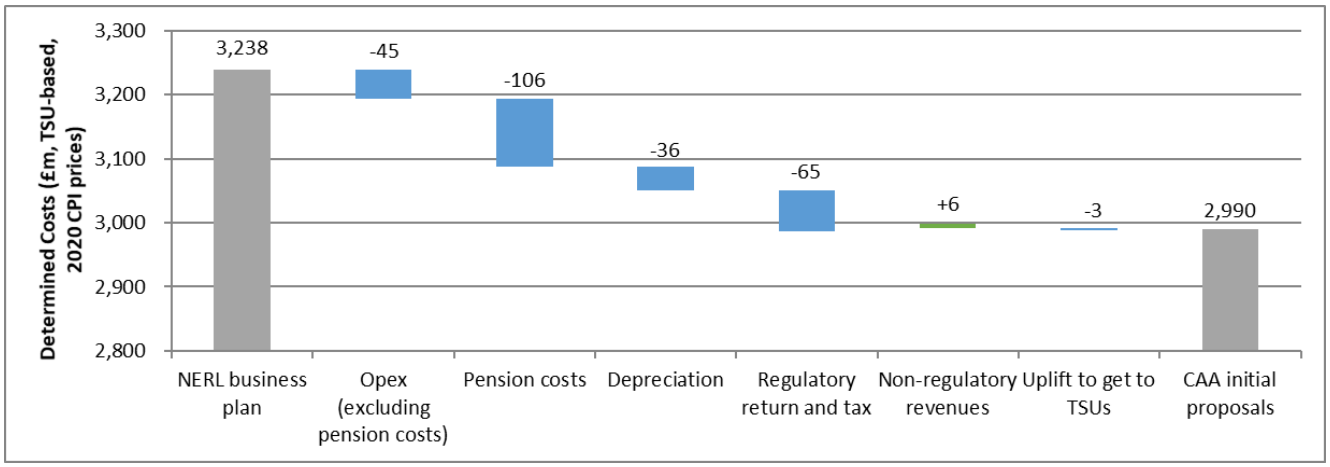
48. The overall impact of our Initial Proposals is to reduce NERL's en route Determined Costs in NR23 from £3,238 million in NERL's business plan to £2,990 million.[11] This results in average DUC of £48 per TSU, compared with £52 per TSU in NERL's business plan, contributing to lower unit charges over the period.

49. The main drivers of the change in Determined Costs compared with NERL's business plan are lower allowances for weighted average cost of capital (WACC) and pension costs, as shown in Figure 2 below.

[10] UK en route service units are the product of the distance factor and the weight factor. From RP3, the distance factor was based on actual route flown (not planned). TSUs include chargeable service units (CSUs) and exempt traffic (for example, from military flights).

[11] This is in Determined Costs in 2020 CPI prices in terms of TSUs, which include CSUs and exempt traffic (for example, from Ministry of Defence). This is consistent throughout this chapter unless otherwise stated.

Figure 2 – CAA Initial Proposals Determined Costs vs NERL's business plan



Source: CAA analysis

50. We add costs from the Met Office, CAA and DfT costs for NR23 to calculate the total UK en route Determined Costs and DUC for NR23 in Tables 1 and 2 below. These show DUC decreasing during NR23 as traffic levels increase and due to reductions in NERL's Determined Costs.

51. Further details on the overall Determined Costs and DUC for NERL are set out in chapter 4. Further details on Determined Costs for the CAA, Met Office and DfT are included in chapter 10.

Table 1 – Initial Proposals for UK en route Determined Costs for NR23

2020 prices £ million	2022 Base	2023	2024	2025	2026	2027	NR23 total
NERL	579	614	634	588	582	572	2,990
MET	30	30	33	33	33	33	162
CAA & DFT	68	67	66	66	67	66	332
UK	677	710	733	687	681	671	3,483

Source: CAA analysis

Table 2 – Initial Proposals for UK en route DUC for NR23

2020 prices £ per TSU	2022 Base	2023	2024	2025	2026	2027	NR23 average
NERL	54.5	52.4	51.9	47.3	46.0	44.5	48.4
MET	2.9	2.6	2.7	2.7	2.6	2.6	2.6
CAA & DFT	6.4	5.7	5.4	5.3	5.3	5.1	5.4
UK	63.7	60.6	60.0	55.3	53.9	52.2	56.4

Source: CAA analysis

52. In the following sub-sections, we set out our Initial Proposals for NERL's UK en route Determined Costs by building block, namely:

- reconciliation review of costs in RP3;
- opex;
- pension costs;
- capex;
- RAB and regulatory depreciation;
- WACC and tax; and
- non-regulatory revenues.

Reconciliation review 2020 to 2022

53. As noted above, NR23 includes a backwards-looking reconciliation review where we have looked back to take account of NERL's efficient costs in RP3. This part of the review provides a reconciliation to account for the large differences from the assumptions made prior to the impact of covid-19, to support the approach to TRS agreed as part of the RP3 price control.

54. The purpose of this review was to assess whether any of the costs NERL incurred during 2020 to 2022 were demonstrably inefficient, in the context of the actions it took in response to the impact of the covid-19 pandemic, taking into account the significant uncertainties NERL faced at the time and without the benefit of hindsight.

55. NERL took a number of actions in response to the impact of the covid-19 pandemic to reduce costs that we consider were appropriate. However, we also consider that there are a small number of aspects of NERL's actual opex and refinancing costs during 2020 to 2022 that appear to indicate inefficiency and should not be recovered from customers and consumers. These include NERL's claim for recovering the costs of its

debt restructuring during the covid-19 period and we propose to allow NERL to recover only a proportion of these costs.

56. We have adopted NERL's proposals for capex, as NERL reduced its programme significantly in 2020 to 2022 and it is too early to assess whether these costs may have been inefficient. We expect to assess these costs in the round with NR23 capex for NR28.

57. Our assessment of efficient costs for the reconciliation period have informed the baseline to be used in calculating the recovery of revenue shortfall through the TRS mechanism, over NR23 and beyond. We have also assessed the other cost adjustments proposed by NERL and updated these to reflect the changes in our Initial Proposals. Taken together, this leads to total efficient costs in respect of 2020 to 2022 to be recovered through the TRS mechanism over NR23 of £681 million (in nominal prices), around £58 million (or 8%) below the amount estimated by NERL.

Operating expenditure

58. NERL has set out a plan to deliver ongoing resilience in the short term as traffic recovers (such as by increasing staff levels), and resilience into the longer-term by investing in new infrastructure and IT systems and reducing reliance on old systems (referred to as 'legacy escape'). It is essential that NERL continues to provide safe and reliable services as traffic levels recover, and we have reflected this in the opex and capex allowances we have set in these Initial Proposals. We set overall allowances for NERL, rather than specify how any efficiencies should be achieved. It is for NERL to manage its business given these cost allowances.

59. We engaged external consultants, Steer & Integra (Steer), to review the opex in NERL's business plan and propose ranges for efficient costs. They identified a number of areas where allowances should be set below NERL's business plan to reflect efficient costs including in relation to staff and non-staff costs.

60. We have considered evidence from NERL, stakeholders and our advisor's analysis. We consider that an opex baseline consistent with the analysis by Steer would be reasonable for NR23. We propose an allowance for opex (excluding pension costs) of £2,033 million, around 2% lower than NERL's business plan.

61. We have considered, but do not include in these proposals, options for further reducing the allowance for NERL's costs. We have proposed cost allowances that reflect reasonable and efficient costs:

- which should allow NERL to operate as efficiently including allowing NERL to have sufficient costs to discharge its licence obligations; and
- to provide flexibility to deliver high quality service and resilience under uncertain traffic forecasts, to the benefit of customers and consumers.

62. We provide further detail on staff and non-staff opex in chapter 4.

Pension costs

63. NERL operates a defined benefit (DB) pension scheme, which is closed to new members, and a defined contribution (DC) pension scheme. We have assessed NERL's projections of the costs of these schemes to make sure they are reasonable and efficient, taking account of the strong regulatory protections in place.

64. We asked our advisors, the Government Actuary's Department (GAD) and Steer to review the DB and DC pension costs respectively in NERL's business plan. This analysis concluded that NERL had not taken full account of regulatory protections in place and that costs were not appropriately aligned with relevant market benchmarks. Taking this evidence into account, we propose pension cost allowances taking account of the ranges from our advisors. These allow a glide path from NERL's actual costs to these lower pension cost allowances based on the date when contributions could be revised following the next pensions valuation, rather than a reduction from the start of NR23. We also have assumed savings from reductions to staff opex.

65. For our proposals, we set an overall allowance of £436 million for pension costs, around 20% lower than NERL's business plan. This comprises £305 million for DB pension costs and £131 million for DC pension costs and pension cash alternative (PCA) costs.

66. Our overall approach has not changed from RP3 and we propose to continue to allow NERL to recover reasonable and efficient pension costs and to retain the pass-through mechanism in relation to unforeseen and significant changes in DB pension costs, in line with our regulatory policy statement.[12]

67. Further details on pension costs are provided in chapter 4.

Capex

68. NERL's plans to upgrade its legacy technology system and for airspace modernisation are important for customers and consumers, as NERL should be able to deliver increased resilience, significant operational efficiencies and productivity improvements during NR23 and beyond.

69. During the height of the covid-19 pandemic NERL significantly reduced capex, but has proposed to quickly ramp this up again in NR23. We have set capex allowances that assume NERL will make these investments during NR23. We have challenged areas of NERL's capex programme, most notably around risk and contingency, but we have ringfenced investment associated with airspace modernisation, given this is a particularly important priority. Based on this, we have set a total capex allowance over NR23 of £521 million, 3% lower than the capex in NERL's business plan (£539 million) for UKATS and Oceanic (in 2020 prices).

[12] CAA, Economic regulation of NATS (En Route) plc: Update on approach to the next price control review, CAP 2119, March 2021

70. Since developing its business plan forecast, we understand that NERL is now reconsidering the timing and scope of some of its large investment programmes such as the DP En Route programme. We have some concerns that this could reduce or delay benefits to customers and consumers. We expect NERL to provide its updated plans in its response to these proposals and to provide evidence on how its revised programme will deliver customer and consumer benefits, operating efficiencies and improvements in service quality.

71. We support NERL's approach to more flexible planning for capex during NR23 and note the capex allowances in these proposals are not a 'cap' on capex. We would expect NERL to deliver additional capex where this is efficient and benefits customers and consumers. Efficient capex will be remunerated through NERL's RAB.

72. Further details on our projections of capex are set out in chapter 4. We summarise our approach to capex incentives below and set out the detail in chapter 7 and appendix G.

Regulatory asset base and regulatory depreciation

73. The stability, credibility and predictability of NERL's regulatory framework is important for NR23 to support continuing investment. To support these objectives we propose to retain the core features of the existing regulatory framework, including the RAB, which reflects the amount of revenue that NERL can recover in future and provides remuneration for efficient investment. Regulatory depreciation then reflects the amount of the RAB that is amortised and reflected in NERL's charges over the NR23 period.

74. We have set a forecast for NERL's RAB that reflects our allowances for capex and regulatory depreciation. NERL's RAB also reflects other adjustments during NR23, including the balances from TRS revenues from 2020 to 2022 (discussed further below). The RAB is inflated each year by retail price index (RPI) inflation and is used to calculate allowed returns based on a real (adjusted by the RPI) WACC. Our forecast for the UKATS RAB in RPI 2020 prices is £1,378 million on average over NR23, slightly above the forecast RAB in NERL's business plan, mainly due to the longer recovery period for the 2020 to 2022 TRS revenues than proposed by NERL.

75. For RP3, we published draft RAB rules with our Final Proposals,[13] which set out the basis for rolling forward the RAB to the end of RP3. We are also publishing updated draft RAB rules for NR23 for consultation – see appendix E. These include changes that would clarify and refine the calculation of the average RAB. We have used this approach in calculating the RAB and regulatory depreciation allowances that support these Initial Proposals.

[13] CAP1830b UK RP3 CAA Decision Document – RAB Rules Working Paper

76. We have calculated depreciation based on the "straight line" method that is broadly consistent with the approach in RP3 and NERL's business plan. We propose depreciation of £614 million over NR23, around 9% lower than in NERL's business plan, which reflects our lower assumptions on capex and removal of depreciation on 2020 to 2022 TRS revenues, which are being recovered separately.

77. Further detail on the RAB and depreciation are in chapter 5.

WACC and corporation tax

78. The allowed WACC represents our estimate of the return required by investors on the debt and equity finance that supports the RAB and new investment in the business. While NERL's RAB is relatively small compared to other regulated companies (such as Heathrow Airport Limited (HAL)), the regulatory allowances for WACC and the returns on the RAB remain important in our calculations of the NR23 price control.

79. To estimate the WACC, we have drawn on analysis from regulatory precedent (including the CAA's H7 Final Proposals and the CMA determination), expert advice on asset beta and our own analysis of debt and equity costs. We propose to set an allowed WACC that we consider is reasonable and efficient, taking into account the strong protections in place for TRS and pension costs.[14] This WACC will incentivise new investment, while being no higher than necessary.

80. We propose a range for the RPI-real vanilla post-tax WACC of 2.04%-3.59%, with a point estimate of 2.81%. This is 73bps below the estimate provided by NERL in its business plan of 3.54%.

81. We have retained a broadly similar approach to estimating tax allowances for NR23 as used in RP3, where we have modelled the tax liabilities based on our assumptions of Determined Costs and revenues. We estimate a tax allowance of £107 million for UKATS and Oceanic, which we estimate to be around 13% below NERL's business plan, mainly due to reductions in Determined Costs and WACC. In a change for NR23, we present the tax allowance as a separate line in Determined Costs, rather than in calculating an equivalent pre-tax WACC.

82. Further detail on the WACC and the corporation tax allowance are set out in chapter 5.

Non-regulatory revenues

83. NERL earns non-regulatory revenues from services it provides to, for example, NATS Services Limited (NSL), the Ministry of Defence (MoD) and North Sea Helicopters.

[14] To illustrate the potential impact of these protections, for example, in our H7 Final Proposals we estimated that the TRS for HAL reduced its asset beta by around 15%, a key component of the cost of equity (see CAA H7 Final Proposals, June 2022, Section 3 Table 9.2).

These revenues, together with revenues from the London Approach service, are removed from the Determined Costs recovered from UK en route charges.

84. We consider the forecasts in NERL's business plan to be broadly reasonable and have made updates to the allocations of Determined Costs for London Approach and the MoD contracts to reflect changes to Determined Costs compared with NERL's business plan. We propose non-regulatory revenues of £428 million, less than 1% lower than in NERL's business plan.

85. We provide further detail on non-regulatory revenues in chapter 6.

Overall revenues

Recovery of traffic risk sharing revenues from 2020 to 2022

86. For RP3 and previous price control periods, NERL and other European ANSPs had in place a TRS mechanism, which provided a high level of revenue protection to ANSPs from unexpected variations in traffic levels.

87. Consistent with providing predictability and credibility in the regulatory framework, we propose to uphold these commitments but to allow NERL to recover no more than its efficient Determined Costs, so that customers and consumers benefit from the cost savings made by NERL during the covid-19 pandemic. This approach to recovering shortfalls due to the impact of covid-19 is broadly in line with the special arrangements put in place for other major European ANSPs and should bring benefits for customers and consumers in the shorter and longer terms, as NERL will retain sufficient protection from these arrangements to protect its financeability and will be able to continue to invest on the basis of a relatively low WACC.

88. As we indicated as a possible approach in our NR23 guidance,[15] to further manage the impact on user charges, we propose to evenly profile the recovery of these revenues over a period of 10 years (or two price control periods) starting in 2023. This is a relatively long period compared to other European ANSPs and the period assumed in NERL's business plan. To provide certainty of the recovery of these revenues, we will continue to assume that the unamortised balance of NERL's TRS revenues are included in its RAB and are financed on the basis of our estimate of NERL's WACC.

89. We estimate this recovery increases NERL's charges by around £6 per TSU in NR23, compared to the increase of £9 per TSU in NERL's business plan.

[15] For example, we set out in CAP 2279 (November 2021) that we would consider recovery of the TRS revenues over one or two price review periods (that is, over 5 or 10 years) depending on concerns around profiling and affordability.

Overall revenue and unit rate

90. After taking into account recovery of TRS shortfall and other revenue adjustments, we forecast that NERL's unit rates over NR23 will be £54 per TSU compared with £61 in NERL's business plan (CPI-real 2020 prices). This represents a 26.7% increase relative to 2022 in real terms.

91. Unprofiled charges are highest in 2023 and 2024 (reflecting the lower levels of forecast traffic) before reducing for the rest of NR23. We do not consider that this uneven profile of charges would appropriately further the interests of customers and consumers as the aviation sector recovers and so we have proposed a flat profile of unit rates in NR23 of £54 per TSU for each year of the NR23 period (in Consumer Price Index (CPI)-real 2020 prices). After taking account of inflation, the unit rate in nominal terms is forecast to increase from £62 to £67 per TSU over NR23.

92. These Initial Proposals will be used to set the level of charges in 2023. After we publish our final performance plan decision in 2023, we plan to provide a true-up adjustment from 2024 to reflect any differences between the 2023 charge in our Initial Proposals and our final performance plan decision.

93. The unit rates after taking account of reprofiling are shown in the table below. Further details on these forecasts are provided in chapter 6.

Table 3 – UK en route forecast unit rates for NR23, after reprofiling

2020 prices (except where stated)	2022 Base	2023	2024	2025	2026	2027
Revenue allowance (£ million)	566	637	665	676	687	699
TSUs ('000)	13,183	11,715	12,228	12,424	12,641	12,850
Unit rate (£ per TSU)	42.93	54.38	54.38	54.38	54.38	54.38
CPI inflation forecast (2020 index)	1.102	1.147	1.164	1.186	1.210	1.234
Unit rate (£ per TSU) – nominal prices	47.32	62.37	63.33	64.52	65.81	67.12

Source: CAA analysis

Assessment of affordability and financeability

94. While the services provided by NERL are a relatively small proportion of the costs of operating a flight, we understand that airline customers and consumers will be sensitive to higher charges as they recover from the impact of the covid-19 pandemic. Our statutory duties require us to seek to set price controls at efficient and affordable levels, while enabling NERL to provide a resilient and high quality level of service. We are seeking to calibrate the price controls to achieve affordability and financeability.

95. The analysis set out in appendix F shows NERL's charges for NR23 below the average levels for the RP2 period and broadly comparable with other European

ANSPs. Our present view is that while the increase in NERL's charges in NR23 will be difficult for its customers (26.7% in real terms), it is essential that the price control arrangements allow NERL to continue to finance new investment and that the steps we have taken to profile the recovery of TRS revenues means that while charges have increased, the average level remains affordable given the benchmarks from the RP2 period and from European comparisons.

96. We have assessed NERL's debt and equity financeability under an efficient (or "notional") financing structure. We consider that NERL should be able to retain an investment grade credit rating over NR23 under these proposals, including under the downside traffic scenarios we have tested. We provide further detail on our financeability assessment in chapter 6.

Alternative scenarios for inflation and traffic forecasts

97. As set out above, these Initial Proposals are prepared on the basis of information available earlier in 2022, so do not take full account of recent developments on economic factors, such as inflation and interest rates, nor potential changes to forecasts in the short-term (such as any new traffic forecast from Eurocontrol STATFOR and inflation forecasts that take into account the energy price cap).

98. The most recent trends and forecasts for higher inflation and rising interest rates create some risks for customers, consumers and NERL during NR23. Under the regulatory framework, with indexation of the RAB and price controls and TRS, the risks of unexpected changes in inflation and traffic are mostly borne by customers and consumers, which supports a relatively low allowed return for investors (which ultimately means lower average prices for consumers).

99. Given the current uncertainty and potential for material impacts on our proposals, we have carried out analysis of two additional scenarios to illustrate the possible impact of higher forecast inflation and lower forecast traffic. The impacts of these two scenarios are summarised below and in chapter 6. These show that lower traffic forecasts would increase the unit rate to closer to the levels in NERL's business plan of around £60 per TSU (in CPI 2020 prices). Higher inflation forecasts would increase the unit rate in nominal prices, for example from £67 per TSU in 2027 in our Initial Proposals to £69 per TSU.

100. The increase in costs and the unit rate will depend, importantly, on the extent to which NERL can control increases in costs due to high inflation and can reduce its costs in response to lower levels of traffic. To support our decision making on our final performance plan decision we have requested further information from NERL to better understand the impact of inflation on its costs, and we have asked Steer to consider

the impact of traffic levels on costs. We will also review the most recent traffic forecasts from Eurocontrol STATFOR.[16]

101. We are seeking stakeholder views on how we should respond to these potential developments for our final performance plan decision.

Regulatory mechanisms to manage uncertainty and support innovation

102. Given the relatively high degree of uncertainty in relation to NR23, we consider it will be in the interests of consumers and customers for NERL to be given a proportionate amount of protection from the risks stemming from this uncertainty so that NERL will continue to have a relatively low WACC, with the benefits of this passed to consumers through lower charges. These Initial Proposals include a range of regulatory mechanisms to manage this uncertainty. We also set our arrangements designed to support innovation from new airspace users in NR23. We summarise these briefly below and provide further detail in chapter 7.

Airspace modernisation

103. A key strategic driver for NERL in NR23 is to continue to support the implementation of the UK's Airspace Modernisation Strategy (AMS), which is intended to deliver a once in a generation upgrade to modernise critical national infrastructure, UK airspace, and deliver a broad range of benefits in all key performance areas and more widely.[17]

104. We are supporting airspace modernisation activities by allowing for the associated costs and investment that NERL has proposed over NR23. We have also maintained the CAA AMS Support Fund, a ring-fenced fund created in RP3 for stakeholders (except CAA and NERL) to support on the implementation of airspace modernisation.

105. In RP3, NERL was required to establish an Airspace Change Organising Group (ACOG) as an impartial unit within NERL, to deliver a UK Airspace Masterplan out to 2040. We propose to maintain these same requirements on NERL and have included estimates of ACOG's costs in NERL's Determined Costs.

Traffic risk sharing

106. These Initial Proposals retain the TRS mechanism for UK en route services that was applied prior to the impact of covid-19. We have proposed a change that means that where there are unexpected traffic reductions over 10%, the recovery of revenues is spread over multiple years. This will provide greater certainty while mitigating the

[16] As explained in the section summarising the overall approach to the NR23 review, we note that the regulatory framework protects NERL from differences between outturn inflation and the forecast of inflation used to calibrate the regulatory settlement. We are not proposing to change this approach for NR23. However, we consider it is important to understand the impact of more recent expectations about higher inflation on NERL's cost base, and therefore the starting point for the calculation of Determined Costs.

[17] About the strategy | Civil Aviation Authority (caa.co.uk)

impact of these traffic variations on user charges in future if actual traffic falls significantly below assumed traffic levels. The TRS parameters otherwise remain unchanged from RP3.

Pension cost pass-through and other cost sharing mechanisms

107. As set out in the regulatory policy statement,[18] we intend to continue to allow pass-through of unexpected changes in DB pension costs due to unforeseen financial market conditions. We do not propose to accept NERL's proposal to include transfer costs from DB pension to PCA in these pensions pass-through arrangements, as we do not consider there is a clear customer or consumer benefit from making this change.

108. We have retained other cost pass-throughs in line with the Eurocontrol Principles, including for unexpected changes in costs associated with changes in government requirements, interest costs and tax costs. We would expect this to include adjustments for potential unexpected changes in corporation tax rates.

Inflation risk mechanisms

109. The current regulatory framework passes risks from unexpected changes in inflation to customers and consumers, through indexation of the price control (to CPI) and RAB (to RPI), as well as an adjustment in the RAB rules to true up for unexpected changes in the RPI-CPI wedge. We observe current high inflation and rising interest rates, leading to uncertainty around inflation forecasts in NR23. These Initial Proposals retain the same mechanisms and risk protections for NERL in NR23, as were applied in RP3.

Reopeners and allowances for asymmetric risk

110. As was the case in RP3, the Eurocontrol Principles allow the price control to be reopened in the case of significant changes in circumstances.[19] We consider that this provision, together with the strong protections provided by other regulatory mechanisms, provides sufficient flexibility and certainty, and we do not propose to include additional specific re-opener mechanisms in NR23. We also do not consider that there is a sufficient case to make adjustments to NERL's price controls for asymmetric risk.

Capex incentives

111. Following the CMA determination, we introduced a financial incentive linked to the quality of NERL's engagement with airlines its customers on its capex plans. We

[18] CAA, Economic regulation of NATS (En Route) plc: Update on approach to the next price control review, CAP 2119, March 2021 – Appendix C

[19] Eurocontrol Principles: 3.2.3 provides for amendments unit rates due to unexpected major changes of traffic or costs; and 3.3.1.4 provides for revision of a performance plan in accordance with applicable law during a reference period,

intend to retain this incentive for NR23, but are considering whether these arrangements can be strengthened.

112. These Initial Proposals include higher baseline expectations to encourage higher quality engagement on the efficient delivery of capex (ultimately reducing pressure on future prices). We also intend to broaden the scope of the delivery incentive, for example to cover more explicitly information on the benefits of investment, to incentivise NERL to make the relevant information available to customers and the CAA.

113. Given uncertainty around capex, NERL has proposed a '2+5' planning approach for capex, where detailed capex planning is only done for the next two years on a rolling basis. This should provide more flexibility to take account of changes in customer and consumer needs and circumstances. While we support more flexible planning in principle, we want to emphasise that NERL should provide high quality information to customers and CAA on its plans as they develop, and the capex allowances in these proposals should not be treated as a 'cap' on capex. Where additional efficient capex is needed above this level, this would be included in the RAB and remunerated in future periods.

114. NERL is currently reconsidering the timing and scope of some of its large investment programmes. We consider this should not lead to unnecessary delays or reductions in benefits to customers and consumers and will address these matters in our final performance plan decision.

New airspace users

115. In NR23, NERL anticipates that there will be new users of UK airspace, such as commercial drones, advanced air mobility, high altitude platforms and space launches. Where NERL incurs incremental costs to manage new users, we consider these costs should, in principle, be borne by these new users. This will require new charging mechanisms to be developed. It is important that these arrangements do not create undue obstacles to innovation.

116. We intend to create an obligation on NERL to work across industry to develop and consult all relevant stakeholders on a new charging mechanism to allow recovery of efficient and appropriate costs by NERL for new user services.

London Approach and Oceanic price controls

117. The two additional price controls for NERL's London Approach and Oceanic services are regulated under the TA00 but are not part of the UK's draft performance plan. Further details of the charges for the London Approach service are set out in chapter 8 and further details of the charges for Oceanic services are set out in chapter 9.

118. For the Oceanic price control, we have allowed the ongoing costs of the space-based ADS-B service. As set out in the RP3 price control, the CAA will review the costs and benefits of this service once traffic has recovered to an appropriate level. We do not

intend to adopt NERL's suggestion of TRS arrangements for the Oceanic service as this would create additional complexity without significant benefits for consumers.

Next steps and views invited

Next steps for setting price controls for NR23

119. These Initial Proposals (excluding the London Approach and Oceanic price controls) constitute the UK's draft performance plan as required under the Eurocontrol Principles. We are consulting on our Initial Proposals for a period of 6 weeks. This includes draft modifications to NERL's Licence to demonstrate the changes that would be required to implement the NERL element of these Initial Proposals, but for the avoidance of doubt, the statutory consultation on proposed modifications required by section 11A(1) of the TA00 will be conducted when we publish our final performance plan decision (see below). We will consider responses received.

120. After considering the responses we receive to these Initial Proposals, the UK performance plan will be adopted through the NR23 decision of the CAA Board made in Spring 2023 and set out in a final performance plan decision document, which will be published on our website.

121. The UK's 2023 unit rate will be set on the basis of this draft performance plan and, as permitted under the Eurocontrol Principles, will be adjusted for any differences resulting from the final performance plan decision through the 2024 unit rate.[20]

122. The TA00, as amended by the Air Traffic Management and Unmanned Aircraft Act 2021, provides that the CAA may modify NERL's licence following appropriate stakeholder consultation.[21] As part of the publication of our final performance plan decision, we intend to issue the statutory notice under section 11A(1) of the TA00 and consult for four weeks on the proposed modifications to NERL's licence which are required to implement the NERL elements of the NR23 price control.

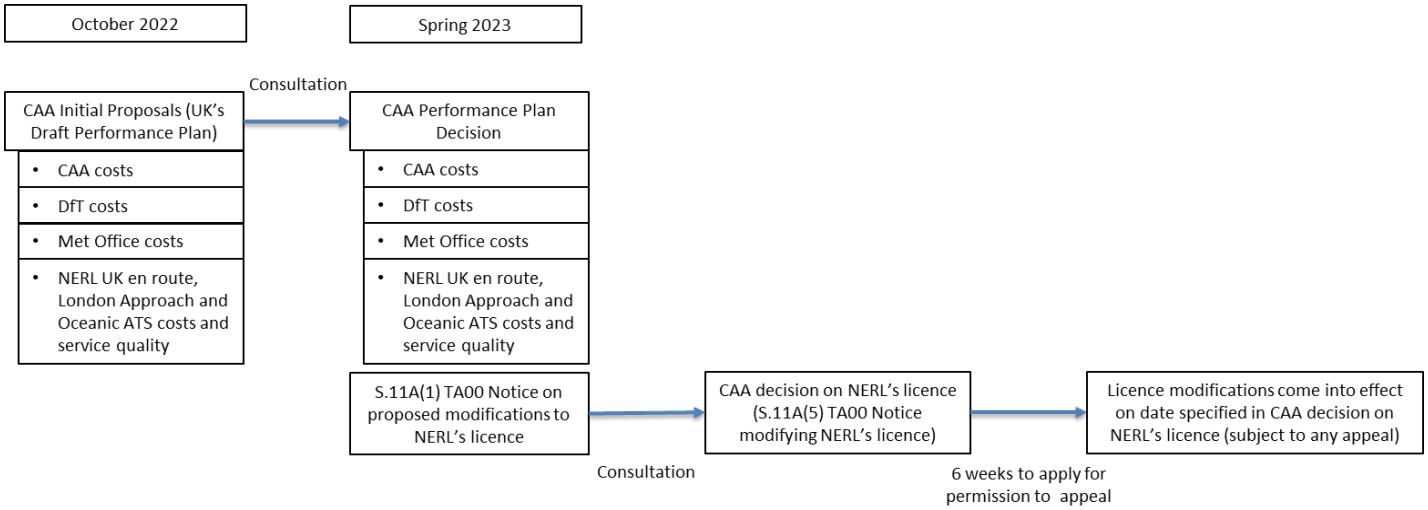
123. Following the statutory consultation and the publication of our decision on NERL's licence, certain stakeholders have six weeks in which to apply to the CMA for permission to appeal the CAA decision on NERL's licence. [22]

Figure 3: Process for setting price controls for NR23

[20] Eurocontrol Principles, 3.3.1.4

[21] The processes and requirements for modifying NERL's licence are set out in sections 11 and 11A TA00. The statutory consultation on our proposed modifications to NERL's licence, required by sub-section 11A(1) TA00, will take place in 2023 once the CAA has considered the representations received in this consultation.

[22] Section 19A TA00 provides that an appeal may be brought by the licence holder, an owner/operator of an aircraft whose interests are materially affected by the decision or an owner/manager of a prescribed aerodromes whose interests are materially affect by the decision. See the Transport Act 2000 (Air Traffic Services Licence Modification Appeals) (Prescribed Aerodromes) Regulations 2022 for the description of the prescribed aerodromes.


October 2022
Spring 2023
Consultation
CAA Initial Proposals (UK's Draft Performance Plan)
CAA costs
DfT costs
Met Office costs
NERL UK en route, London Approach and Oceanic ATS costs and service quality
CAA Performance Plan Decision
CAA costs
DfT costs
Met Office costs
NERL UK en route, London Approach and Oceanic ATS costs and service quality
S.11A(1) TA00 Notice on proposed modifications to NERL's licence
Consultation
CAA decision on NERL's licence (S.11A(5) TA00 Notice modifying NERL's licence)
6 weeks to apply for permission to appeal
Licence modifications come into effect on date specified in CAA decision on NERL's licence (subject to any appeal)

Views invited

124. We are seeking views on all areas of these Initial Proposals including:

- whether we are providing appropriately challenging efficiency targets for NERL;
- have we adopted a reasonable approach to assessing the affordability of NERL's charges;
- is the 10 year recovery period for NERL's TRS revenues from the pandemic appropriate;
- how we should respond to changes in the macroeconomic environment and traffic forecasts, which we have started to explore in the alternative scenarios discussed above and explain further in chapter 6;
- whether the quality of service and environmental targets are sufficiently stretching and whether we should adopt a new trigger for quality of service incentive payments to NERL as discussed in chapter 3;
- NERL's updated timescales and scope for the DP En Route programme in NR23, as discussed in chapter 4, and whether these changes include appropriate protections for the interests of NERL's customers and users; and
- our approach to assessing NERL's WACC and financeability.

125. The discussion of NERL's capex engagement incentive also raises a number of detailed points where we are seeking respondents views, as set out in appendix G.

126. Responses to this consultation should be sent to economicregulation@caa.co.uk by noon on Tuesday 13th December 2022.

127. We expect to publish the submissions we receive on our website as soon as practicable after the consultation period ends. Any material that is regarded as confidential should be clearly marked as such and included in a separate annex. We have powers and duties with respect to the disclosure of information under Schedule 9 of the TA00 and the Freedom of Information Act 2000 and it may be necessary to disclose information consistent with these requirements.

128. Any questions related to this consultation should be sent to Stewart Carter at Stewart.Carter@caa.co.uk.

Chapter 1
Introduction

1.1 This chapter sets out background information for our Initial Proposals.

1.2 It has the following sections

- the context for the NR23 review;
- a summary of the process we have followed;
- the scope of these Initial Proposals;
- a description of the UK regulatory framework;
- ensuring these Initial Proposal are consistent with our primary duty to safety; and
- traffic forecasts.

Context for this review

RP3 and CMA determination

1.3 The price controls for the RP3 period of 2020 to 2022 were determined by the CMA and given force through licence modifications made in December 2020.[23] Given the ongoing uncertainty at the time of making its determination, the CMA did not take account of the impact of the covid-19 pandemic in setting the price control, but instead set a shorter control period (from 2020 to 2022, rather than to 2024 as originally intended for RP3). The CMA also said that the CAA should conduct a reconciliation exercise, with reference to actual flight volumes and costs since 2020, as a relevant consideration for setting the NR23 price control and calculating TRS revenues. We refer to this as the reconciliation review for 2020 to 2022, which we have carried out as part of the NR23 price review.[24]

Recovery from the covid-19 pandemic

1.4 The aviation industry is recovering from the severe effects of the covid-19 pandemic on traffic levels, staffing numbers and other impacts. While we have already seen strong recovery in traffic levels in 2022, there remains ongoing uncertainty around the path of recovery and impact of other issues such as the Russian invasion of Ukraine, the cost of living crisis, risks of an economic recession in the UK, and relatively high levels of inflation and interest rates.

[23] CAP 2011

[24] Details of the reconciliation review are set out in Chapter x.

These factors make it more difficult to forecast traffic levels, a key driver of the price control, in the short and medium-term.

1.5 NERL was protected from the full impact of the pandemic through regulatory mechanisms such as TRS. The recovery of TRS revenues caused by the impact of the pandemic in RP3, over the period of the NR23 price control (and beyond) also creates challenges for this price control review in terms of putting upward pressure on NERL's charges.

Airspace modernisation

1.6 Airspace modernisation is a national strategic objective for the UK and in 2018 we published a UK AMS. In support of the AMS, as part of our RP3 price control conditions we created obligations on NERL to establish and maintain ACOG, which sits within NERL, but operates impartially, and is responsible for the design and delivery of a UK airspace masterplan. We also highlighted the importance of NERL delivering those airspace and technology initiatives for which it is responsible, in line with the AMS.

1.7 At the start of 2022, we consulted on a "refreshed AMS 2022-2040" to replace the AMS 2018, with the intention of extending the strategy to 2040, while maintaining the vision to "deliver quicker, quieter and cleaner journeys and more capacity for the benefit of those who use and are affected by UK airspace". The refreshed AMS 2022-2040 is expected to be published by the end of the year.

1.8 These Initial Proposals maintain the links and obligations between the AMS and NERL's role in its delivery, including running the ACOG function and the delivery of related airspace and technology initiatives.

H7 price review

1.9 In June 2022 we published our Final Proposals for the H7 price review for regulated charges for HAL.[25] Both HAL and NERL operate under regulated price caps set on the basis of a RAB and projections of costs and revenues. Where appropriate, we have taken a consistent approach across the H7 and NR23 reviews, for example, on market wide parameters in the WACC. However, we also recognise that NERL and HAL are significantly different businesses. For example, NERL is much less capital intensive, has a higher proportion of opex and has a significantly lower RAB. In addition, in setting NERL's price control we take into account a traffic forecast for all commercial flights in UK airspace, and NERL's customers also include low-cost carriers and the airlines operating overflights.

[25] https://www.caa.co.uk/commercial-industry/airports/economic-regulation/h7/consultations/final-and-initial-proposals-for-h7-price-control/

1.10 For NERL, where a traffic risk sharing mechanism was in place prior to the covid-19 pandemic, these proposals allow the recovery of this shortfall, broadly consistent with the mechanism and expectations prior to the covid-19 pandemic. For HAL no such mechanism existed during that period.

Process to develop Initial Proposals

1.11 This document sets out for consultation the CAA's proposals for the NR23 period. This includes the service quality targets and incentives on NERL that will form the basis of the UK en route and Oceanic price controls under NERL's licence. These proposals have been prepared by the UK CAA in our role as the regulator of ATS under the TA00.

1.12 The Initial Proposals include:

- this document (CAP 2394); and
- other price controls document (CAP 2394a); and
- appendices documents (CAP 2394b and CAP 2394c); and
- the Eurocontrol cost reporting tables and additional information document (included in CAP2394c appendix H and CAP2394d).

1.13 These were developed through the following steps:

- in December 2020 we published a consultation on the approach to the next price control (the December 2020 document);[26]
- in March 2021 we published an update on our approach to the price control review;[27]
- we published business plan guidance for NERL in June 2021,[28] with an update in August 2021;[29]
- NERL led a programme of customer consultation during October and November 2021. At the end of the programme, the Co-Chairs of the Customer Consultation Working Group (CCWG) submitted a report on their conclusions.[30] In line with our NR23 guidance, NERL also carried out consumer research to ensure consumer views form part of its business plan;

[26] CAP 1994

[27] CAP 2119

[28] CAP 2160

[29] Letter to NERL, Further guidance on the approach to the next price control review, 9 August 2021

[30] NERL NR23 Customer Consultation Working Group – Report of the Co-Chairs, 13 December 2021

- NERL submitted an update on its key price control building blocks to us on 10 December 2021. This provided a draft view of the building blocks, costs and revenues that would form part of its NR23 business plan;
- NERL published its NR23 business plan on 7 February 2022. As agreed during the customer consultation process, we invited stakeholder views on NERL's business plan to help inform how we developed these Initial Proposals.[31] These responses are published on our website; and
- following submission of NERL's business plan, we raised a number of queries to clarify elements of NERL's business plan and welcomed NERL's positive engagement with this process.

1.14 In addition to our own analysis and assessment, as well as views and evidence submitted by stakeholders, in order to inform our proposals we have commissioned a number of consultancy studies to provide independent in-depth analysis and advice on certain issues. These are published alongside our Initial Proposals and include reports on:

- the WACC (by Flint Global);
- cost assessment (by Steer & Integra);
- pensions (by the Government Actuary's Department (GAD));
- tax calculations (by Grant Thornton); and
- capex incentives (by Egis, in the role of the Independent Reviewer);[32]

1.15 As set out below, the NR23 proposals also cover non-NERL costs, including the DfT, the CAA and the Met Office. The Met Office also developed and consulted on its NR23 proposals, which were supported by a stakeholder consultation meeting in November 2021.33

NERL NR23 business plan

1.16 As set out above, on 7 February 2022, NERL published its business plan for NR23. We provide further detail on elements of NERL's business plan in the relevant chapters of these Initial Proposals.

1.17 NERL has stated that its priorities and objectives for NR23 are:[34]

[31] Letter to stakeholders inviting submission of views on NERL's NR23 business plan

[32] In accordance with condition 10 of the NERL licence, we have appointed Egis to act as the Independent Reviewer in respect of NERL's capital programmes.

[33] https://www.metoffice.gov.uk/services/transport/aviation/regulated/nr23

[34] From NERL's Business Plan webpage: https://www.nats.aero/investors/nr23-business-plan/

- a safe and efficient air traffic system;
- supporting industry recovery;
- meeting net zero ambitions;
- advancing airspace modernisation;
- operational resilience; and
- appropriate financial resilience.

1.18 In its NR23 business plan, NERL proposed a 35% increase in its en route charge per service unit from £45 in 2019 to £61 in 2023 and over NR23 (2020 prices). The main driver of the increase proposed by NERL in unit charges is the recovery of 75% of the under recovery of TRS revenues from 2020 to 2022 (around £555 million in nominal prices) over NR23.

Stakeholder views on NERL's business plan

1.19 We invited stakeholder views on NERL's business plan in March 2022 to help inform how we developed our Initial Proposals.[35] This reflected feedback from the customer consultation that airline customers felt there was not sufficient information at that time to offer a view on many aspects of NERL's plan for NR23.

1.20 In summary, key points from stakeholders included:

- technological upgrades and airspace modernisation are key NR23 priorities. The need to support industry recovery and sustainability were also noted as priorities for aviation;
- NERL's proposals for service quality targets and incentives were unambitious. The proposed modulation of targets and incentives was also not supported by some stakeholders. Some stakeholders were concerned around the lack of customer benefits despite significant capital investment;
- NERL's resourcing plans were causing concerns, especially its reliance on overtime and the validity of NERL's claims around Air Traffic Controller (ATCO) training success rates;
- NERL, the UK government or shareholders should bear the revenue shortfall of 2020-2021 through the TRS mechanism, rather than airlines. There were mixed views whether TRS recovery should align with NERL's proposal (75% to be recovered in NR23, 25% to be recovered in NR28) or be spread equally over NR23 and NR28; and

[35] Letter to stakeholders inviting submission of views on NERL's NR23 business plan

- there was some support for profiling prices, such as setting flat charges over the period, but many stakeholders reserved their position on these matters.

1.21 We provide further detail on stakeholder views on NERL's business plan in the relevant chapters in these Initial Proposals.

Scope of our Initial Proposals for consultation

1.22 Our approach to economic regulation includes setting price controls, where we specify the maximum amounts that NERL can charge its customers for its regulated services: the provision of ATS for:

- UK en route,
- London Approach and
- Oceanic en route services.
- These amounts depend on how NERL performs against performance targets. The price controls are given effect through conditions in the NERL licence.[36]

1.23 This consultation covers proposals for all of NERL's regulated activities for the period of 2023 to 2027, known as NR23. It comprises consultation on three price controls: UK en route, London Approach and Oceanic.

UK en route and London Approach

1.24 The UK en route component of the consultation covers:

- NERL's en route ANS in the Scottish and London Flight Information and Upper Information Regions (FIR/UIR); and
- NERL's combined approach for ANS for certain London airports, known as London Approach.[37]

Non-NERL costs

1.25 This en route consultation also covers 'non-NERL' costs for the NR23 period, for inclusion in the UK performance plan under the determined costs methodology as set out under the Eurocontrol Principles.[38] These costs are:

- the costs of the UK's contribution to Eurocontrol as a Member State, referred to as DfT costs;

[36] [Insert link when updated licence published]

[37] See CAP 2394a

[38] Eurocontrol Principles, paragraph 1.3.2

- the costs of the CAA's airspace policy and regulation activities. From 2023, to increase transparency and reduce administrative burden the CAA's costs will also include an amount to recover the costs of our economic regulation of NERL, which was previously charged to NERL under its licence.[39] We consulted on this proposed change as part of our 2022/2023 statutory charges consultation;[40] and
- the costs of aviation services provided by the Met Office.

TANS

1.26 Terminal Air Navigation Services (TANS) are not economically regulated under the TA00 or the Eurocontrol Principles and are subject to market conditions in the UK. As they are not in scope for NR23, we will not be setting cost or performance targets for TANS providers for NR23, consistent with the approach we have taken in previous reference periods. TANS remain subject to safety regulation by the CAA.

Oceanic

1.27 The Oceanic price control covers the ATS NERL provides to aircraft crossing the North Atlantic. This service is regulated under the TA00. The Oceanic and UK en route regulatory periods are aligned and, where appropriate, we have made similar assumptions in setting both price controls.

1.28 Proposals for the Oceanic price control are set out in chapter 9.

UK regulatory framework

1.29 Since 1 January 2021, the UK is no longer subject to the European Union's Single European Sky (SES) performance scheme. Nonetheless, UK ATS continues to be subject to economic regulation under the TA00 and the Eurocontrol Principles.

Transport Act 2000

1.30 The TA00 gives the CAA a primary duty to exercise its functions so as to maintain a high standard of safety in the provision of ATS.

1.31 The secondary duties, which are subsidiary to the primary duty, are that the CAA must exercise its Chapter 1, TA00 functions in a manner it thinks best calculated to:

[39] NERL licence, Condition 18

[40] CAP 2282

- further the interests of operators and owners of aircraft, owners and managers of aerodromes, persons travelling in aircraft and persons with rights in property carried in them;
- promote efficiency and economy on the part of licence holders;
- secure that licence holders will not find it unduly difficult to finance activities authorised by their licences;
- take account of any international obligations of the UK notified to the CAA by the SoS (whatever the time or purpose of the notification); and
- take account of any guidance on environmental objectives given to the CAA by the SoS.

1.32 In line with our primary duty under the TA00, the overriding priority for this review remains a safe and efficient air traffic system and operation in UK airspace, including planning for the growth in air traffic movements that is expected over the NR23 period. We then need to balance our secondary duties including furthering the interests of consumers and not making it unduly difficult for NERL to finance its activities. If, in a particular case, there is a conflict in the application of the secondary duties (for example between cost and quality or between financeability and the interests of consumers), we have applied them in the manner we think is reasonable having regard to these duties as a whole.

Eurocontrol

1.33 The UK continues to be a Member State of Eurocontrol.[41]

1.34 In carrying out the economic regulation of NERL, the CAA has a secondary duty to take account of international obligations notified to the CAA by the SoS. The notified obligations include the Eurocontrol Multilateral Agreement relating to Route Charges.[42] As a signatory to the Multilateral Agreement, the UK has agreed to adopt the Eurocontrol common policy in respect of charging for UK en route services, which is set out in the Eurocontrol Principles.[43] The CAA will continue to take account of the determined costs methodology set out in the Eurocontrol Principles.

1.35 While the DfT represents the UK as the 'Contracting State' under the Eurocontrol Principles, we have agreed with the DfT that we will prepare and adopt the UK's

[41] Eurocontrol is an intragovernmental pan-European, civil-military organisation that supports European aviation in a number of roles and functions. It has 41 Member States, including the UK and other EU and non-EU countries,

[42] https://www.eurocontrol.int/publication/multilateral-agreement-relating-route-charges

[43] Eurocontrol Principles for establishing the cost base for en route charges and the calculation of the unit rates, January 2020

performance plan on behalf of the UK in our role as the regulator of ATS under the TA00.

1.36 Under the Eurocontrol Principles, States following the determined costs methodology are obliged to:

- adopt a performance plan for each reference period;
- consult with stakeholders on the charging policy and planned cost bases (including planned investments and traffic forecasts);
- report to Eurocontrol on planned cost bases; and
- set a unit rate each year.

1.37 The CAA consulted with stakeholders on the timing and duration of the reference period for NR23 to agree that it will run for five years from 2023 to 2027.[44] This is consistent with the requirement under the Eurocontrol Principles to have a reference period of between three and five years.[45]

1.38 The Eurocontrol Principles set broad requirements but the details as to how these requirements are implemented in each Contracting State is subject to applicable law. In the UK this is the TA00. Unlike the SES performance regulation, the Eurocontrol Principles and the TA00 do not define in detail what needs to be included in a performance plan.

1.39 The CAA presented its proposed approach to meeting the UK's continuing Eurocontrol obligations at the 2022 unit rate consultation meeting in July 2021. As discussed with stakeholders, the UK NR23 performance plan will be comprised of:

- the final performance plan decision document and appendices; and
- the Eurocontrol cost reporting tables and additional information document, as submitted to the Central Route Charges Office (CRCO).

1.40 We consider that this will comply with the Eurocontrol Principles for the UK to have a performance plan. The performance plan excludes the Oceanic and London Approach price controls, which are regulated under the TA00.

Ensuring our proposals meet our primary duty to safety

1.41 For NR23, as for past reviews, our overriding priority in line with our primary duty under TA00 is ensuring that we economically regulate NERL in a way that allows it to continue to provide a high standard of safety in the air traffic system and operation of ATS in UK airspace. NERL also has duties under the TA00 to

[44] CAP 1994

[45] Eurocontrol Principles, 1.3.2

ensure that a safe system for the provision of authorised ATS in respect of a licensed area is provided, developed and maintained.

1.42 We are clear that safety must always be protected and that air traffic will be constrained where necessary to ensure this. NERL's delivery of outcomes and outputs should always be in the context of its overriding obligations to maintain safety.

UK Safety Regulatory Framework

1.43 The UK Safety Regulatory Framework requires the CAA as the Competent Authority to regulate and oversee the UK's aviation system.

1.44 NERL, and all other ATS providers in the UK, are subject to an extensive safety regulatory framework comprising requirements under UK regulations and former EU regulations which are now transposed into UK law. This framework is anchored in a safety management approach that covers systems, procedures and personnel.

1.45 Safety oversight by the CAA's Safety and Airspace Regulation Group (SARG) takes place at all levels of NERL, from corporate through to individual procedural changes, ATCO competence assessments and equipment maintenance and modification. This oversight of NERL includes proactive auditing, reactive oversight to incidents or project/programme activity, and independent incident investigation. Where NERL seeks to make changes, for example to key infrastructure or procedures, it must produce the relevant safety arguments and documentation, which is assessed and accepted (or not) by SARG. Through this oversight SARG identifies, and categorises according to safety impact, any non-compliance with regulations and observations on NERL's safety performance.

1.46 While the UK no longer follows the EU performance scheme, SARG continues to monitor specific NERL safety performance indicators as part of its oversight.

Assuring safety in our Initial Proposals

1.47 We consider our proposals for the NR23 price control provide NERL with appropriate allowances to provide a safe and reliable service, consistent with our primary duty. We summarise below why these Initial Proposals are consistent with our primary duty to safety and should allow NERL to continue to operate a safe ATC system, making improvements to its systems and arrangements as appropriate.

1.48 We have engaged with SARG on the development of these proposals through several internal governance mechanisms, to enable SARG to provide views on any potential safety implications resulting from our proposals; for example including consideration of legacy systems, delays to major projects, and resource and recruitment reviews.

1.49 We consider that NERL will be able to provide a safe service during NR23 under our proposals because:

- the operation is currently safe, and appropriate safety governance mechanisms exist to manage changes:
  - as set out above, NERL's safety is monitored, assessed and formally reported as part of SARG's ongoing oversight. Any change that NERL makes to its operation is subject to safety assessment before it is implemented.
- Our proposed efficiency adjustments should not impact negatively on safety:
  - **Costs**. For these proposals, we have assessed the level of costs we consider efficient for NERL to deliver its plans.
  - We have sought to make appropriate efficiency assumptions while also providing strong support for the delivery of airspace modernisation which includes reducing the complexity of the airspace structures and the introduction of new technologies. We have allowed all the capex NERL has requested in its business plan for its role in airspace modernisation and ringfenced ACOG operating costs from our efficiency challenge. We have also proposed increases in our own airspace-related costs to ensure we are equipped to fulfil our own airspace modernisation related duties and functions.
  - This approach should allow NERL appropriate allowances and return on investment to provide a safe and reliable service, consistent with our primary duty.
  - **Service quality**. In determining our approach to capacity and flight efficiency targets, we have taken account of a range of factors such as views put forward by airlines as part of the CCWG process and outcomes, historical performance and stakeholder inputs. We note that NERL must meet the requirements of the safety regulatory framework, and at an operational level this means that where a challenge to the service quality targets presents itself, NERL must take appropriate steps, for example it may reduce capacity (and increase delay) to ensure safe operations and meet its safety obligations.
- We have allowed contingency mechanisms to address uncertainty:
  - we have sought to ensure that we maintain as much flexibility as practicable and appropriate (consistent with our statutory duties) by

designing mechanisms that will help mitigate uncertainty during the reference period; and

- in particular, our proposals include mechanisms to mitigate uncertainty, including a 'logging up' mechanism to support delivery of services for new users (which interface with NERL's regulated services). These will support safety by providing mechanisms for NERL to supply as yet unknown services in order to deliver a safe and reliable service.

1.50 As noted in the Executive Summary above, if NERL considers these Initial Proposals are not sufficient to deliver an appropriate level of service to its customers, taking full account of its safety obligations, it will need to respond (and provide evidence) accordingly.

Traffic assumptions

1.51 The prices that NERL can recover from its airline customers for providing air navigation services are calculated on the basis of allowances for efficient determined costs and forecasts for traffic volumes. NERL's price controls are based on two measures of traffic volumes:

- number of Instrument Flight Rules (IFR) movements, or "flights": this forecast underpins the assumptions on resourcing and service quality; and
- service units, which are based on the corresponding flight forecast and include assumptions on the distance flown and weight of aircraft: this forecast is used for the calculation of unit costs and prices NERL can charge.

1.52 The impact of the covid-19 pandemic resulted in unprecedented downturn in traffic in RP3 with 2020 and 2021 traffic 60% and 61% respectively below the levels forecast.

1.53 NERL's business plan for NR23 is based on traffic forecasts derived from the STATFOR (the independent network forecasting team of Eurocontrol) October 2021 base-case assumptions for UKATS (for UK en route and London Approach) as well as Oceanic. The use of STATFOR forecasts has been consistently supported by airlines throughout customer consultation and beyond, and was used by the CMA in its determination.

1.54 Our Initial Proposals are based on the STATFOR October 2021 base-case traffic forecast and are presented in Table 1.1 below.

1.55 We note that in June 2022 STATFOR released a short-term forecast that only covered the period 2022-2024. We have concerns about the reliability of this interim forecast and so have chosen not to use it as the basis for these Initial Proposals. Instead, for these Initial Proposals we have chosen to rely on the last

medium-term forecast available at the time of carrying out our analysis. On 17 October 2022, STATFOR issued an updated medium-term forecast which we propose to take in to account and consider alongside stakeholder responses to this consultation.

1.56 While there may be some concern with using a forecast from October 2021, we consider it to still be a reasonable expectation for NR23 as:

- we observe that traffic recovery has been strong in 2022. STATFOR's October 2021 forecast assumes recovery to 89% of 2019 traffic levels in 2022 in terms of flights and around 84% in terms of service units (see table below). We understand NERL's internal analysis points to that being a reasonable estimate with certain days in the summer season reaching 90% (or higher) of 2019 levels; and
- total UK flights for 2022 to date (January to August 2022) were 81% of 2019 levels, with traffic in August 2022 running at 87% of 2019, as the recovery has become more embedded over the course of the year.

1.57 The table below illustrates the traffic forecast used for our proposals for NR23. It assumes recovery to 2019 levels by 2025 in terms of flights and 2026 in term of TSUs.

Table 1.1: Traffic forecast

	2019		RP3		NR23				
		2020	2021	2022*	2023	2024	2025	2026	2027
	Actual	Actual	Actual	F'cast	F'cast	F'cast	F'cast	F'cast	F'cast
UK flights (000)	2,580	1,029	1,063	2,294	2,444	2,549	2,584	2,624	2,662
% vs 2019		*40%*	*41%*	*89%*	*95%*	*99%*	*100%*	*102%*	*103%*
TSU (000)	12,594	5,099	5,531	10,624	11,715	12,228	12,424	12,641	12,850
% vs 2019		*40%*	*44%*	*84%*	*93%*	*97%*	*99%*	*100%*	*102%*

* The STATFOR October 2021 forecast for the year 2022 is also used for the purpose of the reconciliation review (see chapter 3). The traffic forecast used in 2022 for the purpose of charging continues to be based on the RP3 determination in accordance with the NERL licence.
Source: STATFOR October 2021

Chapter 2

Service quality

Introduction and context

2.1 As part of the UK en route price control, we set targets and incentives on NERL to improve its performance on reducing the environmental impact of ATS and reducing delays to flights. Ensuring appropriate incentives for NERL to provide high levels of service quality is consistent with our TA00 duty to further the interests of customers and consumers.

2.2 This chapter starts with a brief discussion of the RP3 incentives. It then goes on to discuss our Initial Proposals for the environmental and capacity performance incentives for NR23.

RP3 incentives

2.3 Our decision on exceptional measures in response to the impact of the covid-19 pandemic included the suspension of incentives for 2020 (where the financial impact of the incentives would normally be carried over into 2022 charges on the "n+2" basis).[46] NERL was materially outperforming its service quality targets due to the downturn in traffic driving improvements in performance and it acknowledged that payment of 2020 bonuses should be suspended.

2.4 In our decision we said that we expected to take the same approach to 2021 incentive and, potentially 2022 incentives, if traffic levels were to remain substantially below the baseline.

2.5 Traffic in 2021 was still significantly below the forecasts established prior to the start of RP3, and we propose that 2021 incentives be suspended, with the relevant price condition term set to zero in 2023 charges, consistent with the approach taken to 2020 incentives.

2022 performance

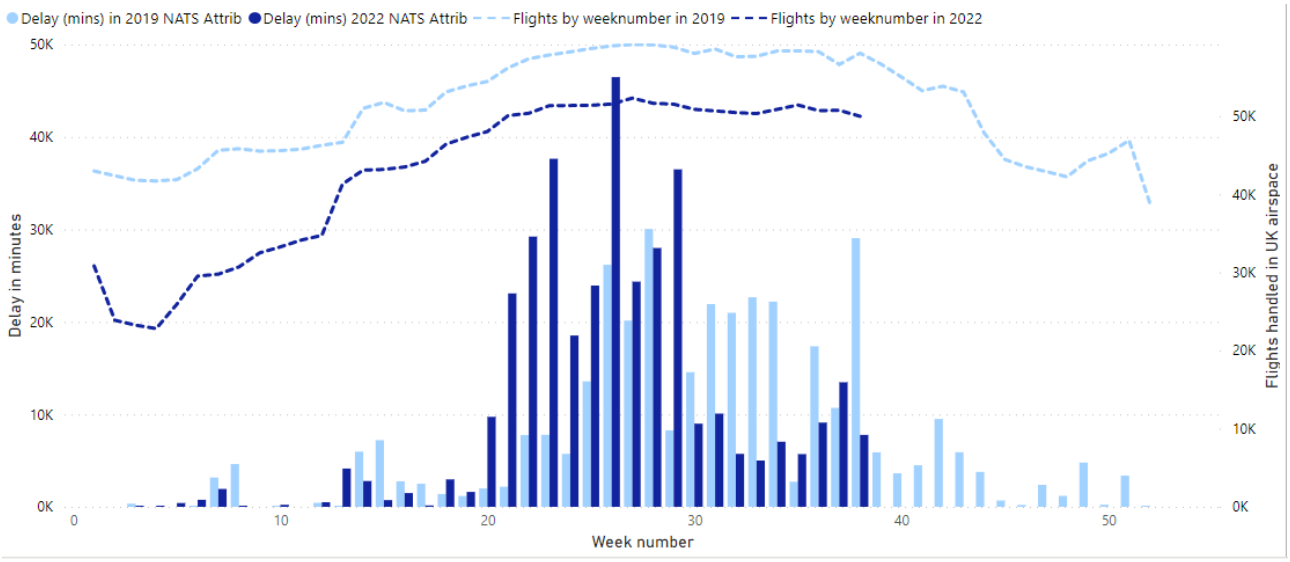
2.6 For 2022, we note that:

- the 3Di incentive has already been suspended in accordance with the RP3 3Di Protocol given that the annual review test was failed in two consecutive years (see more details below); and
- while traffic recovery has been strong in 2022, the forecast for 2022 remains some 19% below the original forecast for the year.

[46] CAP 2279

2.7 During the summer of 2022, NERL experienced increased levels of delay (see below for NERL-attributable delay C2[47] compared to 2019 performance) and its C2 score until June 2022 was 12 seconds/flight compared to the target of 15 seconds/flight. NERL said that the performance during the most recent quarter reflected the increase in traffic and the impact of exceptional volatility within the overall network.

Figure 2.1: NERL-attributable delay (C2) in 2022 (January – August 2022) vs 2019



Source: CAA based on data from Eurocontrol (Network Manager)

2.8 We understand that, based on analysis NERL conducted in August 2022, delay performance as measured by the C3 metric is likely to fall in the penalty territory for 2022 as a whole, and is certain to do so if traffic modulation is retained. NERL has asked us to consider suspending all financial incentives for 2022, given the unusual "peakiness" of traffic that does not align with the pattern of demand within the day used for operational resourcing.

2.9 NERL also noted that the reasons for the observed "peakiness" remains under review with further analysis planned in November 2022 once data for the summer season is available.[48] We will consider this analysis further ahead of our final performance plan decision, but note that it may not be sensible to apply the C3 incentive in its current form for 2022, without some adjustment given the underlying traffic modulation mechanism is designed for more typical variations in traffic.

[47] The various measures of delay are described in the Capacity section below.

[48] NERL letter to CAA dated 19 August 2022

Environment

Introduction

2.10 Consumer research commissioned by NERL indicated that environmental performance was a key priority after safety.[49] Improved environmental performance and flight efficiency were also recognised as a priority for NERL's stakeholders during NERL's customer consultation process. More efficient flights also reduce fuel burn for airlines, so reduce the costs that are passed onto consumers.

2.11 We measure NERL's environmental performance in terms of flight efficiency, which is also a proxy for carbon emissions. In the short-term, flight efficiency can be improved through the decisions that ATCOs make, such as tactically providing more direct routeings. In the long-term, more sustained improvements can be achieved through changes in airspace design and airspace modernisation that will lead to more efficient flight trajectories.

2.12 While air transport has a significant impact on the environment in terms of carbon emissions and noise, the difference that NERL can make to these externalities by changing the way it provides its services is more limited. In its business plan, NERL outlined latest research in the industry, which suggests that air traffic management is capable of making contributions to aviation decarbonisation of up to 6% of the overall aviation emissions reduction target required to achieve net zero.

2.13 Since 2012, NERL's price controls have included a financial incentive on a metric that acts as a proxy measure for aircraft fuel burn and emissions, referred to as 3Di. 3Di stands for 3-Dimensional Inefficiency/Insight and is a metric that calculates the score for the efficiency of a flight based on comparing the actual path flown to an optimal profile. The annual score is a combined score for all flights in UK airspace. Further details of how the 3Di score is calculated are provided in appendix D.

Stakeholder views

NERL business plan

2.14 NERL's business plan was based on maintaining 3Di as the main metric for measuring environmental performance throughout NR23.

2.15 NERL explained that in developing its 3Di targets, it has taken research by the Royal Netherlands Aerospace Centre as a reference point for setting an overall 4.4% reduction target over a 15-year period. NERL explained that this translated

[49] Blue Marble Research, Passenger research for price control reset, December 2021

to a 0.29% reduction in the 3Di score per annum over the 15-year period with proposed NR23 targets representing a compound annual reduction of 0.36% over NR23.

Table 2.1: NERL business plan 3Di targets

3Di score	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
RP2/RP3 targets	29.70	29.30	28.90	28.10	27.70	27.80	27.50	27.30					
Actuals	30.10	30.30	29.60	29.20	29.00	24.80	22.70	n/a					
NERL's NR23 target									28.00	27.90	27.80	27.70	27.60

Source: CAA for RP2/3 targets and actuals, NERL business plan for NERL's NR23 target proposals

2.16 NERL acknowledged concerns raised by airlines during customer consultation around the 3Di metric and its link to tactical airline operations and has committed to working with airlines throughout NR23 to improve the 3Di metric.

2.17 NERL's business plan also included proposals for:

- removing non-revenue flights from 3Di scores;
- traffic modulation of the 3Di annual targets to modulate targets for variations above 100,000 flights versus forecast (with a 0.5 adjustment to the 3Di score for every 100,000 flights); and
- introducing a re-opener mechanism for events that have a significant impact on 3Di performance. Potential factors identified by NERL included: airport-led developments, airline flight planning behaviour, space launches, Unmanned Aircraft System Traffic Management (UTM), military, changes to the designation of airspace.

Stakeholder feedback during NERL customer consultation

2.18 In terms of environmental outcomes and incentives, although stakeholders generally agreed that 3Di remains a better metric for incentive purposes than the EU horizontal flight efficiency metric (KEA), reservations were noted over the use of 3Di and its compatibility with the actual operational environment.

2.19 Stakeholders also said NERL had not provided sufficient information on its proposal to modulate service targets in light of actual traffic.

Stakeholder feedback on NERL's business plan

2.20 British Airways supported the continued incentive mechanism on 3Di but highlighted the need to evolve 3Di to ensure its continued relevance and consistency with optimal flight paths. It welcomed NERL's commitment to work with its stakeholders in NR23 to improve the metric and said that until the review is concluded, the structure and calculation of the metric should not be changed significantly.

2.21 British Airways also considered the proposed re-opener mechanism too broad and, while acknowledging external influences on 3Di performance, considered these should be recalibrated in the round as part of periodic price control review.

2.22 Although agreeing in principle that certain non-revenue flights could have a distorting impact on 3Di, British Airways considered more analysis was needed on individual categories of such flights.

2.23 With regard to actual 3Di targets, British Airways said that it would be more appropriate for these to take proper account of capex projects and airspace modernisation.

2.24 easyJet said that environmental targets could be further improved and highlighted a goal of 10% reduction in CO2 emissions by 2025 targeted by easyJet, UK Sustainable Aviation and the EU framework. easyJet also highlighted the need to review and update the 3Di metric to avoid conflicts with flight planning and tactical flight operations.

2.25 easyJet supported the principle of traffic modulation given the uncertainties surrounding traffic forecasts to ensure NERL is appropriately incentivised to deliver capacity and environmental requirements and prevent windfall gains/losses when traffic deviates from the base forecast.

2.26 Ryanair advocated for the setting of ambitious targets and considered that while significant investment was proposed by NERL, Ryanair did not see an equivalent and meaningful improvement in service quality targets.

Our views and Initial Proposals

Choice of metric

2.27 We have considered recent performance of the 3Di metric to check it remains sufficiently robust to be appropriate to use in NR23.

2.28 The continued appropriateness of the 3Di coefficients for each of its four parameters (horizontal, climb, cruise and descent) is tested on an annual basis. If the difference between the mean 3Di score produced by the base model and the annual review test model is greater than or equal to 8%, the test is considered failed and the financial incentives for that year are suspended. The incentive is suspended for the remainder of the control period if the annual review test has failed two years in a row although the 3Di Protocol further sets out that the CAA and NERL can agree to retain the metric if appropriate.[50]

2.29 The tests for years 2020 and 2021 were found to be outside of the tolerance threshold (established in the 3Di Protocol at ±8% as above).

[50] See Appendix B of CAP 2279: www.caa.co.uk/cap2279.

2.30 For the first half of 2022, analysis of the data submitted by NERL points to the test being passed, as traffic started to recover strongly. There is evidence that higher levels of traffic yield improved results of the annual review test. We consider the instability in the model was probably temporary and caused by the impact of the covid-19 pandemic, with lower traffic volumes leading to less complexity and more efficient routings compared to when the original model was developed. Based on our analysis we expect the above factors to be temporary and for the 3Di metric to re-establish itself as traffic normalises post-pandemic. Bearing this in mind we propose to retain the 3Di metric for NR23.

2.31 We note that NERL's stakeholders raised some concerns about the measure not capturing the realities of their operational environments. We support NERL's commitment to work with its stakeholders during NR23 to improve the metric for NR28.

Treatment of non-revenue flights

2.32 As part of our RP3 decision, we allowed an adjustment to future 3Di targets and actual scores to exclude a proxy 0.6 score points for training, positioning, surveillance, calibration flights and other non-revenue flights (collectively referred to as non-revenue flights). This was based on the historical impact of such flights on the 3Di score (pre-pandemic).

2.33 During the pandemic the share of such flights increased in relation to commercial traffic. NERL's business plan proposed the removal of non-revenue flights entirely from the 3Di model, meaning such flights would be excluded from targeting and actual 3Di scores.

2.34 There is risk of a potential inconsistency from removing non-revenue flights from the source data while still using the original 3Di model coefficients that included non-revenue flights, reducing the reliability of the modelling results.

2.35 We consider the current method of adjusting both targets and actual scores by the same proxy amount can prevent some of these possible inconsistencies and/or distortions. We also expect NERL to consider whether they should conduct a more systematic and wide-ranging review of the original model and coefficients ahead of NR28.

2.36 Bearing the above in mind these Initial Proposals maintain the proxy amount of 0.6 as a deduction from the overall 3Di score as we expect the level and composition of traffic in NR23 to return to broadly pre-pandemic levels.

Targets for 3Di metric and traffic modulation

2.37 As set out above, NERL's business plan proposed using the original 2020 3Di starting point for 2023 uplifted by traffic forecasts based on the estimated

relationship between traffic and 3Di scores.[51] The target then included an annual improvement rate of 0.29% per annum towards NERL's goal of a 4.4% reduction over 15 years.

2.38 We have reviewed the evidence provided by NERL in support of the estimated relationship between traffic and 3Di scores. Regression analysis from NERL shows that there appears to be a strong positive correlation between the number of flights and 3Di scores when using data from before the pandemic (January 2018 to March 2020) and during the pandemic (March 2020 to June 2021).

2.39 However, we have concerns around basing 3Di targets in NR23 on trends seen during the covid-19 pandemic, as traffic is forecast to have recovered significantly by the start of NR23 and to return to 2019 levels during the period. We have performed the same analysis for data before the covid-19 pandemic (from 2015 to March 2020). The results, discussed in appendix D, show that there is only a weak positive correlation between the number of flights and 3Di scores when the covid-19 period is removed.

2.40 Given we are forecasting traffic variations to be within more normal bounds for NR23, we do not think there is sufficient evidence to support introducing adjustments to targets for changes in traffic levels during NR23.

2.41 To further the interests of consumers and customers, for example in terms of the cost and quality of ATS provided, by setting strong incentives on NERL to improve its environmental performance, we want to make sure that the 3Di target for NR23 reflects:

- a start point at the beginning of NR23 that is reasonable; and
- takes into account in full the expected benefits of NERL's capex programme.

2.42 The 3Di reckoner used during NERL's customer consultation process provided some additional insight into the link with the capex programme. In the reckoner NERL used a starting point of 27.59 for its "capex scenario". We consider this would be a more appropriate starting point for NR23 as:

- the starting point should reflect the benefits of capex up to the start of NR23; and
- as noted above, we do not consider it to be appropriate that the starting point is adjusted for higher traffic.

2.43 On reflecting the benefits of capex in the targets, as part of further clarifications NERL explained that its proposed 3Di target was established using a top-down

[51] Customer consultation proposals were based on the STATFOR May 2021 traffic forecast which was lower than the STATFOR October 2021 forecast NERL used in its business plan.

approach of an annual improvement rate, similar to the approach taken by the CAA for RP3 targets (where an annual improvement rate of 1% per annum was applied). The proposed target profile did not explicitly take into account the exact 3Di improvements declared in the capex programme. We note that NERL's business plan included an estimate of 3Di benefits as a result of the capex programme in the range of 2-3.3 score points.

2.44 To reflect the benefits of the capex programme in the capex target we have:

- assumed no change to the 3Di scores during NR23 under a "do nothing" scenario; and
- applied the capex benefits estimated by NERL during the customer consultation process.[52] In doing so we noted that the two major programmes expected to deliver 3Di benefits in NR23 (Airspace and DP en route) do not appear to have changed significantly between customer consultation and the business plan.

2.45 The proposed targets are shown in Table 2.2 below.

Table 2.2: CAA proposals for 3Di targets

3Di score	2023	2024	2025	2026	2027
NERL	28.00	27.90	27.80	27.70	27.60
CAA Initial Proposals	27.59	26.99	26.45	25.91	25.33

Source: NERL BP and CAA

Financial incentive

2.46 In its business plan, NERL proposed to maintain the incentive strength at 0.5% of annual Determined Cost for bonuses and penalties. The strength of this incentive was reduced from 1% in RP2 to 0.5% in RP3. We also note that NERL consulted its stakeholders as part of its customer consultation about potentially increasing the strength of the 3Di bonus for NR23 but did not receive positive feedback on this option.

2.47 We propose to maintain the same incentive rate and approach to the deadband and maximum thresholds ("cap" and "collar") as for RP3. These matters are discussed further in D.

2.48 We consider it would be appropriate to review the 3Di metric and strength of incentives during NR23 to consider whether there are areas where these

[52] This was calculated as the difference between NERL's "do nothing" and "capex" scenarios presented in the 3Di reckoner during customer consultation.

incentives could be strengthened and better targeted, to reflect the high level of priority consumers assign to environmental improvements.

Re-opener for targets

2.49 NERL identified several factors outside of its control that can affect the 3Di score. It proposed a re-opener mechanism if an event affects the 3Di score by half of the width of the deadband around the target. This would be assessed on the basis of six months of data prior to and after an event.

2.50 A re-opener could reduce the risk of potential perverse incentives on NERL, for instance, if in introducing airspace changes there was a significant risk to quality of service metrics during the transition to new arrangements. On the other hand, it is important to retain incentives on NERL to manage these events effectively.

2.51 We considered the most appropriate approach to dealing with one-off events and whether any changes are merited on a case-by-case basis, as was the case in response to the covid-19 pandemic. These Initial Proposals not to include a defined re-opener mechanism for 3Di and we encourage NERL to highlight any such one-off events and their impact on the 3Di score as part of its quarterly performance reporting. It is likely that we would only consider adjustments for very significant events.

Annual review of 3Di metric

2.52 NERL will be required to maintain a consistent method for calculation and the input measurements that affect the value of the 3Di metric throughout NR23. Any changes in method or measurement which NERL wishes to make to the model throughout NR23 for introduction in NR28 should not be incorporated into the regulatory reporting for NR23.

2.53 Where any unavoidable changes to the input measurements occur as a by-product of operational developments (for example, changes to the radar processing data) and these cannot be implemented in a manner that allows for parallel reporting, we expect to be fully informed of such changes prior to implementation.

2.54 The annual review process tests whether the model that was used to set the NR23 targets remains sufficiently representative of NERL's operating environment and is a suitable basis for the incentive. Details of the annual review are discussed in appendix D.

Other environmental metrics

2.55 The RP3 price control arrangements also allow for the monitoring of two additional environmental indicators:

- KEA – this covered horizontal flight (in)efficiency and is a targeted EU-wide metric using Eurocontrol methods for calculating additional distance flown versus the most direct route; and
- Continuous Descent Operations (CDO) – this metric was intended to capture the percentage of flights operating CDO from a threshold of 7,000 feet, consistent with Eurocontrol practices, and 5,000 feet above aerodrome level, consistent with the definition from the UK Arrivals Code of Practice.[53]

2.56 While the KEA metric provides a means of benchmarking with European comparators we do not propose to set or incentivise specific targets for KEA.

2.57 Although CDO was established for monitoring purposes for the original RP3 period (2020 to 2024), we encountered several issues with the actual measurement of it, stemming partially from the different methods of measuring level flight segments. We propose that CDO ratios should continue to be monitored during NR23, but (as with KEA) we do not propose to set or incentivise specific targets.

2.58 As part of its review of 3Di during NR23, we also encourage NERL to consider the other methodologies and definitions applied by Eurocontrol and in the UK Arrivals Code of Practice and to set out and clearly explain whether these are considered suitable for the 3Di metric.

Initial Proposals

2.59 The table below illustrates our Initial Proposals for 3Di targets in NR23. It reflects the removal of the effect of traffic on 3Di scores and the expected benefits of NERL's capex programme.

Table 2.3: CAA proposals for 3Di targets

3Di score	2023	2024	2025	2026	2027
NERL	28.00	27.90	27.80	27.70	27.60
CAA Initial Proposals	27.59	26.99	26.45	25.91	25.33

Source: NERL BP and CAA

2.60 Annual scores will continue to be adjusted by a proxy of -0.6 points to reflect the impact of non-revenue flights and will be subject to annual review as set out in the 3Di Protocol.

[53] Noise from Arriving Aircraft: An Industry Code of Practice. The Arrivals Code of Practice is a voluntary Code of Practice that has been compiled by a group representing airlines, air traffic control, airports, the CAA and DfT (November 2006)

2.61 We propose to maintain the strength of the incentive (bonus and penalty) at 0.5% of the Determined Cost with other parameters of the incentive also kept consistent with our previous determination and set out in appendix D.

Capacity

Introduction

2.62 NERL's capacity performance is measured by delays incurred by aircraft caused by its en route air navigation services. While NERL's stakeholders, and ultimately consumers, prefer experiencing fewer and shorter delays, there is a level of 'efficient delay' beyond which the cost of reducing delays is likely to exceed the value placed on avoiding delay.

2.63 During NR23, NERL is expected to deliver a significant programme of technology upgrades and support to airspace modernisation. Any changes to its operational systems will require very careful planning and mitigations to ensure safety and service continuity.

2.64 Capacity metrics are made up of:

- C1 – a measure of all causes of en route air traffic flow management (ATFM) delay;
- C2 – a measure consistent with C1 which excludes causes of delay deemed to be outside of NERL's direct control. The measure is also referred to as NERL-attributable delay;
- C3 – a NERL-specific metric, also referred to as the Impact Score, which weighs the score by time of day and duration of delay and is aimed at minimising delay in peak periods; and
- C4 – a NERL-specific metric, also referred to as the Daily Excess Delay Score, which is based on weighted delays exceeding pre-determined thresholds on a daily basis.

2.65 C2, C3 and C4 metrics have a financial incentive attached to them to incentivise NERL to provide high levels of service quality.

Stakeholder views

NERL business plan

2.66 NERL said its business plan is based on retaining the current approach as metrics are well understood by stakeholders and will enable continued comparisons with European counterparts. NERL said the calculation methods for each of the metrics remains fit for purpose and is aligned with Eurocontrol methods.

2.67 NERL said that it has set proposed targets using historical delay performance data, predicted delays across NR23 based on the STATFOR October 2021 traffic forecast, anticipated benefits to be delivered from the capex programme and considered the impact of transition and training in delivering the capex programme, as well as customer and CAA feedback on its emerging proposals.

Table 2.4: NERL business plan capacity targets

C1 – seconds delay/flight	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
RP2/RP3 targets	15.00	15.60	15.60	15.60	15.60	15.60	19.20	19.20					
Actuals	4.83	17.76	9.75	16.80	12.32	1.22	0.41	n/a					
NERL's NR23 target									14.70	15.30	15.30	15.30	15.30

C2 – seconds delay/flight	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
RP2/RP3 targets	10.20	10.80	10.80	10.80	10.80	12.00	15.00	15.00					
Actuals	2.44	12.73	6.24	12.44	8.40	1.03	0.33	n/a					
NERL's NR23 target									10.20	10.80	10.80	10.80	10.80

C3 – score	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Actuals	5.37	24.89	12.70	16.95	15.82	2.50	0.72	n/a					
NERL's NR23 target*									20.00	22.00	22.00	22.00	22.00

*C3 targets have in the past been defined using upper (penalty) and lower (bonus) thresholds thereby representing a target range rather than a single target level

C4 – score	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
RP2/RP3 targets	2000	2000	2000	2000	2000	1800	1800	1800					
Actuals	23.05	166.55	0.63	16.14	107.71	35.13	0.00	n/a					
NERL's NR23 target									1800	1800	1800	1800	1800

Source: CAA for RP2/3 targets and actuals, NERL business plan for NERL's NR23 target proposals

2.68 NERL also proposed the following modifications to the capacity metrics.

- An increase in the allowance for exemption days – this is a mechanism that allows pre-determined transition days to be exempt from the calculation of the C3 and C4 delay metrics. NERL proposed to increase this allowance from 100 days in the original five-year RP3 period, to 150 days for NR23. It considered this was justified due to an increased number of complex

transitions planned for the period. NERL also proposed that the allowance be extended to cover the C2 metric.

- Changes to the traffic modulation mechanism – this is currently applied only to the C3 metric. NERL proposed to extend it to C2 and change the method of calculating modulated targets based on its analysis of the relationship between delay and traffic.
- A re-opener mechanism – for recalibration of targets and metric to deal with non-NERL influences on service performance, where their impact on delay targets is half the size of the deadband around the target values.

Stakeholder feedback during NERL customer consultation

2.69 Stakeholders considered it was critical for NERL to be in a position to meet capacity demands as the industry recovers, and thought it was reasonable to base performance outcomes on existing metrics.

2.70 There was no support for modulation of capacity targets if there is a deviation of traffic from the base case, given concerns with the interaction of such mechanism with other elements of the price controls, including the TRS mechanism.

2.71 Stakeholders raised concerns with target levels not being ambitious enough given better pre-pandemic performance in higher traffic. Stakeholders also wanted to see a clearer link between the proposed targets and the investment programme.

Stakeholder feedback on NERL's business plan

2.72 British Airways urged us to scrutinise NERL's capacity targets to ensure they were consistent with evidence provided and that measurements were updated where appropriate.

2.73 It supported the principle of exemption days to account for transition delays, but considered more information was needed on the method of calculating the allowance and suggested there might be an enhanced role for airlines to monitor and approve such exemptions. It also questioned the proposed increase in the allowance, given that airspace modernisation investments and benefits now extended into NR28 so it was not clear how there are now more transitions than in RP3.

2.74 British Airways acknowledged NERL's point on the current modulation mechanism not being designed to deal with the type of traffic volume variations experienced during the pandemic. It asked us to consider the statistical relationships referred to by NERL and ensure that the incentive is calibrated in a way that does not result in perverse outcomes resulting from volume volatility.

2.75 British Airways opposed a pre-defined re-opener mechanism but acknowledged incentives would require recalibration if new traffic forecasts were used to underpin the price controls.

2.76 easyJet acknowledged that NERL had proposed targets that were slightly better than targets set for RP3 but considered they should be more ambitious, given continued lower traffic levels and investments deployed pre-pandemic. easyJet supported the principle of traffic modulation given the uncertainties surrounding traffic forecasts to ensure NERL is appropriately incentivised to deliver capacity and prevent windfall gains/losses caused by traffic variation.

2.77 IATA considered that the proposed level of ambition for C1 and C2 was insufficient given historical performance and the level of forecasted traffic. It did not support the proposed incentives schemes given its concerns about the targets. It also did not support the increase in exemption days for transitions which translated to a month of exempted delay per year. It considered CAA's allocation from RP3 was more sensible but considered this was based on more changes than are expected for NR23.

2.78 IATA did not support the proposed modulation mechanism and considered agreed targets should have a wider tolerance range than the ±4% proposed by NERL. It noted that even if there was exponential relationship between capacity and delay, actions should be taken to avoid any exponential increases in delay.

2.79 Lufthansa considered the targets were not ambitious enough as they represented a disproportionately large amount of overall European delay. It also sought clarity on whether performance targets extended to the Oceanic part of the business. We discuss Oceanic targets in chapter 9.

2.80 Ryanair advocated for the setting of ambitious targets and considered that, while significant investment was proposed by NERL, Ryanair did not see an equivalent and meaningful improvement in service quality targets.

2.81 Virgin Atlantic agreed with the principle of exemption days but considered the proposed increase seemed high given the scale of the capital investment programme.

2.82 Prospect supported NERL's service quality targets and cautioned against tightening them given ongoing uncertainty and the fine balance between traffic, resources, resilience and investment. Prospect supported NERL's proposal for an increased amount of exemption days and removal of the impact of space launches. It agreed that NERL should not be incentivised for its C1 performance (all causes of delay) as it would penalise it for factors outside of its control. Prospect also supported NERL's proposals for traffic modulation for C2 and C3 given uncertainty surrounding traffic forecasts.

Our views and Initial Proposals

Targets

C1

2.83 We consider that NERL should be able to deliver better quality of service than set out in its business plan, given historical performance prior to the pandemic as well as recent capacity forecasts issued by Eurocontrol (see appendix D for details). We propose a new starting point for 2023 of 12.29 seconds/flight based on the average performance between 2015 and 2019. This is similar to NERL's actual 2019 performance of 12.32 seconds/flight, while noting that the flights forecast for 2023 is around 5% lower than 2019 levels, suggesting this is reasonable.

2.84 Beyond 2023, we propose to apply the average year-on-year growth that underpins NERL's business plan proposal, and so should reflect the expected impact from the increase in traffic levels and benefits from the capex programme.

Table 2.5: CAA proposals for C1 targets

seconds delay/flight	2023	2024	2025	2026	2027
NERL's NR23 target	14.70	15.30	15.30	15.30	15.30
CAA Initial Proposals	12.29	12.79	12.79	12.79	12.79

Source: NERL BP and CAA

C2

2.85 The C2 metric has an adjustment to exclude non-NERL-attributable delay. NERL's plan adjusted the relationship between the C1 and C2 compared to previous reviews and set it at a constant 4.5 seconds/flight. The difference between actual C1 and C2 performance between 2015 and 2019 indicates an average of 3.84 seconds/flight. We have used this estimate as the relationship between C1 and C2 in our Initial Proposals summarised below.

2.86 Consistent with our approach to C1, we propose a starting point for 2023 that is based on the average performance between 2015 and 2019, which was 8.45 seconds/flight. This compares to 2019 actual performance of 8.40 seconds/flight.

Table 2.5: CAA proposals for C2 targets

seconds delay/flight	2023	2024	2025	2026	2027
NERL's NR23 target	10.20	10.80	10.80	10.80	10.80
CAA Initial Proposals	8.45	8.95	8.95	8.95	8.95

Source: NERL BP and CAA

C3

2.87 For RP3 the C3 metric was set on the basis of the C2 metric by multiplying the C2 metric (expressed in seconds/flight) by a factor of 2 to arrive at the penalty threshold. We propose to retain this approach, rather than adopt the approach in NERL's business plan, which would seem to make it easier for NERL to avoid penalties.[54]

2.88 We also note that in the past, C3 has often been expressed as a range between the penalty and bonus thresholds. For NR23, we propose to refer to a single C3 target, which represents a mid-point between the penalty and bonus thresholds with details of the underlying incentive mechanism discussed below and in appendix D.

2.89 The C3 actual performance, or Impact Score, is weighted by time of day and duration of individual flight delay. We propose to maintain the weighting of delay as per RP3 (greatest weight on morning peak period). Further details are provided in appendix D.

Table 2.6: CAA proposals for C3 targets

seconds delay/flight	2023	2024	2025	2026	2027
NERL's NR23 target	20.00	22.00	22.00	22.00	22.00
CAA Initial Proposals	14.08	14.91	14.91	14.91	14.91

Source: NERL BP and CAA

C4

2.90 The C4 metric and the underlying incentive scheme is the annual sum of daily excess delay scores and captures individual days of particularly severe disruption which can have a significant impact on stakeholders. Unlike the other capacity metrics, such severe disruptions are generally due to some form of system failure rather than an underlying shortfall in ongoing capacity. The incentive is a penalty only, since stakeholders should reasonably expect not to suffer such severe disruptions. The metric is designed to capture exceptional events, so under typical operating conditions NERL would not be expected to reach the penalty threshold.

2.91 Following the introduction of a resilience condition into the NERL licence, the target was lowered from 2000 in RP2 to 1800 in RP3. We propose to maintain the C4 target at the RP3 level, although, as NERL's resilience improves with the proposed capex programme, we expect lower levels to be targeted in future price control periods.

[54] NERL appears to be proposing to apply the factor to the target level, rather than the penalty threshold. The penalty threshold is then a further 23-25% above the target

Table 2.7: CAA proposals for C4 targets

seconds delay/flight	2023	2024	2025	2026	2027
NERL's NR23 target	1800	1800	1800	1800	1800
CAA Initial Proposals	1800	1800	1800	1800	1800

Source: NERL BP and CAA

Incentives

Traffic modulation

2.92 NERL proposes to change the existing traffic modulation mechanism for the C3 metric and extend it to the C2 metric.

2.93 NERL's assessment of the relationship for C2 was based on looking only at *capacity* delay (that is, ATFM delay coded 'C' for 'capacity') which we note represented roughly 36% of delay in 2019. When looking at all applicable causes of delay, we find that the relationship with traffic does not present a clear trend. This finding was also acknowledged by NERL. We do not consider that the analysis from NERL supports the introduction of modulation for C2. We also do not agree that the asymmetric traffic modulation proposal reflects the asymmetry in the empirical relationship between traffic and capacity delay.

2.94 We also note that dynamic modulation of C2 would impact comparability of data at a European level and our continued participation in the Network Manager's post-operations process of reallocating delay.

2.95 NERL has suggested there is an exponential relationship between traffic and delay, based on daily data. While we agree that higher delays are correlated with higher traffic volumes, it is not clear that the relationship is exponential in nature when using annual data, which is the basis of targets (and potential modulation). As such, we do not consider there to be sufficient evidence to support a change the existing modulation mechanism for C3, nor its extension to the C2 metric.

2.96 On the basis of our assumption that traffic volumes will normalise in NR23, these Initial Proposals maintain a similar approach to the modulation mechanism applied to C3, which is discussed in appendix D. Consistent with our approach to targeting C3, the modulation will be applied to the target rather than the bonus and penalty thresholds, which will be adjusted according to the deadbands around the target. In the future it may be appropriate to review the "elasticity factor" used for modulating the C3 metric based on data collected during NR23.

Re-opener mechanism

2.97 Similar to the mechanism proposed for 3Di, NERL proposed to introduce a re-opener mechanism if an event outside of its control affects delay performance by

at least half of the width of the deadband around the target. This would be assessed on the basis of six months of data prior to and after an event.

2.98 NERL identified a 50% reduction in traffic as an event that would trigger the-re-opener mechanism. The TA00 provides the CAA with the flexibility to bring forward modifications to NERL's licence, subject to appropriate consultation, and in line with our statutory duties. Bearing this flexibility in mind we do not propose to introduce a specific re-opener mechanism for capacity metrics.

2.99 We encourage NERL to highlight any such one-off events and their impact on the delay performance as part of its quarterly performance reporting. As noted above, it is likely that we would only make adjustments for very significant events.

Allowance for exemption days

2.100 We asked NERL to provide evidence to support its proposal to increase the allowance for exemption days from 100 in RP3 to 150 in NR23. NERL's response was consistent with the explanation given in its business plan that the increase is due to the scale of change planned in NR23, including programmes delayed as a result of the impact of covid-19, but it did not provide more specific evidence to support the increase requested.

2.101 The allowance for RP3 was increased from 75 days in RP2 to 100 days given the importance of Deployment Point (DP) En Route, DP Lower and London Airspace Management Programme. Compared to the RP3 capex plan, the scale of the capex programme proposed by NERL for NR23 is substantially smaller (see chapter 4 for further detail on the capex programme).

2.102 As NERL has not provided evidence that would support an increase in the allowance, and as the capex programme for NR23 is smaller than the original RP3 plan, we propose to retain the number of exemption days at 100 for NR23.

2.103 With regard to extending the allowance to cover the C2 metric, we consider that there is value in being able to benchmark NERL's delay performance with European counterparts and exemption for transition days would introduce a level of inconsistency.

2.104 We note that stakeholders have in the past valued the C3 and C4 incentives above the C2 and for this reason, the strength of the C2 incentive has been set relatively low compared to the C3 and C4 measures (with maximum penalty capped at 0.25% of Determined Costs). The lower incentive strength placed on C2 also mitigates the risk of a perverse incentive on NERL (such as delaying transitions on account of meeting C2 targets). We therefore do not propose a change to our approach for NR23. However, we would consider further evidence at future price control periods, for example the impact of transitions on the C2 metric.

2.105 We propose to allow NERL to exclude up to 100 days throughout NR23 from counting against the C3 and C4 incentives when major new systems or airspace changes are being implemented. Consistent with previous reference periods, NERL shall consult with stakeholders on the planned use of exemption days in advance.

Strength of incentives

2.106 As RP3 was shortened and incentives did not operate in the years affected by the impact of covid-19, we are not proposing to make any changes to the strength of the incentives for NR23. We will consider evidence of performance during NR23 and whether to strengthen the incentives in future price control periods.

2.107 A summary of our initial proposals for NR23 incentives and their strength is set out in appendix D.

Consultation on option to use C1 as trigger for bonuses

2.108 Current incentives focus on NERL attributable delay, however we recognise that this could mean that NERL is eligible for bonuses, even when airlines are experiencing delay. While such delay might be out of the direct control of NERL, we consider there may be merit in seeking to strengthen the link between the opportunity for NERL to earn bonuses, and the actual delays experienced by airlines.

2.109 One option would be to introduce a C1 (all causes of ATFM delay) trigger, for bonus payments for C2 and C3 performance. A similar trigger existed in RP2 to ensure the joint UK-Ireland delay target in place at that time was achieved, before individual delay incentives kicked-in. This could work by establishing a deadband around the C1 target that sets an acceptable range of service quality, such as ±15% currently applied to the C2 incentive. NERL would then only receive a bonus on the C2 and C3 measures, both focused on NERL-attributable delay, if the overall C1 target was also within the acceptable range. This would only apply for bonuses, not penalties.

2.110 Such an approach may also address some stakeholder concerns that delay current coding practices can lead to inconsistences and difficulties in monitoring ANSPs' performance.[55]

2.111 We recognise such an additional trigger could dilute certain incentives on NERL, particularly in relation to the C3 metric, which has historically had significant

[55] These concerns are further explained in chapter 5 of the Palamon Final Decision (CAP2100). It is worth noting that NERL currently considers that it should not fully adopt PRC coding principles (set out in paragraph 5.14 of CAP2100 and the object of recommendation 4), while these have not been more widely implemented by Eurocontrol's Network Manager.

airline support as it places more weight on managing delay during peak times of the day. We therefore welcome stakeholder views on a possible C1 trigger, or any alternatives, and the potential associated benefits and risks.

2.112 We welcome stakeholder views on the benefits and risks associated with using C1 as a trigger for bonuses.

Chapter 3

The reconciliation review

Introduction and context

3.1 For RP3 under European charging rules and the Eurocontrol Principles, NERL and other European ANSPs had TRS arrangements in place, which provided a relatively high level of protection to NERL for unexpected variations in traffic levels.

3.2 The CMA determination noted our commitment to conduct a reconciliation exercise with reference to actual flight volumes and costs over the period since the start of 2020 to support the appropriate functioning of the TRS arrangements in the circumstances of the covid-19 pandemic. We said we would carry out this reconciliation review by reference to actual traffic volumes and costs for 2020 to 2022, given the significantly lower than expected traffic volumes over this period and the actions that NERL took to reduce its costs and investment.[56]

3.3 In response to the impact of the covid-19 pandemic on traffic volumes and costs, the European Commission replaced the existing TRS mechanism in 2020-2021 with exceptional arrangements that limited recovery to actual costs and extended the period of recovery (to 5 or 7 years).

3.4 Consistent with our commitment to the TRS mechanism and the exceptional arrangements under the Eurocontrol Principles, we propose to allow NERL to recover only its efficient actual costs. This should ensure that NERL only recovers revenue shortfalls relating to its efficient costs and that customers and consumers continue to benefit from NERL operating under a reasonably predictable regulatory framework.

3.5 In November 2021, following consultation with stakeholders, we published a working paper which set out our proposed approach to this reconciliation review for 2020 to 2022.[57] We said that we would not use hindsight in assessing efficiency and that we would focus on reviewing NERL's most important building blocks and cost items, such as opex, capex and pension costs. We also indicated that we would need to consider further which elements of the WACC should be included in the reconciliation review.

3.6 This chapter:

[56] CMA – "NATS (En Route) Plc /CAA Regulatory Appeal Final report" Para 11.

[57] CAP2291: Economic regulation of NATS (En Route) plc: working paper on the reconciliation review for NR23, including the request for information

- summarises NERL's views on its efficient costs;
- describes the main points raised by stakeholders in relation to these matters;
- sets out our latest views on the efficient level of costs and allowances for the key price control building blocks for 2020 and 2022; and
- provides our Initial Proposals in relation to these matters.

3.7 The mechanism to be used to recover the outstanding balance of TRS revenues over NR23 and beyond is described in chapter 6. We address the London Approach and Oceanic price controls separately in chapters 8 and 9.

Stakeholder views

3.8 This section sets out NERL's reconciliation review submission and the feedback we received from stakeholders on its suggested approach to reconciliation and its business plan.

NERL's reconciliation review submission

3.9 In its February 2022submission[58], NERL set out the actions it took to reduce costs over 2020 to 2022 in response to the impact of the covid-19 pandemic on passenger demand, the resulting fall in revenue and the consequential challenges to its financial liquidity. NERL's actions included a voluntary redundancy (VR) scheme and reducing discretionary expenditure. These actions and lower traffic volumes resulted in NERL's actual and forecast average costs over 2020 to 2022 being lower than its actual costs in 2019, and total costs over this period being lower than set out in the CMA determination.

3.10 Table 3.1 shows NERL's actual and forecast building blocks for UKATS over 2020 to 2022, and how this compares with 2019. In 2022, NERL expects its total UKATS costs to be £50 million (8%) lower than in 2019, with most cost savings coming from reduced operating costs, (around £31 million (6%) lower in 2022 compared to 2019[59]). Regulatory depreciation and regulatory return in 2022 are also forecast to be lower than in 2019. Finally, non-regulated revenue in 2022 is forecast to be £23 million (21%) lower than in 2019.

[58] NR23 Business Plan (7 February 2022)

[59] The increase in exceptionals costs in 2020 reflects additional costs from the VR programme.

Table 3.1: NERL UKATS costs over the Reconciliation Review period

£m, 2020 CPI prices *Comparison with 2019*	2019 (Actual)	2020 (Actual)	2021 (Actual)	2022 (Forecast)	Total annual average 2020 - 2022
Total Staff costs* (£m)	364	359	320	334	338
vs 2019	*0*	*(5)*	*(44)*	*(30)*	*(26)*
Staff costs	*272*	*265*	*231*	*245*	*247*
DB pension costs	*66*	*66*	*65*	*64*	*65*
DC pension costs	*10*	*12*	*11*	*13*	*12*
PCA	*16*	*16*	*13*	*12*	*14*
Non- Staff costs (£m)	145	123	118	145	129
vs 2019	*0*	*(22)*	*(27)*	*0*	*(16)*
Exceptionals** (£m)	3	54	(19)	2	12
vs 2019	*0*	*51*	*(22)*	*(1)*	*9*
Total operating costs (£m)	**512**	**536**	**419**	**481**	**479**
vs 2019	*0*	*24*	*(93)*	*(31)*	*(33)*
Regulatory depreciation (£m)	**175**	**194**	**159**	**139**	**164**
vs 2019	*0*	*19*	*(16)*	*(36)*	*(11)*
Regulatory return (£m)	**58**	**37**	**47**	**52**	**45**
vs 2019	*0*	*(21)*	*(11)*	*(6)*	*(13)*
Non-regulatory revenue (£m)	**(109)**	**(103)**	**(87)**	**(86)**	**(92)**
vs 2019	*0*	*(6)*	*(22)*	*(23)*	*(17)*
TOTAL En Route	**636**	**664**	**538**	**586**	**596**
vs 2019	*0*	*28*	*(98)*	*(50)*	*(40)*

Source: NERL BP Appendix I, Steer Report, CAA calculations
Notes: less capitalised labour.
** Exceptionals include staff and non-staff exceptional costs

3.11 Table 3.2 compares NERL's actual/ forecast building blocks for UKATS over 2020 to 2022 with the CMA determination. NERL's forecast costs/ revenues are £196 million (10%) less than in the CMA determination over the reconciliation period. Most of the savings made relative to the CMA determination came from actions taken by NERL to reduce operational costs, with NERL operating cost savings forecast to be £230 million (14%) compared with the CMA's assumptions.[60]

3.12 In addition to NERL's savings on operating costs, it also significantly reduced its capex activities over the period, reporting over £200 million of savings compared to the CMA determination (see Table 3.3 below).

3.13 Regulatory return is expected to be £24 million (21%) higher over the reconciliation period compared to the CMA determination. NERL explained that this is principally due to the increase in regulatory return from capitalising the

[60] Staff costs reported by NERL in 2020 were higher than in the CMA determination. This is due to the cost of NERL's voluntary redundancy scheme.

TRS revenues shortfall [61] being greater than the reduction in regulatory return from lower capex than envisaged in RP3.[62]

Table 3.2: Building block comparisons between CMA determination and NERL actuals/ forecast

£m, 2020 CPI	CMA				NERL actuals/ forecast				NERL vs CMA
	2020	2021	2022	TOTAL	2020	2021	2022	TOTAL	2020-2022
Staff costs*	367	362	374	**1,102**	412	301	336	**1,049**	**(53)**
Non-staff costs	187	187	188	**562**	123	118	145	**386**	**(176)**
Regulatory depreciation	196	160	139	**495**	194	159	139	**491**	**(3)**
Regulatory return	35	38	40	**113**	37	47	52	**137**	**24**
Non regulatory revenue	(102)	(95)	(93)	**(290)**	(103)	(87)	(86)	**(276)**	**14**
En route total	**682**	**652**	**649**	**1,983**	**664**	**538**	**586**	**1,787**	**(196)**

Source: NERL BP, CMA, CAA analysis
* Includes exceptional costs

Airline views

3.14 We requested the views of airline stakeholders on NERL's approach to cost saving measures in RP3 through the CCWG and through feedback on NERL's business plan. We received responses from a range of industry participants including airlines, airports, industry trade bodies and unions.

3.15 In April 2022, Steer (commissioned by the CAA to provide an independent view on the efficiency of NERL's costs) facilitated workshops with industry stakeholders to gather additional feedback on NERL's costs, including on the actions NERL took over the reconciliation review period.

3.16 Overall, stakeholders were broadly supportive of the cost saving measures taken by NERL over the reconciliation review period, with British Airways and IATA welcoming the resulting shift to new ways of working and greater automation that took place in response to the VR scheme.

3.17 The main concerns raised were in relation to the VR scheme, specifically the cost of the programme, the long payback period and concern that the reduced headcount would impact both the day-to-day operations and the capacity to deliver change over time.

3.18 There was general acknowledgement that it was necessary for NERL to reprofile capex and to extend implementation in response to the impact of the covid-19 pandemic. It was also recognised that this would increase expected sustainment

[61] which increases the RAB on which regulatory return is calculated.

[62] which reduces the RAB on which regulatory return is calculated.

costs of legacy equipment.[63] Airlines said we should consider the detail of capex plans to ensure each programme is necessary, supported by reasonable costs, and that the impact on opex are considered. For example, ensuring any reductions in opex as a result of retiring older systems are captured. This included reviewing the level of sustainment costs.

Our view

Overall approach

3.19 We are seeking to establish whether there is clear evidence of inefficiency by NERL in the costs it incurred over 2020-22. This is to enable us to exclude any inefficient costs from the cost baseline for TRS revenues for recovery by NERL. This is in line with our duties to further the interests of customers and consumers in terms of the cost of ATS, promoting efficiency and economy on the part of NERLand taking account of notified international obligations (in this case the Eurocontrol Principles). to 20[64]

3.20 In considering the efficiency of costs, we have sought to only take account of information that NERL had access to at the time when it was making its decisions and have not sought to apply hindsight. We have considered evidence and inputs from NERL and its advisors, airline and airport stakeholders, and analysis by our consultants, Steer.[65]

3.21 For opex, we considered the efficiency of actual costs in 2020 and 2021 and forecasts from NERL for 2022. We have carried out a detailed review, given that opex was the focus of NERL's actions to save costs during the RP3 period and its overall materiality to the cost baseline. As part of this work, we have considered DC pension costs. We have not reviewed in detail the DB pension costs as these are assessed separately under the pension cost pass-through mechanism.

3.22 For our review of opex, we have had regard to the 'demonstrably inefficient and/or wasteful expenditure' (DIWE) test, implemented as part of the RP3 price control, for the *ex post* assessment of the efficiency of capex.[66] [67] Although an

[63] Sustainment costs include costs related to sustaining existing services and ensuring resilient air traffic management services

[64] See appendix A, Legal and regulatory frameworks, for information on the Multilateral Agreement and the Eurocontrol Principles

[65] Steer report

[66] See, for example, UREGNI's "Guidance on the interpretation and application of the Demonstrably Inefficient or Wasteful Expenditure (DIWE) Provision", 27 July 2017

[67] This was set out as part of a draft Regulatory Policy Statement, which explains the basis upon which the CAA would make any disallowances to capex. The CMA welcomed this approach, agreeing it would

equivalent test has not been formally developed for opex, we have considered similar factors for our assessment of opex,[68] such as the extent to which NERL was, or ought to have been, able to control the relevant expenditure.

3.23 For capex, we have carried out a high-level review of NERL's spend during this period. This approach reflects the significant reductions and delays in capex projects in RP3, which means it is difficult and premature to assess the relative efficiency of capex incurred in RP3. We expect to review the effectiveness and efficiency of this capex in the NR23 period, that is, when the projects have been delivered and we have information on their costs and benefits. Before this, we expect capex plans will continue to be scrutinised in detail through the existing Service and Investment Plan (SIP) governance process. We discuss capex incentives and governance further in chapter 7.

3.24 We have not considered non-regulatory income, regulatory depreciation or regulatory return as part of the reconciliation review. For regulatory depreciation and regulatory return, we note there are existing regulatory mechanisms which provide for differences in forecast and actual efficient capex to be trued up in future periods.

3.25 In its submission, NERL proposed recovery of its costs of restructuring its debt during the reconciliation period and a range of other cost and revenue adjustments. We have reviewed these costs in detail to check that they are reasonable and properly reflect the assumptions we have made in these Initial Proposals, such as for inflation.

3.26 We have included an allowance for debt restructuring costs that we consider represents the minimum reasonable amount NERL could have incurred. We consider that to provide no such allowance would be inconsistent with the basis of our estimate for the cost of new debt, which implicitly captures the benefits to consumers of lower-cost debt issuance associated with the refinancing. However, our allowance is lower than NERL's proposed amount, for the reasons set out in appendix E.

3.27 While the focus in this chapter is the efficient baseline for the UK en route price control, we have also estimated efficient cost baselines for London Approach in chapter 8. We have considered costs for Oceanic as part of our review of costs for NR23, but have not estimated an efficient cost baseline to be recovered by NERL as Oceanic did not have existing TRS in place. We set out further details in chapter 9.

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sufficiently specify and constrain the basis upon which the CAA would be expected to apply a disallowance of capex. The CMA and other regulators have also used this approach in the past.

[68] In CAP2011, we set out the relevant circumstances to take into account when assessing whether expenditure may be DIWE.

3.28 We set out below a summary of our findings for the efficient cost baseline. Where these Initial Proposals include adjustments to NERL's costs, this should not be interpreted as suggesting that NERL should have taken a different course of action to the one it did, as this is a matter for management and shareholders. However, we consider that customers and consumers should only be required to incur charges that reflect the efficient costs, with NERL's funding any additional costs through making other efficiencies or reducing dividends to shareholders.

Staff opex

3.29 NERL reduced staff costs over the reconciliation review period, with annual average staff costs of £26 million (7%) below those in 2019.[69] Over 2020 to 2022 as a whole, NERL's staff costs were £85 million (8%) below the CMA determination.[70] NERL's actions to reduce staff costs included a recruitment freeze (for non-essential staff), a VR programme, the reversal of pay awards, voluntary pay cuts, unpaid leave, a suspension of bonuses, the release of non-essential contractors and extensive use of the UK-wide furlough scheme. Many of these actions were in line with the actions of UK airports and airlines.[71]

3.30 In general, we consider that NERL took a reasonable range of actions to reduce its costs in response to the reduction in traffic due to the impact of the covid-19 pandemic. However, we have identified two areas where NERL could have taken further steps to reasonably contain its UKATS staff costs. These are described below.

Voluntary salary reductions

3.31 During 2020 only one category of staff (those in management grades) were asked to take a 10% voluntary pay cut for three months. Of those, 50% agreed to the salary reduction.

3.32 Analysis by our external advisors, Steer, shows that voluntary salary reductions were typically requested of both operational and management staff in many organisations, especially if the individuals concerned were on furlough. Redeployment and Redundancy Agreement (NERL's evidence shows that more than two-fifths of the operational ATCO workforce was furloughed at the pandemic's peak. In contrast to other industries across the UK, almost all of NERL's furloughed staff were remunerated at 100% of their contractual salaries.

3.33 We consider that expanding the voluntary salary reduction ask to all staff grades would have come at minimal to no cost to NERL, and at no operational impact,

[69] See Table 3.1

[70] NERLs response to CAP2291 p.11

[71] Steer report

and that this would have been a reasonable action for NERL to take at the time, and with the information available to them.

3.34 Had NERL expanded its voluntary salary reductions to all staff, our external advisors assess that savings would have amounted to approximately £2 million, occurring in 2020 (assuming the same 50% level of take-up as among management grades). We propose to disallow £2 million from the 2020 staff opex baseline.

Voluntary redundancy scheme costs

3.35 NERL implemented a VR scheme in 2020, which had a payback based on the RRA that had been negotiated with Trade Unions before the covid-19 pandemic occurred. This scheme cost NERL £61 million (£185,000 per leaver on average), which amounts to an average of 21 months' pay back period for the scheme.

3.36 Airlines have raised concerns about the cost of the VR programme, the long payback period and concern that the reduced headcount would impact both the day-to-day operations and the capacity to deliver change over time. In addition, we have not seen evidence that NERL explored renegotiating the terms of the VR scheme with Trade Unions before implementing the scheme, or that it sought to bring forward an exceptional VR scheme.

3.37 To give a sense of the top of a potential range of savings that NERL could have achieved, Steer estimated that if NERL renegotiated the RRA, and implemented an exceptional VR scheme with a 12-month payback period (rather than 21 months), it would have saved £26 million in 2021. We recognise that this scale of savings would have been reliant on a successful renegotiation with Trade Unions.

3.38 NERL served notice to terminate the RRA in place with Trade Unions in May 2020. Steer have calculated the savings that could have been achieved if NERL had implemented a VR scheme with a 12-month payback period starting in May 2021(the earliest time when a new RRA could have been adopted). Steer estimated the impact of this to be between £3 million and £9 million of savings, equivalent to between one and three months of savings relative to the VR scheme implemented by NERL.

3.39 On the basis that it would have been reasonable for NERL, with the information it had available at the time, to seek to implement either an exceptional VR scheme, as many other organisations did, or a VR scheme with a 12-month payback period from May 2021, we are proposing to disallow £9 million of the costs of the VR scheme in 2020.

Non-staff opex

3.40 NERL took a range of actions on non-staff costs during the reconciliation period. Non-staff costs over 2020 to 2022 were £176 million (31%) lower than in the

CMA determination.[72] Compared to 2019, non-staff costs were reduced by around £22 million (15%) in 2020 and £27 million (19%) in 2021.[73] In 2022, non-staff costs are forecast to return to levels similar to 2019, mainly driven by higher asset management costs as a result of NERL needing to continue running legacy technology systems for longer into NR23, as a result of the pausing of its capex programme in 2020. Analysis by Steer indicates that the level of savings for non-staff costs by NERL was towards the top quartile of European ANSPs as a percentage reduction over 2019 cost levels.[74] As such, Steer advised that based on its analysis, it did not find grounds to disallow non-staff costs. However, two elements of NERL's capex programme are expected to deliver additional efficiencies to non-staff costs over the reconciliation period:

- capex to upgrade Communications, Navigation and Surveillance Power systems and associated uninterruptable power supplies was partially delivered in 2020 (for example, at Great Dun Fell), achieving £0.10 million savings per year; and
- NERL's business intelligence improvement project was delivered in 2021, and is expected to deliver £0.25 million savings per year.

3.41 As a result, we are disallowing £0.10 million of non-staff costs per year over 2020 to 2022, and £0.25 million per year over 2021 to 2022.

Total Opex Disallowance

3.42 In total, we propose to disallow £12.2 million of total opex over 2020 to 2022. This accounts for 0.8% of NERL's total actual/forecast costs over this period. A summary of opex disallowances are summarised in the table below.

[72] NERL's response to CAP2291 p.11

[73] See Table 3.1

[74] Steer report

Table 3.3: Summary of opex disallowances

£m, 2020 prices	2020	2021	2022	Totals
Staff disallowances				
- Voluntary salary reductions	2.4	0	0	**2.4**
- Voluntary redundancy scheme costs	9.0	0	0	**9.0**
Non-staff disallowances				
- Non-staff efficiencies from capex programme	0.1	0.4	0.4	**0.8**
TOTAL opex disallowance	**11.5**	**0.4**	**0.4**	**12.2**
TOTAL opex	**536.0**	**419.0**	**481.0**	**1,436.0**
OPEX DISALLOWANCE AS % OF TOTAL OPEX				**0.8%**

Source: NERL BP, Steer report, CAA analysis

Capex

3.43 NERL paused its capital programme for six months in 2020 (except for essential services and sustainment which includes sustaining existing services and ensuring resilient air traffic management services). This reduced its total capex (including Oceanic) by £231 million (44%) over the reconciliation period compared with the allowance provided for under the CMA determination.

Table 3.3: CMA determination capex spend compared to NERL actuals/ forecast over 2020 to 2022

	CMA				NERL Actuals/forecasts			
£m 2020 prices	2020	2021	2022	Total	2020	2021	2022	Total
Capex	210	187	126	523	78	94	121	293
Variance					(133)	(93)	(5)	(231)

Source: NERL's response to CAP2291; CAA analysis

3.44 Steer advised that the impact of the capex programmes delivered by NERL should be assessed after traffic recovery to allow for a reasonable comparison with previous pre-pandemic years. Moreover, some of the work is still ongoing and the programmes have had to be significantly replanned since 2020 (such as DP En Route). This means we are not able to take a view on the efficiency of these costs at this time. We will consider the efficiency of NERL's capex over the reconciliation period as part of our overall review NR23 capex, or at the earliest opportunity for those programmes that are not complete by the end of the NR23 period.

Regulatory depreciation

3.45 NERL report that its total regulatory depreciation costs for UKATS fell over the reconciliation period and were £3 million (0.6%) less than the CMA

determination.[75] NERL explained that this lower regulatory depreciation is the direct result of lower capital investment over 2020 to 2022 relative to the CMA determination[76].

Table 3.4: CMA determination Regulatory depreciation compared to UKATS actuals/ forecast over 2020 to 2022

	CMA				NERL Actuals/forecasts			
£m 2020 prices	2020	2021	2022	Total	2020	2021	2022	Total
Regulatory depreciation	196	160	139	495	194	159	139	492
Variance					(2)	(1)	(0)	(3)

Source: NERL BP, CMA, CAA analysis

3.46 We agree with the position put forward by NERL that the regulatory depreciation forecasts, as set out in the CMA determination, are the appropriate figures to include in the efficient cost baseline used to calculate TRS revenues. This is because the RAB rules already include mechanisms to correct for the lower regulatory depreciation costs (as a result of lower-than-expected capex) than included in the CMA determination.[77]

Regulatory return

3.47 Regulatory return for UKATS over the reconciliation review period is forecast to be £24 million (21%) higher than the forecasts set out in the CMA determination. This is principally due to the increase in regulatory return from capitalising the TRS revenues to be recovered in the RAB, which more than offsets the reduction in RAB and regulatory return from lower capex than expected in the CMA determination. We understand that NERL has applied the RP3 allowed cost of capital to calculate the regulatory return.

Table 3.5: CMA determination Regulatory Return compared to UKATS actuals/ forecast over 2020 to 2022

	CMA				NERL Actuals/forecasts			
£m 2020 prices	2020	2021	2022	Total	2020	2021	2022	Total
Regulatory return	35	38	40	113	37	47	52	136
Variance					2	9	12	23

Source: NERL BP, CMA, CAA analysis

3.48 We consider that the regulatory return forecasts set out in the CMA determination are the appropriate figures to include in our calculation of the efficient cost baseline. Similar to allowed regulatory depreciation, differences in

[75] NERL response to CAP2291, NR23 Business Plan (7 February 2022)

[76] NERL response to CAP2291, p.11

[77] NERL response to CAP2291, NR23 Business Plan (7 February 2022), p.11

the regulatory return, due to changes in capex and the RAB used to set the regulatory return for RP3 and the actual RAB in RP3, are corrected for by mechanisms already in the RAB rule for capitalised financing costs.

3.49 We have considered separately the issue of the allowed regulatory return on the TRS revenue to be recovered in chapter 5.

Non-regulatory revenue

3.50 Over the reconciliation review period non-regulatory revenue was £14 million (5%) lower than the CMA determination.[78] NERL attributed this to its lower cost base on contracts that include gainshare clauses or shared costs (mainly, its Future Military Area Radar Service (FMARS) contract), lower levels of inter-company demand and fewer opportunities to generate non-regulatory income as a result of the impact of covid-19 restrictions.[79]

3.51 The non-regulatory revenue reported in Table 3.6, includes our estimate of London Approach costs/revenues, which we have estimated using the same cost allocation methodology as used in RP3. London Approach costs are removed from UKATS Determined Costs to set UK en route Determined Costs.

3.52 We have accepted NERL's other proposed changes to non-regulatory revenue as part of the reconciliation review. We recognise that these revenues reflect cost reductions made by NERL and any increases in revenues may have limited benefit for customers and consumers after considering the corresponding increase in costs.

Table 3.6: CMA determination Non-regulatory revenue compared to UKATS actuals/ forecast over 2020 to 2022

	CMA				NERL Actuals/forecasts			
£m 2020 prices	2020	2021	2022	Total	2020	2021	2022	Total
Non-regulatory revenues	(102)	(95)	(93)	(290)	(103)	(87)	(86)	(276)
Variance					(1)	8	7	14

Source: NERL BP, CMA, CAA analysis

Financial restructuring costs

3.53 Following our information request,[80] NERL provided details of the costs of the refinancing it undertook in 2021. These costs were not reflected in NERL's regulatory return between 2020 and 2022. NERL has proposed that it should be allowed to recover the sum of the bond interest costs incurred before its

[78] NERL response to CAP2291, NR23 Business Plan (7 February 2022)

[79] NERL response to CAP2291, NR23 Business Plan (7 February 2022)

[80] See question A14 of CAP2291.

restructuring in June 2021 and the cost of redeeming its existing bond (known as 'spens' costs).

3.54 NERL has recognised that it has already received some compensation through its existing RP3 regulatory return allowance. It has further recognised that the cost of restructuring has been partially offset by other factors: NERL was able to outperform the interest cost assumptions that underpinned the RP3 allowance; and because NERL has assumed it will receive some compensation through the return it will earn on the amounts included within the TRS revenue to be recovered.

3.55 Once the RP3 allowance, debt interest cost savings and TRS returns are offset against its gross refinancing costs, NERL estimates that the net incremental cost of the refinancing is £22 million.

Table 3.7: NERL refinancing costs for the reconciliation period

Refinancing costs, £m (2020 CPI-real prices)	**Value**
Bond redemption cost	41
Other bond cost	23
Total costs relating to pre-existing (2026) bonds	**64**
Planned RP3 bond interest costs, factored into regulatory return	(35)
Other debt interest savings over 2020-22, relative to CMA determination modelling assumptions	(1)
Interest costs assumed to be capitalised in the RAB as part of the TRS revenue financing cost adjustment	(6)
Net incremental financing costs not reflected in the regulatory return for 2020 to 2022	**22**

Source: NERL response to CAA's request for information relating to the reconciliation review for NR23 (CAP 2291), Table 27.

3.56 We have carefully considered whether and to what extent we should allow for the remuneration of costs associated with NERL's restructuring. Our detailed analysis is set out in appendix E.

3.57 Overall, we are not convinced that NERL's customers and consumers should have to incur the costs associated with collapsing the Whole Business Securitisation that was previously in place and redeeming the 2026 bond early (thereby incurring spens costs).

3.58 We recognise, however, that the alternative of allowing the bond to remain outstanding until maturity would have involved certain additional costs being incurred:

- interest costs would have been higher, since the 2026 bond carried a higher interest rate than the bonds raised following its redemption; and
- NERL would most likely have needed to obtain various consents and waivers that would have most likely involved additional payments to bondholders.

3.59 In our view, these costs would have been less than the spens payments that were actually incurred.

3.60 We propose to provide NERL with an allowance of [£16 million] in respect of net incremental financing costs. This is £6 million less than NERL has proposed. When combined with our cost of debt allowance, this is equivalent to the total estimated costs under a scenario where NERL retained the Whole Business Securitisation and issued additional debt within this structure by obtaining the required waivers and consents, as set out in appendix E.

Other reconciliation adjustments

3.61 As part of the reconciliation between RP3 and NR23, NERL included a number of adjustments to arrive at the efficient cost baseline to be recovered. These adjustments are to reflect items that are compensated through other mechanisms in NERL's price control and so avoid double-counting.

3.62 For example, the Condition 21 inflation adjustment reflects that the TRS will be indexed to outturn inflation. As the difference between outturn and expected inflation is already reflected through the inflation adjustment in Condition 21 in NERL's licence, we need to include an adjustment so that NERL does not receive two adjustments for inflation on Determined Costs in the price control.

3.63 NERL's business plan includes reconciliation adjustments that reduce the efficient cost baseline by a total of £1 million. The largest items, in absolute terms, are the adjustments for regulatory return on the TRS and inflation (-£31 million) and for the Condition 21 inflation adjustment (£14 million). Table 3.9 sets out the breakdown of these adjustments.

Table 3.9: NERL's cost reconciliation adjustments

Adjustment, £m	2020	2021	2022	Total
MOD uplift	8	6	7	**21**
Actual / Forecast tax v CMA allowance	(4)	(2)	2	**(4)**
Adjust regulatory return to NERL proposed return on TRS + impact of inflation	(9)	(9)	(13)	**(31)**
Add back Condition 21 Inflation adjustment	7	6	1	**14**
WACC uplift for CMA 2020 difference	6	0	0	**6**
Remove recovery for 2020 in 2022 charge	(5)	0	0	**(5)**
Total Adjustment	**3**	**1**	**(3)**	**1**

Source: NERL

3.64 Our view on NERL's adjustments is summarised below.

MOD uplift

3.65 This adjustment is necessary to ensure the reconciled costs are uplifted for the costs of military and exempt flights included in TSUs, to arrive at reconciled Determined Costs used for the purpose of setting unit rates under the Eurocontrol Principles.

3.66 We have calculated this based on our own PCM. The total uplift over 2020 to 2022 is £25 million.

Tax Allowance

3.67 NERL adjusted for the actual tax incurred versus what was allowed in the CMA's determination from the tax uplift in the pre-tax WACC. We agree with this approach and the inputs used by NERL in estimating the tax adjustment and its proposed tax allowance in 2020 of - £4.4 million, - £2.0 million in 2021 and £1.7 million in 2022.

Adjust regulatory return + inflation

3.68 NERL made an adjustment to the regulatory return on the TRS and the impact of inflation to avoid double counting these figures in its price control.[81] This adjustment was introduced to reflect the return on TRS revenues and other items in working capital in RP3 which was lower than the CMA determination. Its treatment in the RAB is discussed in chapter 5. We agree with this adjustment

[81] For example, NERL included an adjustment to its RAB in the first year of NR23 to reflect the capitalisation of TRS and the associated capitalisation of financing costs and inflation arising from this capitalisation of the TRS. Therefore, this adjustment is required to ensure that NERL is not compensated twice for the capitalisation of these financing costs incurred during RP3.

but have updated it using our RPI inflation forecasts in these Initial Proposals, which are from the Office for Budget Responsibility (OBR).

3.69 We propose that the adjustment amounts to -£31.7m between 2020 and 2022.

Condition 21 Inflation Adjustment

3.70 As part of the setting of the 2022 unit rate and consistent with Condition 21 of NERL's licence, an inflation adjustment for the year 2020 was carried over to the 2022 unit rate. This was to avoid refunding customers twice through the reconciliation review and price control for inflation differences between allowed and outturn determined costs. We agree this adjustment is necessary to avoid double counting of the inflation adjustment.

3.71 We have recalculated this adjustment using our own CPI forecasts (for the HICP and FHICP terms in the licence) and TSU and CSU forecasts and as a result propose that the adjustment amounts to -£22 million between 2020 and 2022. This is significantly lower than NERL's proposal and reflects the significant difference between the outturn and forecast CPI in 2022, compared with the forecasts used by NERL in its business plan.

WACC Uplift for CMA difference

3.72 As part of our decision to modify NERL's licence in November 2021,[82] we introduced new wording to Condition 21 that accounted for the difference between the revenues for 2020 due to the application of a temporary unit rate based on the CAA's decision for RP3 and the final 2020 unit rate established on the basis of the CMA determination.[83] We therefore do not consider it necessary to make a further adjustment for the difference between the CAA's decision for RP3 and the CMA determination on WACC and so we propose to set this adjustment to zero.

Remove recovery for 2020 in the 2022 charge

3.73 Similar to the Condition 21 Inflation adjustment discussed above, an adjustment was made in the 2022 unit rate to account for the difference between the CAA's decision for RP3 and the CMA determination for 2020. An adjustment needs to be made to make sure that this adjustment to the unit rate is not double counted in the efficient cost baseline.

[82] CAP2279: Exceptional measures for the economic regulation of NATS (En Route) plc: decision on licence modifications (2021)

[83] see paragraph 3.3. and 3.4 of CAP2279: Exceptional measures for the economic regulation of NATS (En Route) plc: decision on licence modifications (2021)

3.74 We agree with the approach taken by NERL with regard to this adjustment and consistent with the Condition 21 temporary unit rate adjustment, we propose an adjustment of reconciled efficient Determined Costs of -£4.6 million in 2020[84].

Our Initial Proposals

3.75 Based on our analysis above, our view of the efficient cost baseline before taking account of the restructuring costs and adjustments is £1,815 million in nominal prices for the three years 2020 to 2022. This reflects:

- NERL's estimates for actual and forecast opex, after making allowances for staff and non-staff costs;
- using CMA determination figures for regulatory depreciation and regulatory return; and
- applying our updated forecast for inflation (see chapter 5 on financial framework).

3.76 Table 3.9 compares our view of efficient costs, by building block, with the CMA determination. The figures presented here are in nominal prices. Our view of the appropriate efficient cost baseline is £215 million (11%) lower than the CMA determination. Staff costs are £57 million (5%) lower, and non-staff costs are £176 million (31%) lower.

3.77 We have assumed that the efficient view of regulatory return and regulatory depreciation is the same as in the CMA determination, adjusted with our forecast for inflation. Our view of the efficient non-regulatory revenue is £14 million (5%) less than in the CMA determination.

Table 3.9: Building block comparisons between CMA determination and CAA efficient costs

£m, nominal prices	CMA				CAA efficient costs				CAA vs CMA
	2020	2021	2022	TOTAL	2020	2021	2022	TOTAL	2020-2022
Staff costs*	367	370	393	**1,129**	401	308	364	**1,072**	**(57)**
Non-staff costs	187	191	198	**576**	123	120	156	**400**	**(176)**
Regulatory depreciation	196	163	146	**505**	194	162	153	**509**	**4**
Regulatory return	35	39	42	**116**	34	39	44	**118**	**2**
Non regulatory revenue	(102)	(97)	(98)	**(297)**	(103)	(88)	(92)	**(283)**	**14**
En route total	**682**	**667**	**681**	**2,030**	**652**	**542**	**626**	**1,815**	**(215)**

Source: NERL BP, CMA, CAA analysis

[84] See paragraphs 3.3 and 3.4 of CAP 2279 for more details on the temporary unit rate adjustment for the year 2020 made in 2022 charges

3.78 To the CAA efficient baseline of £1,815 million (£14 million, 0.8% lower than NERLs actual/forecast costs), we have applied:

- the uplift for MoD to get to Determined Costs based on TSUs (+£24 million),
- the proposed allowance for the restructuring finance costs (£16 million), and
- our view of the necessary adjustments, for example to avoid double-counting in the TRS revenues to be recovered (-£63 million).

3.79 These adjustments are summarised in Table 3.10 and deliver an overall reconciled efficient Determined Cost baseline over 2020 to 2022 of £1,792 million. This is the efficient cost baseline from which we calculate the value of 2020 to 2022 TRS revenues to be recovered, as discussed in chapter 6. Our view of the reconciled efficient Determined Cost baseline is £60 million (3%) lower than NERLs reconciled Determined Cost baseline of £1,851 million (see Tables 3.10 and 3.11).

Table 3.10: CAA Reconciled Efficient Determined Cost Baseline calculations

UKATS Determined costs (£m, nominal prices)	2020	2021	2022	Total
NERL – revised Determined Costs	664	549	616	1,829
CAA – efficient Determined Costs	650	540	625	1,815
Adjustments				
MOD uplift	8	8	8	24
Refinancing	0	16	0	16
Actual / Forecast tax v CMA allowance	(4)	(2)	2	(4)
Adjust regulatory return to NERL proposed return on TRS + impact of inflation	(9)	(9)	(13)	(31)
Add back Condition 21 Inflation adjustment	7	3	(33)	(23)
Remove recovery for 2020 in 2022 charge	(5)	0	0	(5)
TOTAL Adjustments	**(3)**	**16**	**(36)**	**(23)**
Efficient cost baseline	**648**	**556**	**589**	**1,792**

Source: NERL response to CAP2291, NR23 BP, CAA analysis

Table 3.11: NERL's Reconciled Determined Cost Baseline calculations

UKATS Determined Costs (£m, nominal prices)	2020	2021	2022	Total
NERL – revised Determined Costs	664	549	616	1,829
Adjustments				
MOD uplift	8	6	7	21
Refinancing	0	22	0	22
Actual / Forecast tax v CMA allowance	(4)	(2)	2	(4)
Adjust regulatory return to NERL proposed return on TRS + impact of inflation	(9)	(9)	(13)	(31)
Add back Condition 21 Inflation adjustment	7	6	1	14
WACC uplift for CMA 2020 diff	6	0	0	6
Remove recovery for 2020 in 2022 charge	(5)	0	0	(5)
TOTAL Adjustments	**3**	**23**	**(3)**	**23**
Efficient cost baseline	**666**	**572**	**613**	**1,851**

Source: NERL response to CAP2291, NR23 BP, CAA analysis

3.80 NERL expects to recover £1,112 million of its reconciled Determined Costs over 2020 to 2022. NERL's view of the outstanding amount to be recovered is £740 million (and we refer to this sum as the 'TRS debtor'). On the basis of the calculations above, our view of the TRS debtor is £681 million (that is, £58 million lower). Table 3.12 below provides the calculations underpinning both NERL's and the CAA's views of the TRS revenue. In paragraph 6.34, we propose even recovery of the TRS revenue over a 10-year period of NR 23 and NR28 (that is, 50% recovery in each five-year period.

Table 3.12: TRS revenue to be recovered

£ m, nominal prices	Calculation	2020	2021	2022	Total
NERL's Reconciled Determined Cost Baseline	A	666	572	613	1,851
Determined Costs recovered/forecast to be recovered by NERL	B	274	282	555	1,112
NERL's view of TRS revenue to be recovered	**A-B=C**	**393**	**289**	**58**	**740**
CAA Reconciled Efficient Determined Cost baseline	D	648	556	589	1,792
CAA view of TRS revenue to be recovered	**D-B=E**	**374**	**274**	**33**	**681**
Difference between CAA and NERL views	E-C	-19	-15	-24	-58

Source: NERL response to CAP2291, NR23 BP, CAA analysis

3.81 In total we propose disallowances and adjustments that reduce NERL's reconciled Determined Cost baseline by 3%. In considering the efficiency of NERL's costs over 2020 to 2022, we have sought to only take account of information that NERL had access to at the time when making decisions. We

also recognise that at times NERL had to make decisions in relatively short time periods with limited information. Overall, we consider that NERL took a reasonable range of actions to reduce its costs in response to the reduction in traffic due to the impact of covid-19 pandemic.

Chapter 4

NERL's costs

Introduction

4.1 This chapter sets out our assessment and proposals for the NR23 cost building blocks, namely opex, pension costs, capex and the costs and revenues associated with NERL's non-regulated activities.

4.2 As part of our assessment, we reviewed NERL's total costs as submitted in NERL's business plan, the rationale NERL set out for those costs and the evidence supporting them. This includes costs associated with NERL's UK en route, Oceanic and London Approach services.

4.3 The focus of this chapter is UKATS costs and these include costs associated with NERL's UK en route and London Approach services. Chapter 8 addresses the London Approach price control, which is based on an allocation of UKATS costs from the total UKATS cost base presented in this chapter.[85] Our views on Oceanic costs, and Oceanic-related issues, are covered in chapter 9.

4.4 We have based our assessment on:

- NERL's business plan and the supplementary information it has provided (including answers to clarification questions from the CAA and its advisors);
- the conclusions from NERL's customer consultation process as set out in the CCWG Co-Chairs' Report;
- further views from stakeholders in response to NERL's business plan, both written submissions and as part of two workshops run by our advisors, Steer, in March and April 2022 to discuss Steer's emerging findings;
- evidence from the Steer study on NERL's operating and capital costs; and
- the GAD report on NERL's pension costs.

4.5 There remain a number of challenges and uncertainties in relation to the NR23 period:

[85] The cost allocation method for the London Approach service is described in chapter 8.

- **Higher inflation forecasts than those assumed in NERL's business plan** – the inflation outlook over the medium term (2022 to 2024) has changed significantly since NERL developed its business plan for the NR23 period. This reflects macroeconomic factors affecting the UK and Europe. In this chapter we present numbers in real-terms, in 2020 prices, with no inflation adjustments applied relative to NERL's plan (other than for 2022 opex costs, as explained in more detail below). The extent to which higher than expected inflation forecasts will affect NERL's costs, particularly in the first few years of the price control remains uncertain. This will depend on the extent to which NERL's efficient costs are subject to pressures from economy-wide price inflation and to what extent NERL is able to mitigate the impact of inflation by making real cost savings in the short to medium term. To illustrate this, we have run an alternative scenario to understand what the impact might be on NERL's costs and revenues in a high-inflation scenario, assuming that a proportion of the increase in inflation would be passed into NERL's cost base. The assumptions we have used as part of this scenario, as well as the results, are explained in more detail in chapter 6.
- **Uncertainty around traffic forecasts** – NERL's business plan is based on the October 2021 STATFOR traffic forecast, which is the forecast we have also used in these Initial Proposals. We have also tested the impact of a low-traffic scenario (given the current macroeconomic uncertainties), where recovery to 2019 traffic levels is slower than anticipated in the STATFOR October 2021 forecast. This is set out in more detail in chapter 6.
- **Delay to key capex programmes** – in response to the impact of covid-19, NERL decided to pause or stop elements of its capex programme in 2020, and the entire programme was re-planned for 2021-2022 and the NR23 period. As part of the NR23 business plan, the Deployment Point (DP) En Route programme[86] was projected to be completed in 2024-2025 while transition to the Common Platform (upper and lower airspace) was projected to be completed in mid-NR28. This compares to the original RP3 implementation target for DP En Route of 2020-2021. In July 2022, NERL issued its Interim Service & Investment Plan 2022 (iSIP22) to the CAA and customers, which includes a revised proposal for DP En Route, which delays full delivery of DP En Route to 2027.[87] These matters are discussed further in the capex section of this chapter.

[86] Programme to deliver the iTEC (interoperability Through European Collaboration) air traffic management into upper airspace, bringing Swanwick and Prestwick Enroute on to a common platform, allowing NERL to decommission legacy equipment ("legacy escape").

[87] This revised proposal had been previously discussed with customers and the CAA on 4 July 2022, at the iSIP 22 customer consultation meeting. This followed the issue of a draft iSIP 22 document in June 2022.

- **Impact of pandemic on staff levels and capability** – during the peak of the pandemic NERL paused all but essential recruitment, implemented a VR scheme and released contractors. These actions (motivated by the financial pressure on the business created by the impact of covid-19) have resulted in a reduced capability by NERL to deliver change in NR23, including in terms of key capex investments. We understand that NERL is exploring ways it can increase its capability to deliver change in NR23, and we would welcome any further detail NERL can provide on this in response to these proposals, to allow us to further assess the deliverability of its NR23 capex programme in our final performance plan decision.

4.6 While significant uncertainties remain, we have sought to make Initial Proposals for cost and revenue allowances that are consistent with NERL meeting its statutory obligations, including safety, and providing the high-quality services required by customers and consumers. As well as NERL meeting its obligations and providing services in a resilient manner, it should also operate, plan and invest in its business in a way that is efficient. It is for NERL to make decisions about how best to run the business and meet its safety and other statutory obligations and provide a good and appropriately resilient service to its customers. Our projections of efficient costs are not specific recommendations for how NERL should operate or invest in its business, but provide an envelope within which we consider it should be able to efficiently operate its business.

4.7 In summary, our proposals for NERL's NR23 Determined Costs are as follows:

- For opex, our allowances for efficient costs in NR23, in the base case, are overall 6% lower than NERL's business plan. The reduction is due to efficiency assumptions we have applied in relation to NERL's staff costs, pension costs, and some elements of non-staff opex.
- For capex, our allowance for efficient costs in NR23, in the base case, are overall 3% lower than NERL's business plan forecasts. The reduction is due to a reduction in NERL's risk and contingency allowance. While we have not proposed other adjustments to the estimates included in NERL's business plan in our base case, we have recently received new information from NERL about changes in key milestones and deliverables for the DP En Route programme, through the iSIP22 consultation process. We do not consider that NERL has set out in sufficient detail the impact of these changes on costs (including asset management opex), service quality and benefits to consumers, and we expect NERL to do so in response to these proposals. Without sufficient detail, we would consider setting lower capex allowances for at least the last three years of NR23.
- For non-regulatory revenues, we have adjusted revenues to reflect efficiency challenges applied to opex, where relevant. We have not applied any other adjustments.

4.8 The focus of this chapter is NERL's UKATS costs. We start by setting out a brief summary of NERL's business plan. Then, for each of the cost categories listed below, we provide an overview of NERL's proposals, a summary of stakeholder views, an overview of our assessment (including relevant points from our advisor's analysis) and our proposals for the level of efficient costs in NR23 (in both a base case and an alternative low costs case, where an additional efficiency challenge is applied). The cost categories covered in this chapter are:

- staff costs (excluding pensions);
- pension costs;
- non-staff costs;
- capex; and
- non-regulated costs and revenues.

Summary of NERL's NR23 Business Plan

4.9 In NERL's business plan, total annual costs remain broadly static in real terms over the NR23 period. Average total operating costs per annum in NR23 are forecast to be around 4% higher than in 2019, in real terms. However, average capex spend per annum in NR23 is forecast to be over 30% lower than in 2019.

4.10 Costs across all building blocks are lower in 2027 compared to 2019, except for non-staff costs, where the increase is mainly driven by the dual running of legacy and new systems, which have significantly increased annual asset management costs relative to previous periods.

4.11 Table 4.1 below sets out historical costs from 2019 until 2022 (noting that 2022 costs shown here are a forecast), and the evolution of NERL's forecast NR23 costs. Table 4.2 shows the same time period and cost categories for UKATS only. More detail on these costs is set out in the following sections of this chapter.

Table 4.1: NERL's total costs from 2019 to 2027

£m, 2020 prices	2019 (A)	2020 (A)	2021 (A)	2022 (F)	2023 (F)	2024 (F)	2025 (F)	2026 (F)	2027 (F)	Total NR23	Avrg. NR23 Vs 2019
Staff costs*	289.1	333.6	221.8	253.1	266.1	274.9	278.1	281.8	286.4	1,387.2	*-4.0%*
Cash pensions	97.0	97.6	92.2	91.4	115.4	114.8	112.8	113.0	112.0	568.0	*17.1%*
Non-staff costs	150.7	133.7	128.7	158.2	166.8	170.9	170.1	170.7	167.0	845.5	*12.3%*
Total operating costs	**536.7**	**564.8**	**442.7**	**502.6**	**548.3**	**560.5**	**561.0**	**565.5**	**565.3**	**2,800.7**	*4.4%*
Capital expenditure	**156.5**	**77.0**	**93.7**	**114.8**	**117.0**	**107.6**	**109.7**	**102.4**	**101.7**	**538.5**	*-31.2%*

Source: Steer report; NERL BP, CAA analysis

Notes: * Inclusive of redundancy, less capitalised labour and pensions. Greyed out columns are the reconciliation period.

A = Actual; F=Forecast

Table 4.2: UKATS costs from 2019 to 2027

£m, 2020 prices	2019 (A)	2020 (A)	2021 (A)	2022 (F)	2023 (F)	2024 (F)	2025 (F)	2026 (F)	2027 (F)	Total NR23	Avrg. NR23 Vs 2019
Staff costs*	275.2	318.6	211.4	242.3	254.1	262.9	265.7	268.8	273.3	1324.7	*-3.7%*
Cash pensions	92.0	93.4	88.4	87.2	109.9	109.3	107.8	108.1	107.3	542.3	*17.9%*
Non- Staff costs	145.3	123.4	117.6	142.0	146.4	150.9	150.8	150.9	147.2	746.3	*2.7%*
Total operating costs	**512.5**	**535.4**	**417.4**	**471.6**	**510.4**	**523.0**	**524.3**	**527.8**	**527.8**	**2613.4**	*2.0%*
Capital expenditure	**154.5**	**75.0**	**92.7**	**111.9**	**111.3**	**101.0**	**104.1**	**99.7**	**100.8**	**516.8**	*-33.1%*

Source: Steer report; NERL BP, CAA analysis

Notes: * Inclusive of redundancy, less capitalised labour and pensions. Greyed out columns are the reconciliation period.

A = Actual; F=Forecast

Rebasing NERL's costs

4.12 NERL submitted its NR23 business plan in 2020 CPI prices, and provided a CPI forecast which could be used to convert the figures it submitted into nominal prices.

4.13 Throughout this chapter, including in the tables in the previous section, operating costs and non-regulatory revenues and costs are presented in 2020 CPI prices.

4.14 For capex, we have had to convert NERL's data into 2020 RPI prices, because the RAB is indexed by RPI (see chapter 5), so we use costs in 2020 RPI prices

as inputs to the calculation of Determined Costs and DUC (see chapter 5). To do this, we started with NERL's submission, and converted figures to nominal prices using average annual CPI forecasts from the OBR (March 2022 forecast release). We then converted these figures into 2020 RPI prices, using average annual RPI forecasts from the OBR.

4.15 For 2022 opex, recognising the significant difference between the CPI forecast used by NERL in its submission (2.73%), and the forecasts which the CAA has used to calculate Determined Costs (7.44%),[88] we consider that an adjustment to NERL's nominal costs is necessary. This adjustment is reflected in 2022 costs shown in the two tables above and the rest of this chapter.

4.16 The aim of this adjustment is to increase NERL's nominal cost base in 2022 by a proportion of the expected increase in inflation for the year, before converting to 2020 prices using the March 2022 OBR CPI forecast, used when calculating Determined Costs as part of the CAA's modelling.

4.17 To perform this adjustment, we have multiplied NERL's opex figures by the OBR average earnings forecast for 2022[89], before deflating to 2020 prices using the March 2022 OBR forecast, which is higher than NERL's forecast. This has the effect of allowing NERL a proportion of the expected increase in inflation for 2022 (equal to the OBR average earnings forecast of 5.34%), above what it forecast in its own submission.

4.18 We took this approach because a significant proportion of NERL's opex (70%) consists of staff costs, including pensions. As the OBR forecast of average earnings growth in 2022 is higher than the CPI forecast used by NERL in its submission, this has the effect of increasing NERL's nominal costs for 2022.

4.19 For costs in 2023 to 2027, we have not adjusted NERL's submission, and have taken over view of NERL's efficient adjusted costs as the 2020 CPI input to the financial model. This has the effect of passing through the difference between NERL's CPI forecast and the March 2022 CPI forecast into NERL's nominal cost base for 2023 to 2027. We have taken this approach on a provisional basis, and partly because the difference between NERL's forecast and the OBR forecast narrows over the course of NR23.

4.20 We have however highlighted to NERL that we expect it to provide a detailed explanation of how it expects updated inflation forecasts over the NR23 period will impact its cost base. It is for NERL to evidence whether the full increase in

[88] March 2022 OBR forecast; see Chapter 5 section on inflation.

[89] Average earnings forecast from OBR's March 2022 Economic and fiscal outlook: Chapter 2, tab T2.5. Available here.

inflation (relative to its original submission) would be passed through in its cost base, or whether NERL would be able to mitigate any of this increase.

4.21 We note that the purpose of these adjustments is to have a robust starting point for NR23, and for the calculation of DUC. The regulatory framework protects NERL from differences between outturn inflation and the forecast of inflation used to calibrate the regulatory settlement. We are not proposing to change this approach for NR23.

Staff costs

NERL's proposals for staff costs in NR23

4.22 NERL's UKATS staff costs were around £275 million in 2019,[90] and increased to £308 million in 2020, as a result of the actions NERL took on staff numbers (through its VR scheme) and pay (voluntary pay cuts, furlough) in 2021. Staff costs then decreased to £211 million in 2021 and are forecast to start increasing in 2022 as NERL's business starts to recover from the impact of the covid-19 pandemic. Staff costs are forecast to reach £263 million in 2027.

4.23 NERL said that staff costs will increase in NR23 because of:

- a projected increase in ATCO staff costs to support training and increased headcount, to ensure operational resilience and that they can safely meet air traffic recovery; and
- an expanded graduate programme.

Stakeholder views

4.24 Airline feedback on NERL's business plan was primarily around whether NERL is sufficiently resourced (in terms of ATCOs) to support the recovery of air traffic volumes, particularly if a full recovery is quicker than predicted. Given the uncertainty over traffic forecasts, there was consensus that airlines preferred NERL to prioritise safety and err on the side of caution, with over capacity of ATCO resource. Trade Unions highlighted the importance of sufficient training capacity and improved pass rates to ensure this is the case.

Our views

4.25 Although historically NERL has improved ATCO productivity[91] on average by 1.75% per year over 2009-2019 (linked to growth in traffic, improved processes and systems), NERL has assumed no improvements in ATCO productivity during

[90] Excluding capitalised labour and pensions.

[91] More specifically we refer to ATCO-hour productivity, which is defined as the number of composite flight hours per hour of ATCOs in operations.

NR23 relative to 2019 levels,[92] despite the introduction of measures such as improvements in controller tools, new technology, increasing levels of controller skills and experience, and changes in airspace structures to reduce complexity.

4.26 We consider certain aspects of NERL's forecast increases in staff costs over the NR23 period have not been fully justified:

- increases in staff average pay in real terms, where total compensation has been shown to significantly exceed market rates, particularly for some grades;
- increases in ATCO headcount over NR23 do not factor in any productivity improvements over the next five years; and
- the significant growth in graduate headcount over NR23.

Evolution of staff pay

4.27 Figure 4.1 below shows the evolution of NERL's pensionable pay from 2019 until the end of NR23, by staff category. Pensionable pay is a function of the number of full-time equivalent (FTEs) in each staff category and their average salary.

4.28 Total staff decreased by -13% in 2021, mainly due to reductions in non-operational staff as a result of the VR scheme implemented by NERL and a pause in ATCO training, reducing the number of trainee air traffic controllers (TATCs). Over NR23, FTEs are forecast to grow by a compound annual growth rate (CAGR) of 1.5%.

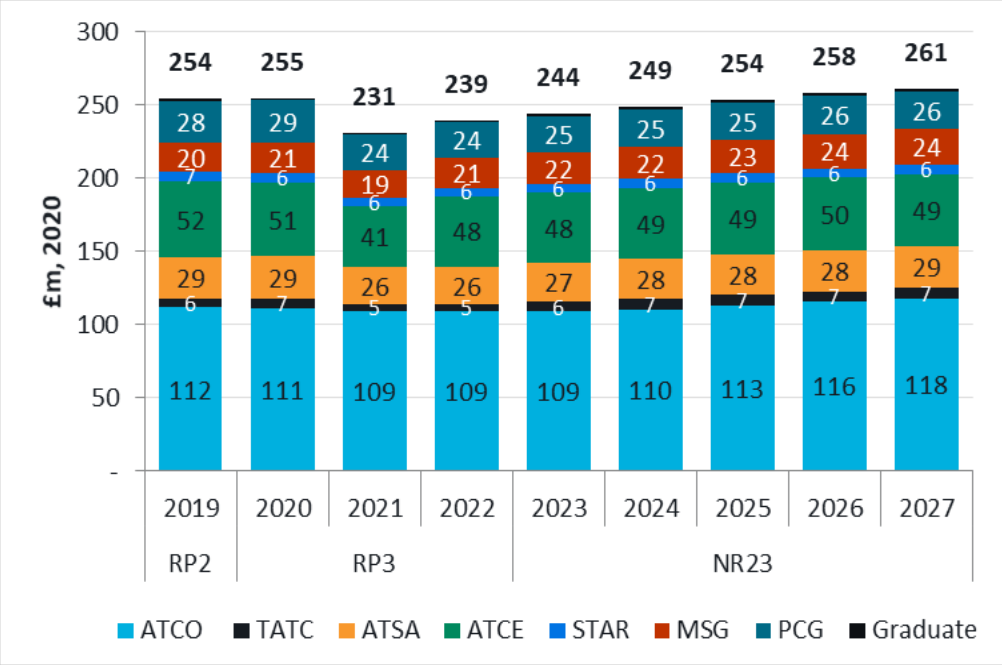
4.29 The following categories of staff are shown in the figure below.

- Air traffic controllers (ATCO) – operational staff, responsible for controlling traffic and non-operational staff who perform functions including safety management, supporting airspace and systems development, providing training and operational management.
- Trainee air traffic controllers (TATC) – trainees typically require two to three years before they qualify as operational.
- Air traffic assistants (ATSA) – staff who perform supporting roles in the operation, as well as supporting controller training and simulation, and the implementation of the airspace and technology programmes.

[92] Steer have found that historically, NERL has improved ATCO productivity on average 1.75% per annum over the 2009-2019 period, linked to growth in traffic and improved processes and systems. Paragraph 2.5.20 of the Steer report.

- Air traffic engineers (ATCE) – staff responsible for running and maintaining NERL's operational systems, as well as developing and implementing of new systems and procedures.
- Analytical support (STAR) – staff who perform specialist technical roles across a number of areas, including safety and human factors, service performance, and software engineering.
- Other support staff (MSG and PCG) – corporate support such as finance, human resources and legal, as well as managerial and support staff for the operation and technical services, including safety and training. MSG staff are covered by collective negotiations (i.e. unions) while PCG staff are typically not.
- Graduates – this includes staff going into schemes across the business, including cyber-security, finance, human resources and safety.

Figure 4.1: NERL total pensionable pay by staff category (2019 to 2027), 2020 prices (CPI-real)



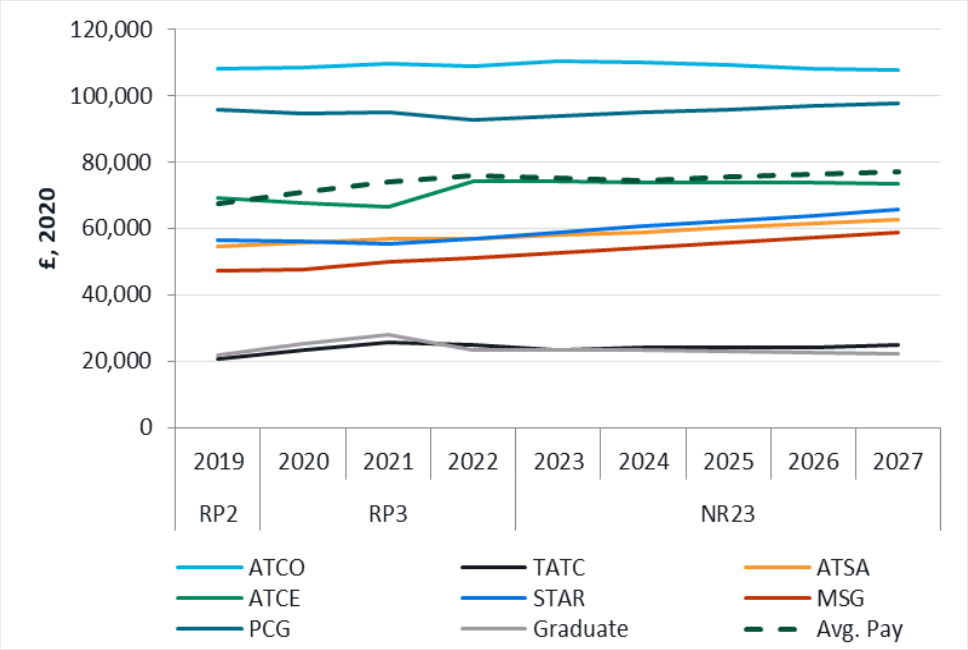
Source: Steer report based on NERL 'NR23 opex template FINAL' received on 07/02/2022

4.30 Figure 4.2 below shows the average salaries for each category in real terms. Together with the evolution in FTEs, this accounts for the overall growth in pensionable pay over the NR23 period shown in Figure 4.1.

4.31 Overall average pensionable pay increases in real terms by +1.7% CAGR between 2019 and 2027. A significant proportion of this increase occurs between 2019 and 2021, reflecting changes in the mix of staff driven by the VR scheme. Average pensionable pay is forecast to increase by +0.6% CAGR between 2021

and 2027.[93] The evolution of average salaries differs by category and this is explained in more detail in the Steer report.

Figure 4.2: NERL average salaries by staff category (2019-2027)

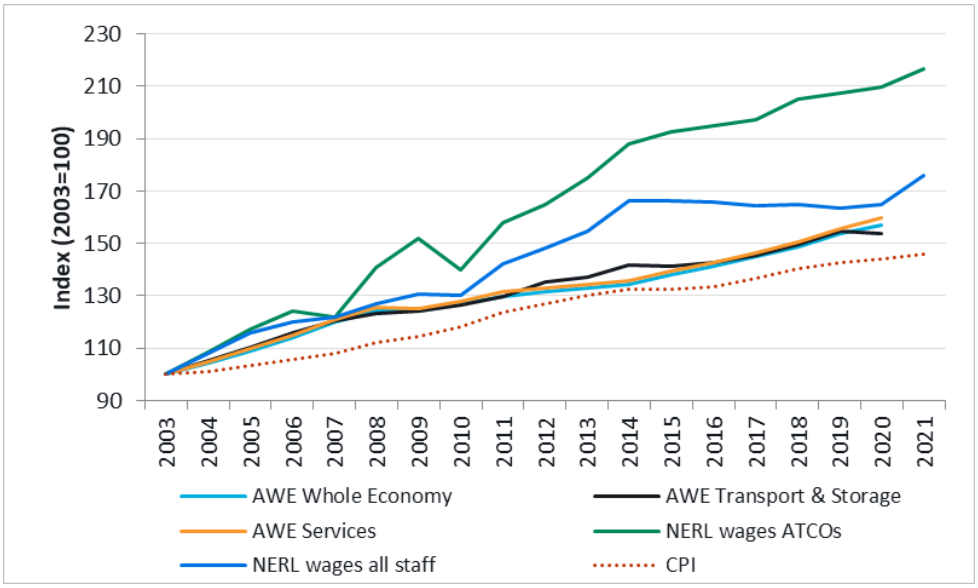


Source: Steer report based on 'NR23 opex template FINAL' received on 07/02/2022, business plan Appendix J, responses to clarification questions.

4.32 Steer also looked at the evolution of average NERL salaries over the longer term, as shown in the figure below. Since 2003, NERL's staff costs have generally increased faster than general inflation and wage costs seen across the UK economy, as well as average weekly earnings (AWE) in the transport and storage sector.

[93] This reduced the proportion of non-operational staff that have lower average salaries than operational staff.

Figure 4.3: Comparison of AWE and NERL wages



Source: Steer report, based on NATS RP2 Financial model, 23 April 2018 data submission, 'NR23 opex template FINAL' received on 07/02/2022 & Office for National Statistics

4.33 Steer have compared NERL staff costs with similar roles within the UK, and with other ANSPs (where data was available).

4.34 The comparison with other ANSPs is challenging, due to the differences in labour market conditions and salary data across different countries. In addition, the data to which Steer had access did not allow them to distinguish NERL from the operations of the wider NATS group, including terminal services provided by NATS. However, on the basis of the data available, with the caveats mentioned, Steer found that ATCO costs at NATS were towards the higher end of the sample of ANSPs, although not at the top of the range.

4.35 Steer also compared salaries for NATS ATCOs with similar roles in the UK, using Standard Occupational Classification (SOC) data for 2019 from the ONS Labour Force Survey. They found that NATS ATCO salaries (excluding social costs and pensions) are the highest of all the benchmark categories (+26% higher than the upper quartile of the benchmarks), when compared with relevant roles in aviation (for example, pilots and ATCOs) and related industries (for example, train drivers and ships' officers). They also found that NATS' ATSA and ATCE salaries are significantly higher than any of the comparator groups (+52% higher than the upper quartile of the benchmarks for ATSA and +32% higher for ATCE). MSG salaries are also at the top of the range of the comparator values (+10% higher than the upper quartile of the benchmarks).

4.36 NERL commissioned NERA to undertake benchmarking of NERL's staff salaries, and NERA reported back to NERL in September 2021. NERA used "wage equations" and the Office for National Statistic's Labour Force Survey data

classified according to the SOC scheme, estimate the appropriate salary levels for particular jobs, based on an econometric analysis.

4.37 At a high-level, NERA's analysis appears to confirm the indication, based on the Steer salary benchmarking, that ATSA and ATCE pay is above market rates. Although NERA does provide qualitative reasons why it considers that, nevertheless, this is not excessive for example due to imperfect comparator roles. It is less conclusive about ATCO, MSG and STAR pay.

4.38 Based on the evidence from our advisors, as well as NERA (NERL's advisors), and our own review of NERL's business plan, we consider that it would be reasonable to assume slower wage growth in NR23 than forecast by NERL, particularly in the context of NERL's level of salaries relative to benchmarks, and also its assumptions about productivity increases in NR23 which are discussed in the next section. In our low costs case, we have modelled, at a high-level, the impact of NERL's salaries reducing in NR23 to be more in line with benchmarks. This additional efficiency challenge, combined with the adjustment applied in the base case, results in staff pay growing more slowly than CPI in NR23, by about 0.4 percentage points (on average).

4.39 We also note that, in the current high-inflation environment, it is not clear how NERL's real-term wages would evolve, relative to the assumptions in its business plan. We have modelled the impact of this, based on our own assumptions, in the alternative high-inflation scenario.

ATCO productivity

4.40 Historically, NERL ATCO-hour productivity has been towards the higher end of the largest five European ANSPs. For RP3, further increases in productivity were expected as a result of material investments in systems and processes during RP2 and others that were scheduled for RP3.

4.41 Several factors influence ATCO productivity. Drivers working in opposite directions are expected to affect ATCO productivity during NR23. These include:

- increasing resilience of operational resourcing;
- improvements to training and rostering;
- traffic recovery and growth;
- airspace modernisation and change;
- technological improvements[94]; and
- retirements.

[94] For example, Common Platform controller tools.

4.42 NERL has confirmed that both airspace modernisation and incremental improvements to training and rostering could enable improved productivity during NR23, but that the benefits of this have instead been used to "better resilience, capacity and environment[al] performance."[95] This position, however, has not been clearly evidenced. For example, NERL's resource plan already contains provisions for improved operational resilience through the recruitment of around 60 additional ATCOs.

4.43 Historically, NERL has improved ATCO productivity on average by around 1.75% per year over the 2009 to 2019 period, linked to growth in traffic and improved processes and systems. Over the shorter period 2015 to 2019, NERL achieved ATCO-hour productivity of 3%. Bearing all of the above in mind it appears reasonable to assume that productivity growth will continue broadly in line with its long-run average growth rate, once traffic recovery to 2019 levels occurs and we have factored this into our overall assumptions on staff costs.

4.44 It is our view that, on the basis of historical levels of productivity, the profile of traffic recovery and the planned implementation of technology transformation programmes during NR23, NERL should be able to achieve productivity growth of 1.5% year on year from 2025 onwards.[96] This is the top end of the range proposed by our consultants Steer.

Graduate headcount

4.45 NERL plans to significantly expand the size of graduate recruitment in NR23, and standardise its graduate scheme.[97] NERL has clarified that this is with the objective of offsetting forecast staff attrition, allowing NERL to reduce its dependence on recruiting experienced hires from the external market.

4.46 However, Steer found that the number of graduate roles planned for NR23 significantly exceeds rates of attrition modelled within the business, so it is unclear why this number of graduates is needed, and appears to be based on a pessimistic assumption NERL has adopted in relation to graduate retention (50%).

[95] Page 5 of NERL's "CAA letter re Steer report - final 21 04 22".

[96] We note that NERL forecasts as of summer 2022 place delivery of DP En Route later into NR23 – in 2027 – which would have an impact on our assumptions about productivity increases from 2025. However, at the time of issuing these IPs, NERL had not yet presented a full picture of the impact of delaying DP En Route on its costs (opex and capex) and benefits for consumers. As such, our IPs are based on NERL's business plan assumptions around delivery of DP En Route, in the absence of better information.

[97] We acknowledge that a methodological change in the accounting of graduates, stemming from NERL's new graduate programme, increases the perceived number of graduates FTEs in the business. Controlling for this effect, however, does not change our overall findings.

4.47 Based on this analysis by Steer, we have reflected the need for a reduced number of graduates in our cost allowances.

Our Initial Proposals

4.48 On the basis of the three issues identified above (average staff, ATCO productivity, and graduate headcount) we have estimated two cases for the efficient cost allowances for UKATS staff costs in NR23, of £1,253 million in the low case and £1,296 million in the base case (5% and 2% below NERL's business plan respectively). This is calculated based on our assumptions of:

- slower growth in average wages (relative to CPI) than assumed in NERL's BP, consistent with overall trends in the economy. For the low case we have also taken account of the top-down staff cost benchmarking by Steer to propose that NERL is able to reduce staff costs in line with market benchmarks. This reduces staff opex in NR23 compared with NERL's business plan by around £10 million in the base case to £50 million in the low case;
- higher ATCO productivity. For both the base and the low case, we have assumed 1.5% per annum from 2025 onwards. This reduces staff opex in NR23 compared with NERL's business plan by around £16 million; and
- lower number of graduates required in NR23. For both the base case and the low case we have assumed 33 fewer graduates than in NERL's plan. This reduces staff opex in NR23 compared with NERL's business plan by around £3 million.

4.49 The two cases give a cumulative reduction of £29 million and £71 million in staff operating costs relative to NERL's business plan. This is broadly similar to the range presented in the Steer report, when considering their bottom-up and top-down estimates. Our allowance is for staff opex overall. It is for NERL to decide how to operate its business to provide a safe and resilient service.

4.50 Our Initial Proposals use the base case. We consider that this provides a reasonable estimate for efficient costs in NR23 based on information currently available, and in particular the level of uncertainty still prevailing both about recovery of traffic and about the macroeconomic conditions over the medium-term. However, we would welcome stakeholder views on whether we should place further weight on market benchmarks in setting opex allowances, as used in our low case.

Table 4.3: NERL's forecasts of UKATS staff opex vs. CAA Initial Proposals

£m, 2020 CPI prices	2023	2024	2025	2026	2027	NR23
NERL NR23 BP	254.1	262.9	265.7	268.8	273.3	**1,324.7**
CAA base case	252.8	259.2	260.0	260.8	263.3	**1,296.2**
Difference: CAA base case vs. NERL BP	- 1.2	- 3.7	- 5.7	- 7.9	- 10.0	**- 28.6**
CAA low case	250.7	254.9	253.5	252.1	252.3	**1,263.5**
Difference: CAA low case vs NERL BP	- 3.4	- 8.0	- 12.2	- 16.7	- 21.0	**- 61.2**

Source: CAA

Pension costs

4.51 In this section we provide an overview of NERL's approach to pension costs, summarise stakeholder views, summarise our overall assessment and set out our proposals for NR23.

NERL's proposals for pensions costs in NR23

4.52 Pension costs represent a significant portion of NERL's staff costs (29% in NR23) and of total operating costs (20% in NR23). NERL has forecast that its UKATS pension costs will increase over NR23, being 17% higher in 2027 than in 2019.

4.53 NERL has a DB scheme that was closed to new entrants with effect from 31 March 2009. The pension costs included in NERL's business plan show a significant increase over NR23, in particular reflecting increases in future service DB pension costs, which in 2027 are 20% higher than in 2019 (or around 60% higher if looking at future service costs only).

4.54 DB pension costs from 2023 onwards reflect the actuarial valuation for the position as at the end of 2020. Under this valuation, the employer's standard contribution rate for future service costs has increased from 41.7% of pensionable pay to 66.2% of pensionable pay. NERL states that the increases in contributions to the scheme have been mainly driven by external market conditions.

4.55 NERL also has DC and PCA schemes. DC pension costs depend on the level of contribution rates paid, the number of scheme members, and their average pay. The costs of the DC scheme also increase over the course of NR23. NERL has explained that the size of the DC scheme and its membership will continue to increase during NR23 as new joiners replace leavers and retirees who were members of the DB scheme. In its advice to us, Steer have also observed that the increase will be in part due to the average pay for members increasing in NR23.

4.56 NERL expects the costs of PCA to decrease over NR23. Our advisors, GAD, have explained that this is due to the fact that members who take the PCA are expected to be older and therefore more likely to reach retirement within NR23.

4.57 Table 4.4 below shows a breakdown of UKATS cash pension costs by the three schemes, with DB costs shown separately for future service costs and deficit repair costs.

Table 4.4: NERL actual/forecast for UKATS cash pension costs 2019 to 2027

£ million, 2020 CPI prices	2019 (A)	2020 (A)	2021 (A)	2022 (F)	2023 (F)	2024 (F)	2025 (F)	2026 (F)	2027 (F)	Total NR23
Defined benefit: future service	37.9	47.3	45.9	43.9	64.3	63.5	61.5	60.9	59.2	309.4
Defined benefit: deficit repair	28.0	18.7	18.7	18.3	19.1	19.2	19.3	19.5	19.7	96.8
Defined contribution	10.0	11.8	11.3	12.9	14.9	16.3	17.8	19.3	20.7	89.0
Pension cash alternative	16.0	15.7	12.5	12.1	11.6	10.2	9.1	8.4	7.8	47.1
Total	**91.9**	**93.4**	**88.4**	**87.2**	**109.9**	**109.3**	**107.8**	**108.1**	**107.3**	**542.3**

Source: CAA

Stakeholder views

4.58 Airlines in general identified pension costs as an area for cost savings, noting the generous contribution rates of NERL's DC scheme.

4.59 Trade Unions highlighted the factors that influenced the design of the current scheme, including its purpose as an alternative to the DB scheme.

Our view

4.60 We commissioned GAD to review the pension cost forecasts in NERL's business plan and set out its view of reasonable and efficient pension costs. As part of their assessment of NERL's opex and capex, Steer also reviewed DC pension costs, and the administrative costs associated with NERL's pension schemes.

4.61 In this section we discuss our assessment and the resulting efficiency challenge applied to UKATS DB, DC and administrative costs.

4.62 GAD did not identify any significant issues with the PCA scheme that NERL has in place and so we have adopted NERL's business plan forecasts.

Defined Benefit Scheme

4.63 NERL contributes towards the NATS Section of the CAAPS.[98] The DB scheme costs from 2023 onwards reflect the results of the 2020 actuarial valuation. As a result of this valuation, future service costs for the DB scheme increase to 66% of pensionable pay in 2023, from 42% at the 2017 valuation. The increase is primarily due to changes in market conditions, specifically the reduction in gilt yields between 31 December 2017 and 31 December 2020. However, GAD have also identified other assumptions in the valuation which drive the increase in DB scheme costs, and which are discussed in more detail in this section.

4.64 We commissioned GAD to review NERL's pension costs and the factors that determine these costs, and to provide its view on the reasonable and efficient range of pension costs.

4.65 The main findings from GAD's report in relation to the DB scheme are that:

- the NATS Section benefits are more generous than those provided by typical UK private sector DB schemes. However, there appears to be limited scope to change the benefits due to protections in place under the scheme's Trust Deed and Rules (and other governance documents);
- at a high level, the current investment strategy appears to be broadly reasonable, and is broadly consistent with a typical private sector DB scheme of similar maturity. Overall, there has been a change in the NATS Section investment strategy since the previous actuarial valuation in 2017, and this has included a reduction in the proportion of return seeking assets in favour of more credit and bond assets. The CAA may want to engage with NERL to understand whether this is in the best interest of consumers;
- in general, the assumptions adopted for the 2020 funding are within a broadly reasonable range compared to wider practice given the investment strategy adopted by the NATS Section and the assessed employer covenant strength. The approach to setting the discount rate changed for the 31 December 2020 valuation, with no allowance for outperformance above the prudent technical provisions discount rate being made.[99]

[98] The CAAPS is a fully funded DB scheme providing benefits based on final pensionable salaries. At 31 March 2001, the business of NATS was separated from the CAA. As a consequence, NATS became a 'non associated employer' which requires the assets relating to the liabilities of NATS active employees at 31 March 2001 to be separately identified within the CAAPS. CAAPS was divided into two sections to accommodate this, namely the CAA section and the NATS section.

[99] NERL and their advisors, Mercer, have stated that the removal of the outperformance within the recovery plan calculations should be considered together with the changes to the discount rate methodology introduced at the 2020 valuation. GAD's modelling suggests that if the outperformance was reintroduced to the calculation

- NERL's projected DB pension costs in its business plan fall towards the upper bound of what GAD considers to be a reasonable and efficient range of pension costs for the NR23 price control period. The most material assumption underlying the assessed pension costs is the discount rate. Considering the NATS Section's investment strategy, strong employer covenant and relative immaturity, GAD would expect that the funding strategy would be between the 70th and 95th percentile of DB pension schemes.[100] By comparison, the current discount rate is broadly 75th percentile. GAD has estimated a range for projected pension costs for NR23 based on discount rate assumptions consistent with the 95th percentile of all DB pension schemes (lower bound), 85th percentile (mid bound) or 70th percentile (upper bound). NERL's estimates fall towards the top of the range, close to the upper bound. Changing the assumptions about the discount rate has the effect of reducing ongoing contributions, and also of eliminating the deficit assumed in the NERL valuation (other than at the upper bound), thereby reducing the deficit repair costs to zero in the lower and mid bound scenarios.

4.66 Based on the GAD report, we consider that there may be opportunities for future DB pension scheme valuations to include assumptions about the discount rate closer to the GAD mid bound, reflecting assumptions which are more consistent with the 85th percentile of DB pension schemes.

4.67 The next actuarial valuation for the DB scheme is expected to take place after the end of 2023, with assumptions made as part of that valuation expected to affect contribution rates and therefore pension costs from 2025 onwards. Therefore, the current valuation, and the contribution rates determined by the assumptions made in this valuation, will continue to apply to costs for the first two years of NR23 (2023 and 2024).

4.68 Our Initial Proposals base case reflects the GAD mid bound from 2025 onwards and so is only reflected in contributions based on the next future valuation. The low case we have put forward reflects the GAD's findings for a reasonable and efficient range of costs from the start of NR23, from 2023 onwards.

Defined contribution scheme

4.69 GAD found that, on average, NERL contributes 16% of pensionable pay towards the DC scheme. This is higher than might be considered typical, with FTSE100 companies on average paying around 11% of pensionable pay.[101] However,

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of the 2020 recovery plan (all else being fixed), the deficit repair contributions would be £28 million over the 5 year price control period, reduced from £107 million (adjusted for the ~ 75% NERL economic share).

[100] The percentiles defined by GAD are intended to represent the actuarial basis (the set of assumptions), and how optimistic/prudent these are, and therefore how low/high the assessed pension costs would be.

[101] GAD report, based on TPR DB Scheme Costs, 2014.

GAD notes that the contribution rate is significantly lower than the equivalent DB pension scheme contributions.

4.70 Steer also looked at NERL's DC pension costs and reached similar conclusions to GAD. Steer compared the average level of NERL contributions to the DC scheme to other European ANSPs, UK providers of TANS and other large aviation and transport companies.

4.71 Steer found, based on a 2018 Pensions study for Eurocontrol's Performance Review Commission, that NERL had the fifth highest level of contribution at 16%. The average across the sample was 9%.[102] However, the different basis and national legislation for these schemes make it challenging to make meaningful like for like comparisons on the basis of this analysis.

4.72 Comparison to other UK providers of TANS found that two companies had DC schemes in place, with average contribution rates lower than NERL's (as calculated by Steer). However, Steer recognises that new UK comparators do not have the same legacy pension arrangements as NERL.

4.73 Steer also looked at other non-ANSP providers, including British Airways, Gatwick and Heathrow airports and Network Rail. NERL's maximum (18%) was higher compared to the average across these other companies (12%).

4.74 On the basis of the GAD and Steer analysis, we consider there is evidence that the contribution rate for the DC scheme, in particular for new hires, could reasonably be reduced without putting NERL in a disadvantageous position relative to comparator organisations in terms of attracting staff.

4.75 We also note the issues raised in the previous section around the level of NERL's pay relative to comparators, which is also a relevant consideration as part of a reward package when trying to attract staff. Therefore, while we have set out separate efficiency challenges in the previous section and below in terms of NERL's pay levels and the DB pension scheme, we consider this is an issue for NERL to manage, as part of a total reward package.

Our Initial Proposals

4.76 On the basis of the issues identified above in relation to the DB and DC pension schemes, we have estimated two cases for the efficient cost allowances for UKATS pension costs in NR23, of £364 million in the low case and £436 million in the base case (33% and 20% below NERL's business plan respectively). This is calculated based on our assumptions of:

- pension costs adjusted to reflect the efficient range proposed for staff costs in the previous section, in the base case and the low case respectively. This

[102] Data relates to 2016.

reduces DB and DC pension costs in NR23 compared with NERL's business plan by approximately £10 million in the base case to £20 million in the low case;

- DB ongoing contribution and deficit repair costs adjusted to be in line with GAD mid-point estimates (reflecting discount rate assumptions closer to the 85th percentile). Deficit repair costs specifically are nil in the GAD mid-point estimate. For the base case the adjustment is applied from 2025 onwards, while for the low case it is applied from 2023. This reduces DB pension costs in NR23 compared with NERL's business plan by approximately £95 million (£36 million relating to ongoing contributions and £58 million to deficit repair costs) in the base case to £157 million in the low case (£61 million relating to ongoing contributions and £97 million to deficit repair costs); and
- DC contribution rate for new joiners from 2024 (when the Memorandum of Understanding which was put in place at the closure of the DB scheme is no longer enforceable) assumed to be 12% on average, consistent with Steer's assumption. This reduces DC pension costs in NR23 compared with NERL's business plan by approximately £1 million both in the base case and in the low case.

Table 4.5: NERL's forecasts of UKATS pension costs vs. CAA Initial Proposals

£m, 2020 CPI prices	2023	2024	2025	2026	2027	NR23
NERL NR23 BP	109.9	109.3	107.8	108.1	107.3	**542.3**
CAA base case	109.4	107.9	74.1	72.5	72.4	**436.1**
Difference: CAA base case vs. NERL BP	-0.5	-1.4	-33.7	-35.6	-35.0	**-106.2**
CAA low case	76.4	75.2	72.5	70.3	69.7	**364.0**
Difference: CAA low case vs NERL BP	-33.5	-34.1	-35.3	-37.8	-37.6	**-178.3**

Source: CAA

Non-staff opex

NERL's proposals for non-staff costs in NR23

4.77 NERL's business plan forecasts real increases in non-staff costs relative to 2019 levels as a result of legacy systems not being decommissioned when previously anticipated, and with DP En-Route and Voice for upper airspace being implemented at the same time as legacy systems remain in operation in lower airspace. NERL has said these factors will result in additional costs, including asset management costs, associated with maintaining old systems while developing and deploying replacement technology (dual running) for a longer period than initially envisaged, and until the Common Platform is implemented (planned for NR28).

4.78 NERL has said further increases in overall operational costs are the result of:

- an increase in the scope of NERL activities to include Uncrewed Traffic Management resulting in forecast development costs to average at £1.2 million per year over NR23 and an increased spend on cyber-security; and
- a range of economy wide cost pressures. Inflation rates are at their highest in ten years and projected to increase, with supply chain disruptions as a result of covid-19 and the war in Ukraine. The labour market is currently tight, with pressure on wage costs and technical skills attracting a premium.

Stakeholder views

4.79 In terms of legacy escape, stakeholders were not clear on what leads to the significantly higher sustainment capital costs and asset management operating costs presented by NERL.

Our view

4.80 With support from Steer, we have identified a number of areas on non-staff opex where we consider the efficient costs should be set below the cost levels in NERL's business plan:

- asset management costs, both for new and legacy systems;
- inclusion of CAA-fees within NERL's Determined Cost base, which will no longer be the case for NR23;
- increases in DB pension management costs;
- missing opex efficiencies resulting from RP2 capex; and
- increases in UTM development costs.

Asset management costs

4.81 Steer suggested that capex across NR23 could be reconfigured to accelerate the realisation of planned legacy escape, and thereby a reduction in legacy systems asset management costs. Steer estimated that the 'stepwise legacy escape scenario' could realise an 18% (£20 million) saving in legacy systems asset management costs over NR23 without needing to increase total capex over the regulatory period.

4.82 The net benefit of new systems to airspace users has also been challenging to assess based on the limitations of the information provided by NERL.[103]

[103] CAA previously concluded in its Draft UK Reference Period 3 Performance Plan proposals (CAP 1758) p.54 that, "it is difficult to establish whether these costs [asset management opex] provide value for money and, although potential reductions have not been quantified, efficient levels of costs might be lower than the forecasts made by NERL.".

Although we appreciate NERL's efforts in improving the volume of information presented on programme costs, benefits and risks for NR23 capex,[104] NERL has still not provided evidence on whether and to what extent its planned investments are of net benefit to airspace users.

4.83 This makes it challenging for us to assess – on the basis of the information presented by NERL – whether opex associated with such new systems is efficient. This is particularly relevant because such costs are the largest driver of total non-staff costs for NR23.

4.84 We note however that NERL's capex programme, and particularly DP En Route, which would enable the decommissioning of legacy systems, is behind schedule relative to the NR23 business plan forecasts. We discuss this in more detail in the capex section. Based on our own assessment of NERL's plan, we have not been able to adopt Steer's "stepwise" legacy escape profile as part of our assumptions, and therefore have not included the £20 million of asset management savings identified by Steer in our forecasts.

4.85 Delays in delivery of capex programmes could be inefficient and, where this is the case, consumers should not be paying higher costs (capex or opex). We will review these matters again as part of the work to support our final performance plan decision, including whether we should make adjustments to asset management costs to reflect the efficient delivery of the wider programme. We will also carry out a full review of the DP En Route programme once it is complete, to establish whether NERL delivered it in an efficient way.

CAA fees

4.86 Historically, the CAA has charged NERL an annual licence fee (and an additional fee when conducting price control reviews), which has then been incorporated into NERL's operating costs.

4.87 As published in the CAA's Statutory Charges consultation,[105] we have reviewed this approach in relation to meeting the cost of our economic regulation activities for ATS and concluded that the beneficiaries of CAA's regulation of NERL should meet the costs of regulation directly.

4.88 Consistent with our intention to implement this change from the start of NR23, the CAA has issued NERL with a licence fee that only covers until December 2022, rather than the full financial year to March 2023.

4.89 On this basis, it is not appropriate to include these costs in our projections of NERL's opex.

[104] The latest 2021 Interim Service and Investment Plan (SIP) is a significant improvement over previous SIPs.

[105] CAA (November 2021). Statutory charges FY22/23: Consultation document (CAP 2282)

Pension management costs

4.90 We sought advice from GAD on pensions costs, including the associated administrative expenses. GAD concluded that, "expenses, particularly administration (including legal, actuarial and day-to-day administration) are greater than those expected from schemes of a similar size when assessed on a per member basis."[106]

4.91 Further to this, NERL has proposed significant increases in DB pension management costs in NR23 which do not reflect the effects of falling scheme membership as a result of the PCA arrangements.

4.92 Therefore, we propose not to allow for the real increases in DB pension management costs above 2022 levels.

Opex efficiencies

4.93 NERL has confirmed that approximately £1.75 million (2020 CPI) of cost efficiencies derived from RP2 capex have not been included within its NR23 business plan. We are proposing to include all opex efficiencies resulting from previous capital spend which NERL expects to materialise over NR23.

UTM development costs

4.94 The needs of new airspace users are expected to develop rapidly during the NR23 period, including those needs pertaining to new infrastructure, markets and the design of current and future airspace structures.

4.95 NERL has identified potential costs of around £34 million (nominal prices) for it to enable new user integration during the NR23 period. Of this, NERL's business plan allocates £6 million (2020 CPI) to NERL's Determined Cost base for NR23 – on the basis that some of these costs relate to the services provided to its existing customer base.

4.96 NERL should be able to recover its associated new user efficient costs, where they are consistent with its licence obligations and statutory duties. Airlines support this position.

4.97 However, having assessed the costs submitted, we consider that a proportion of the costs included in NERL's business plan are not consistent with the user pays principle and should not be recovered from conventional users of airspace. Our Initial Proposals reduce the cost allowance proposed by NERL by £3.3 million over NR23. These reductions are associated with NERL's forecasts of:

[106] Slide 13, Government Actuary's Department (2022) Summary findings: Analysis of pension costs for NATS (En Route) plc.

- an increased volume of trials of new airspace users' operational concepts both inside and outside controlled airspace; and
- undertaking early activities in the definition of new services, standards and operating procedures.

4.98 This adjustment effectively holds UTM development costs to be recovered from conventional users at their 2022 level, over the course of NR23. These costs are associated with NERL managing the operational and safety impact of new airspace users on conventional users of airspace.

Our Initial Proposals

4.99 On the basis of the issues identified above, we have estimated efficient cost allowances for UKATS non-staff opex in NR23 of £737 million in the base case (1% below NERL's business plan\). We have not applied any further adjustments for the low case for non-staff opex. The base case for non-staff opex is calculated based on our assumptions that:

- the removal of CAA fees in NR23 accounts for £5.2 million;
- opex efficiencies account for £1.8 million over the NR23 period; and
- the removal of UTM development costs totalling £3.3 million in NR23.

Table 4.6: NERL's forecasts for UKATS non-staff opex vs. CAA Initial Proposals

£m, 2020 CPI prices	**2023**	**2024**	**2025**	**2026**	2027	**NR23**
NERL NR23 BP	146.4	150.9	150.8	150.9	147.2	**746.3**
CAA base case	145.3	149.3	149.4	148.2	144.4	**736.6**
Difference: CAA base case vs. NERL BP	-1.1	-1.6	-1.4	-2.7	-2.8	**-9.7**

Source: CAA

Capex

NERL's proposals for capex in NR23

4.100 Compared to its RP3 capital plan, the programme proposed by NERL for NR23 is substantially smaller, as a result of the actions taken during 2020 to 2021 (including reduced capability due to implementation of the VR programme and the release of contractors) and the re-planning of the RP3 baseline investment plan.

4.101 The key actions taken by NERL on capex in response to the impact of the covid-19 pandemic were:

- pausing the capital programme (apart from essential services and sustainment) for six months in 2020;

- releasing 149 contractors (covered in chapter 2);
- voluntary redundancy of 200 technical staff (covered in chapter 2); and
- moving to a 'fix on fail' approach in the sustainment of the systems.

4.102 These actions were presented to and consulted with customers, as part of the Technical Customer Advisory Board (TCAB) and Interim Service & Investment Plan 2021 (iSIP21) processes.[107]

4.103 These actions enabled NERL to achieve savings during 2020 and 2021. However, they also resulted in a reduced capacity to change and implement major system transitions.

4.104 In its business plan, NERL set out three main objectives for its investment portfolio for NR23:

- sustainment (which includes sustaining existing services; ensuring resilient air traffic management services);
- airspace (which includes the following programmes: Delivering Increased Network Capacity, Enhanced Safety, Improved Environmental Performance & Reduced Fuel Burn for Customers); and
- deploying Single European Sky ATM Research (SESAR) (replacing ageing infrastructure; and consolidating to a single platform, with improved tools and standardising operations).

4.105 The table below provides an overview of the planned capex over the NR23 period, by programme. The capital programme is largely driven by the headline programmes:

- Airspace and Ops enhancements;
- DP En-route & Voice and Common Platform; and
- Sustainment and Surveillance.

These programmes represent almost 78% of the total capex planned for NR23.

[107] The SIP and TCAB processes allow NERL to present its evolving capital plans and consult with stakeholders on them on an annual basis.

Table 4.7: NR23 UKATS capex portfolio (2020 RPI prices, £ million)

£ million	2023	2024	2025	2026	2027	NR23
Airspace and operational enhancements	20.0	20.8	16.9	13.0	7.4	78.1
DP En Route and Voice	24.7	9.4	0.9	0.0	0.0	35.1
Sustainment and surveillance	34.2	42.5	40.3	40.0	37.0	194.1
Common platform	17.1	16.0	27.2	21.4	31.4	113.2
Business resilience	15.2	10.4	8.4	6.5	8.3	48.9
ATC training	0.0	1.9	1.9	1.9	0.0	5.6
Risk & contingency	0.0	0.0	8.4	16.8	16.6	41.9
Total	**111.3**	**101.0**	**104.1**	**99.7**	**100.8**	516.8

Source: NR23 Business Plan; rebased from CPI to RPI by the CAA.

4.106 As part of the NR23 process, NERL has also proposed to introduce a '2+5' approach as a proposed governance mechanism for capex related decisions. The key concept of the approach is a rolling investment planning cycle, which is iterated in each year. Each iteration evaluates the capital portfolio, defines the capex planned for the subsequent two years in detail, and sets out a five-year strategic plan on capex, but with only the first two years having a detailed and bottom-up build up of costs.

4.107 Following discussions with NERL, and the responses it provided to clarification questions, we understand that under the '2+5' approach NERL would plan to keep capex within the overall level that is established as a point estimate at the price control review, including the risk and contingency allowance.

Stakeholder views

4.108 Feedback from stakeholders during the CCWG process and in response to the NR23 business plan submission suggests that airlines recognise the need for investment and that they have concerns about the comparatively smaller size of the programme and about NERL's capability to deliver it on time (as NERL itself has acknowledged reduced capability to deliver change during NR23, relative to previous periods).

4.109 Stakeholders were not clear on the reason for the delay in delivery of the capital programme and particularly the delay in the delivery of the benefits for the DP En Route/ Common Platform. There was also concern about NERL's capability to implement legacy escape to timelines, due to the impact of engineer and contractor redundancies.

4.110 Except in relation to the delays mentioned above, airlines were generally supportive of the capex programme. Although they were supportive of airspace change, they said the case had not been properly made by NERL, with cost

efficiency, benefits (in terms of service quality) and the overall impacts not clearly demonstrated. They also said that the impact of capex on operating cost savings had not been fully articulated.

4.111 They suggested NERL should make clear what options it had considered, and provide better justification for the approaches chosen, underpinned by the evidence. This was particularly the case in the assessment of different options designed to respond to different traffic forecasts and alternatives around acceleration of iTEC implementation.

4.112 In terms of the NR23 '2+5' approach, airlines wanted further clarification of how this would work in practice, particularly in the context of a five-year price control and given existing SIP and TCAB processes.

Our view

4.113 NERL's business plan included a capital plan that would involve the continuing replacement of its technology platform, in part to support airspace modernisation. Both the upgrade of its technology systems and airspace modernisation are important and desirable for UK aviation. The overall level of capex in NERL's business plan is also lower than in RP3.

4.114 We have reviewed the evidence provided by NERL in support of its capital plan, and have also considered the analysis of our advisors, Steer.

4.115 An overarching finding from our assessment of the capex plan is that NERL has not provided sufficient detail around the business cases associated with the programmes and projects included in its plan. In response to queries, NERL has provided a sample of business cases, which provide some insight of the benefit calculation mechanisms applied by NERL.

4.116 However, at an overall plan level, it is difficult for us, or stakeholders, to understand the degree of efficiency of the spend proposed, or the benefits that consumers can expect to derive for this plan (other than at a very high level). The lack of disaggregated information on project benefits also makes it difficult to assess the accuracy of the key benefits presented by NERL in its business plan.

Risk and contingency allowance

4.117 NERL's business plan provides range estimates for the headline investment programmes. These ranges reflect the uncertainty in the costs and prices incurred for the various investment programmes, as well as for general variability in the programmes.

4.118 The business plan includes a Risk and Contingency line of £42 million for NR23, planned from 2025 onwards, which equates to 8% of the UKATS capex portfolio. Looking at only those years which have risk and contingency allowances allocated (2025 to 2027), this ratio goes up to 14%. Based on the evidence

presented by NERL, the £42 million risk and contingency allowance is composed of two components: approximately £25 million risk and contingency allowance for DP En route originally planned from 2025 onwards (about £8.4 million per annum) and a contingency of approximately £17 million for emerging opportunities for 2026 and 2027 (also about £8.4 million per annum).

4.119 This level of risk and contingency allowance is substantially higher than that for RP2, when the risk and contingency allowance at the portfolio level was around 4% (at £30 million), and that of RP3, when the risk and contingency allowance was 5% (at £31 million).

Legacy escape profile

4.120 The capex in NERL's business plan foresaw the full implementation of iTEC v2 in the En Route environment, followed by a prolonged period of parallel operations, where lower airspace operations are still based on legacy systems, until the iTEC v3 common platform is implemented (in mid-NR28). Once the Common Platform is in place, En Route operations are then transitioned to iTEC v3 as well, and legacy escape is realised.

4.121 Steer assessed NERL's capex plan, focusing on the legacy escape profile. In its report, Steer proposed two alternative scenarios for legacy escape, and recommended adoption of their "stepwise" scenario which brought forward expenditure from NR28 into NR23, with associated reductions in sustainment spend (due to legacy systems being turned off).

4.122 The "stepwise" legacy escape scenario suggests a reprioritisation of investments, and a different path towards legacy escape. It is based on the logic of NERL's baseline RP3 plans, which foresaw a transition of lower operations to iTEC in 2023-2024. This scenario was based on the following assumptions:

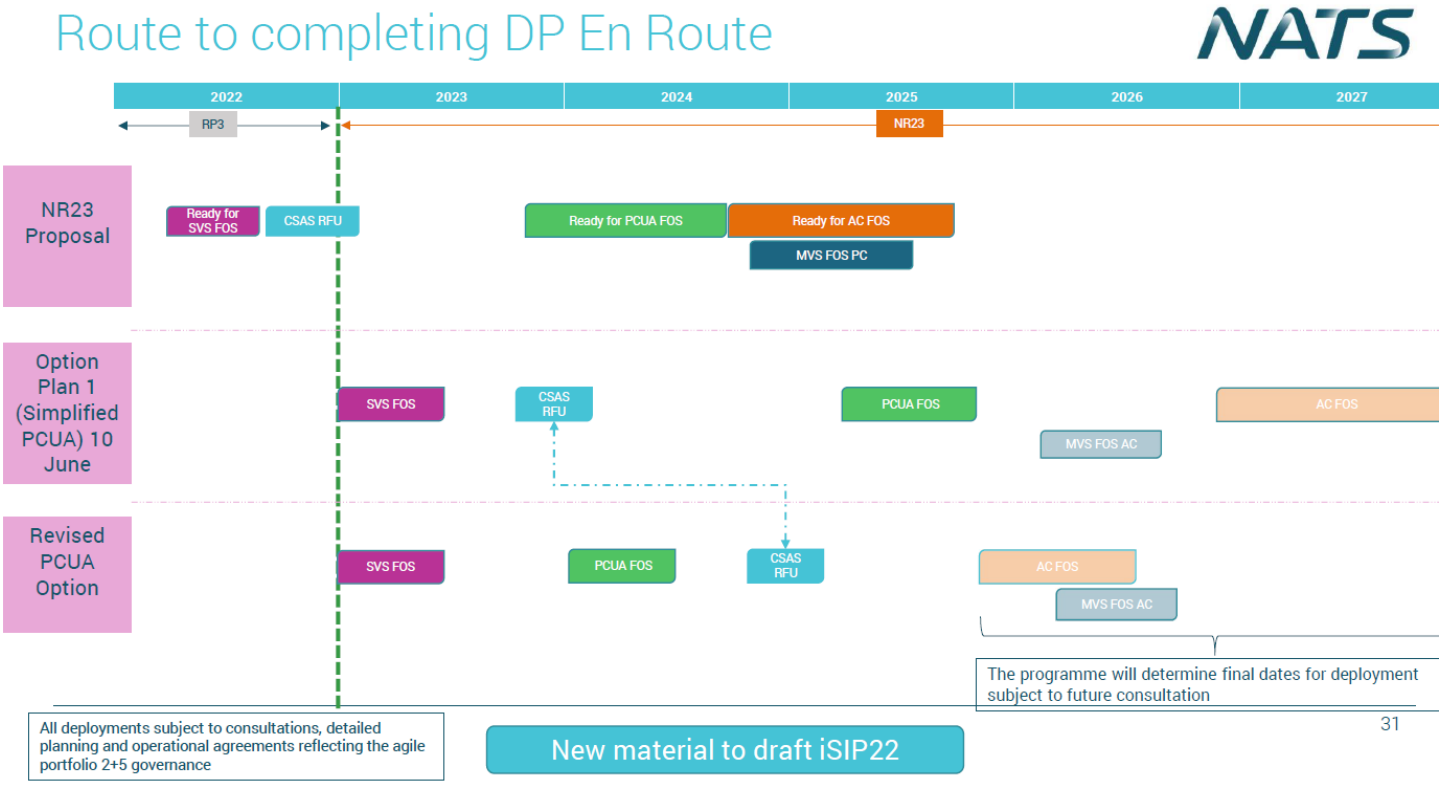
- it is possible to increase NERL's capacity to change, and to restore this capacity at least to pre-covid-19 levels;
- development and implementation of iTEC v3 is highly uncertain, and also dependent on the decisions of iTEC collaboration partners, thus it is not reasonable to bring the iTEC v3 implementation earlier; and
- lower airspace operations can be transitioned to iTEC v2, deployed for en route operations.

4.123 Steer suggested that the impact of this scenario could be further investigated if it is agreed by stakeholders, NERL and the CAA. They also suggested that this scenario would also have a beneficial impact on operating costs. Based on the information provided by NERL, Steer assumed that once legacy escape is realised, and legacy systems are decommissioned, £10 million of operating costs could be saved per annum as a result of reduction in asset management needs.

4.124 On 10 June 2022, NERL updated stakeholders on the DP En Route and Voice programme and presented a range of options to progress the programme. The option recommended by NERL was to deliver the Prestwick Upper systems first, rather than parallel delivery across all areas, to reduce programme interdependencies and risks.

4.125 On 4 July 2022, at the iSIP22 customer consultation session, NERL presented a revised proposal for DP En Route, updated following the session on 10 June 2022. The updated plan delays full delivery of DP En Route to 2027, two years later than originally envisaged in the NR23 business plan. The figure below provides an overview of NERL's revised DP En Route delivery timetable.

Figure 5.4: NERL proposed timescales for DP En Route, Draft iSIP22



Source: NERL iSIP22 Customer Consultation, 4 July 2022

4.126 On 29 July 2022, NERL submitted the final version of its iSIP22 document to the CAA for approval. This document is the outcome of the iSIP22 consultation process and provides an update on the NR23 capex estimates associated with NERL's updated plan. NERL explained that costs for the emerging revised plans have increased relative to the previous baseline and are expected to be approximately £335 million in RP3 and NR23, relative to range of between £260 million to £290 million in the draft iSIP22.

4.127 We have considered the feasibility of the Steer alternative "stepwise" legacy escape scenario, including in the context of feedback from stakeholders and evidence around NERL's capability to deliver change during NR23. While NERL

is currently investigating options for increasing its capability, we do not yet have certainty that NERL will be able to do so. In addition, the more recent evidence coming out of the iSIP22 process suggests there will be further delays to the DP En Route programme, relative to what NERL proposed in its business plan.

4.128 Based on this evidence, we propose not to take forward the Steer "stepwise" legacy escape profile as part of these Initial Proposals, as this does not seem to be deliverable by NERL. However, we have emphasised to NERL the importance of it undertaking a thorough review of its NR23 capex programme and providing, as part of its response to these Initial Proposals, the following information:

- given the changes and cost increases for the DP En Route programme, and NERL's position that the overall level of capex in NR23 would stay the same as in its business plan, we expect NERL to set out an updated NR23 capex programme for each year of NR23, showing updated cost estimates for each of the programmes included in the NR23 business plan. Updated costs estimates should be accompanied by an explanation of the impact on service quality and benefits to users and customers, and also evidence around the projects being prioritised within each of the programmes (for example, if the scope of the programmes has reduced, what element of the programme has been deprioritised);
- when setting out updated cost estimates, we also expect NERL to set out the basis for all inflation assumptions used (for example, CPI, RPI or other inflation indices) and the impact of inflation on costs when expressed in nominal prices and 2020 CPI prices. NERL should set out any supporting evidence for its assumptions, for example external forecasts, benchmarks and information about fixed price or index-linked contracts;
- NERL should set out and evidence the consequential changes in opex and service quality in NR23 that it expects will result from the changes to its capex programme, as described in the iSIP22 documents;
- NERL should set out the updated proposed spend for DP En Route in NR23, and how that breaks down per annum;
- NERL should explain whether the scope of DP En Route changed since it submitted its NR23 business plan, and whether the deliverables and benefits are the same, or have changed. If they have changed, NERL should explain how;
- NERL should explain how the changes to its capex programme affect the delivery of airspace modernisation programmes planned for the NR23 period and beyond; and

- NERL should explain whether it expects the changes to its NR23 capex plan, including changes to sustainment spend, to affect the resilience of its operations in NR23 and how it plans to mitigate any adverse impacts.

Our Initial Proposals

4.129 Based on stakeholder feedback, as well as our own analysis, we consider that NERL seems to have developed reasonable high-level priorities and objectives for the NR23 capex plan. We expect NERL to work towards delivering these objectives in NR23. However, the evidence underpinning the specific programmes and projects NERL has put forward to support the delivery of these priorities is not compelling. This is both in terms of whether the costs are efficient (noting the lack of business cases supporting projects), the specific customer benefits or the timetable being deliverable (including in the context of emerging evidence from the SIP22 process about further delays to the DP En Route programme).

4.130 We are concerned about the increase in costs reported in the final iSIP22 document, and the continued delay to the DP En Route programme, and associated impact on consumers.

4.131 We emphasise the need for NERL to provide better information around its NR23 capital plan as part of its response to these proposals, including in terms of the impact of the delay to the DP En Route programme on other costs (capex and opex) as well as on benefits to consumers (in NR23 and in the longer-term).

4.132 In the absence of further evidence on this, we consider it may be appropriate to apply further reductions to the capex set out in NERL's plan as part of our performance plan decision, on the basis that we do not have sufficient evidence provided by NERL to support these capex programmes showing that the benefits outweigh the costs to customers and consumers. This would mean that NERL would have to provide additional supporting evidence as part of ongoing engagement with customers during NR23 to seek support for additional spend.

4.133 Based on our analysis, evidence from Steer, and emerging evidence from NERL's iSIP22, we have estimated two cases for the efficient cost allowances for UKATS capex in NR23, of £480 million in the low case and £500 million in the base case (7% and 3% below NERL's business plan respectively). This is calculated based on our assumptions of:

- NR23 capex Risk and Contingency allowance reduced in line with the RP2 and RP3 baselines. This is amounts to an adjustment of £17 million over NR23 in both the base and the low cases;
- for the low case only, a reduction of 8% to all capex categories in Table 4.8 other than the key technology transformation programmes (namely airspace, DP En Route and Voice and Common Platform). This adjustment is

consistent with an adjustment we applied in RP3 to reflect the lack of detail and information in NERL's capex plan.

4.134 For the avoidance of doubt, we are proposing to adopt the base case as part of the calculation of Determined Costs, in these Initial Proposals.

Table 4.8: NERL's forecasts of UKATS capex vs. CAA Initial Proposals

£m, 2020 RPI prices	2023	2024	2025	2026	2027	NR23
NERL NR23 BP	111.3	101.0	104.1	99.7	100.8	516.8
CAA base case	111.3	107.2	101.9	89.0	90.3	499.7
Difference: CAA base case vs. NERL BP	0.0	6.2	-2.2	-10.6	-10.5	-17.1
CAA low case	107.3	102.8	97.8	85.2	86.7	479.8
Difference: CAA low case vs NERL BP	-4.0	1.9	-6.3	-14.5	-14.2	-37.0

Source: CAA

The capex engagement incentive

4.135 As discussed in chapter 7, engagement between NERL and its customers is important to ensure that the capex NERL incurs furthers the interests of customers and consumers. Effective engagement should help NERL in discharging (and demonstrating that it is discharging) its duties under section 8 of the TA00.[108]

4.136 As a result of the CMA determination, NERL has had a capex engagement incentive in place since 2021 which uses scores by an Independent Reviewer appointed by the CAA (currently consultancy firm Egis) to operate a 'penalty only' incentive promoting high-quality stakeholder engagement by NERL on its capex plan.

4.137 For NR23, we propose to refine the current engagement incentive, as explained in chapter 7 and appendix G. We explain that we also need to consider how new challenges brought by NERL's more flexible '2+5' approach to capex planning might be addressed. We consider this is particularly important in the context of our finding that the NR23 capex plan put forward by NERL lacks the required level of supporting evidence and information about costs and benefits, and the ongoing delays to the DP En Route programme.

4.138 We recognise that the '2+5' approach proposed by NERL could be a useful tool and will mean that NERL develops a detailed plan for delivering its capex in the short-term (two years), while allowing the plan for later years in the period to be

[108] See appendix A Legal and regulatory framework for a description of these duties and discussion of the legal framework.

developed on a rolling basis. This approach builds on existing customer engagement processes.

4.139 We note however that we have not proposed an overall change in the approach for capex as part of the price control. As such, Determined Costs will continue to be based on a five-year forecast, but NERL will be able to vary the amount of capex it spends in-period and would recover through the RAB and hence through charges (subject to being considered to be efficient on an *ex post* basis). Bearing this in mind the overall level of capex included by NERL in its plan under a '2+5' approach does not form an upper bound on capex that can be spent in the NR23 period.

Non-regulated costs and revenues

4.140 Under the single till calculations that are used to set the price control, our forecast of the revenue that NERL earns from its non-regulated activities (activities other than UK en route, London Approach and Oceanic services) is deducted from regulated revenue requirements in calculating its price control revenue and determined costs. This revenue consists of:

- MoD revenue, mainly through the FMARS contract;
- services provided to North Sea helicopters, servicing the offshore oil platforms in the North Sea;
- services provided to NSL. This revenue does not encompass the airport TANS, which NSL receives directly from its contracts with airports; and
- other revenue from trading directly with external customers. Historically it also included income from SESAR research and development activities, which no longer forms part of Determined Costs and is instead passed to customers via a price adjustment in line with Eurocontrol charging principles.

4.141 We note that while throughout this chapter, the UKATS costs numbers we have presented include London Approach-related costs, in this section, non-regulatory revenues associated with London Approach services are not included in any of the figures presented. These are considered separately in chapter 8.

NERL's approach to non-regulatory revenue and costs

4.142 For RP3, NERL forecasts a reduction in non-regulatory revenue, primarily driven by a fall in its cost base (for example, reflected in what it charges the MoD) and a reduction in intercompany revenues

4.143 For RP3, we commissioned CEPA to review NERL's approach to cost allocation and assess the reasonableness of their non-regulatory revenue. CEPA did not identify any material irregularities or omissions but did conclude that NERL's

processes for identifying commercial opportunities and charging a market-based return could be more transparent and there may be scope for more ambition in respect of the future levels of non-regulated revenues.

4.144 Non-regulatory revenues for UKATS fall from around £95 million in 2019, to around £73 million per year over the course of NR23. NERL explained that approximately £12 million of that reduction had already been anticipated in the RP3 plan. We gave an overview of the reasons for this reduction in chapter 5 of our RP3 decision.[109]

4.145 In its NR23 business plan, NERL states that the remaining reduction (approximately £10 million per annum) is mainly due to its overall cost base being lower than the RP3 plan, reflecting cost savings which have been built in following the response to the impact of covid-19. Many of the elements of single till income are derived as a proportion of the overall cost base, therefore the lower cost base translates into lower single till income. The reduction in the MOD income is a result of the renegotiation of the FMARS contract in 2021. The 'other' income line also sees a reduction in NR23, when it is around £5 million per annum, relative to 2019 levels of around £12 million per annum. NERL has explained that some of this reduction relates to SESAR income which can no longer be classified as single till income due to a change in the European performance and charging regulations, and also due to NERL no longer providing assistance to the management function of the European-wide SESAR deployment.

4.146 NERL has stated that the approach to allocating costs to each of the service lines is materially the same as that in its RP3 plan. This approach was reviewed in depth by our consultant CEPA at the RP3 review and found to be overall fit for purpose.[110]

Our Initial Proposals

4.147 On the basis that NERL has used the same approach to allocating the costs of non-regulatory revenues as at RP3 and having undertaken a high-level review of the forecast revenues and associated costs, we do not consider that any specific adjustments are required to non-regulatory revenues.

4.148 However, we take account of the adjustments we have proposed earlier in this chapter which reduce NERL's opex by 6% compared with its business plan. This results in a relatively small reduction of approximately £50,000 in NERLs'

[109] CAP1830

[110] NERL has made one update to the approach since RP3, to build in a specific check on the treatment of NERL intellectual property within any contract with NSL for supply to an NSL customer. This is to ensure that the NERL-NSL contract adequately rewards NERL for the commercial exploitation of intellectual property rights which are embodied in the services that NERL provides to NSL.

forecast non-regulatory revenues over the course of NR23, in the base case. In the low case, the reduction is around £0.6 million due to the lower opex costs in the low case. These reductions relate to FMARS MoD income only.

4.149 The table below sets out our Initial Proposals relative to NERL's business plan forecasts. For the base case these differences are relatively small and below £0.1 million p.a..

Table 4.9: UKATS non-regulatory revenue vs. CAA Initial Proposals

£m, 2020 CPI prices	2023	2024	2025	2026	2027	NR23
NERL NR23 BP[111]	73.1	72.5	72.7	72.5	72.2	**363.1**
CAA base case	73.1	72.5	72.7	72.5	72.2	**363.1**
Difference: CAA base case vs. NERL BP	0.0	0.0	0.0	0.0	0.0	**0.0**
CAA low case	73.1	72.5	72.7	72.3	71.9	**362.5**
Difference: CAA low case vs NERL BP	0.0	0.0	-0.1	-0.2	-0.3	**-0.6**

Source: CAA

Summary of our Initial Proposals for NERL's costs

4.150 In this chapter, we have set out our assessment of NERL's proposals for UKATS costs in NR23, and our Initial Proposals in two cases – a base case and a low case (where a higher efficiency challenge is applied). The base case costs have informed the calculation of Determined Costs and DUC.

4.151 The table below summarises our base case Initial Proposals for opex and capex, as well as non-regulated revenues. We note that non-regulated revenues are subtracted from NERL's costs under the single till calculation, when calculating DUC.

[111] Non-regulatory revenues in this table exclude London Approach revenues in both the NR23 figures and the CAA figures.

Table 4.10: CAA Initial Proposals for opex, capex and non-regulated revenues

£m, 2020 prices	2023	2024	2025	2026	2027	Total NR23
Staff costs (excluding pensions)	252.8	259.2	260.0	260.8	263.3	**1,296.2**
Cash pensions	109.4	107.9	74.1	72.5	72.4	**436.1**
Non-staff costs	145.3	149.3	149.4	148.2	144.4	**736.6**
Total operating costs	507.5	516.3	483.5	481.5	480.1	**2,468.9**
Capital expenditure	111.3	107.2	101.9	89.0	90.3	**499.7**
Non-regulated revenues	73.1	72.5	72.7	72.5	72.2	**363.1**

Source: CAA

Note: Opex and non-regulated revenues are shown in 2020 CPI prices; capex is shown in 2020 RPI prices.

Chapter 5

Financial framework

Introduction

5.1 One of the secondary statutory duties under the TA00 is to ensure that NERL will not find it unduly difficult to finance its licensed activities[112], which includes NERL making the investment necessary to ensure that its ATC activities are safe, resilient and efficient. This is sometimes referred to as a 'financeability duty' or 'financing duty'.

5.2 In setting the price control we assume that investment is funded by additions to NERL's RAB, with price control revenues then reflecting our projections of regulatory depreciation on the RAB and a regulated return (based on our estimate of the WACC) on the RAB. We also make an allowance for corporation tax. We have designed this framework to allow NERL to recover the efficient financing costs of its capex programmes over the longer-term. It also means that the costs of investment do not need to be recovered in the year that the investment is incurred and we can smooth the prices that NERL can charge its customers over time.

5.3 Chapter 6 discusses how we test whether our price control proposals are consistent with an efficiently financed company financing its activities given the assumptions we have made. This chapter sets out our approach to the key assumptions that support financeability, including:

- the RAB;
- regulatory depreciation;
- inflation (the forecast used in our financial modelling and calculations of NERL's RAB and regulatory depreciation);
- tax; and
- WACC (of which further detail is provided in appendix C).

[112] TA00 Section 2(2)(c).

RAB

Context

5.4 The RAB is a measure of the amount invested by NERL to provide services to users that is yet to be recovered from users through allowances for regulatory depreciation. For RP3, the RAB included:

- additions for capex and reductions for allowed regulatory depreciation (that is, on fixed assets);
- movements in working capital;
- pension pass-through assets, including capitalised finance costs; and
- other adjustments such as RPI-CPI wedge reconciliation, spectrum costs variance and tax clawback.

5.5 We set price controls on the basis that NERL can expect (but does not have an absolute guarantee) that it will:

- recover its efficiently incurred investment over the life of the relevant asset, through the regulatory depreciation charge; and
- earn a return each year on the not yet depreciated part of the investment that remains in the RAB.

5.6 The use of a RAB facilitates us in furthering the interest of consumers of NERL's services by helping us to:

- set a smooth profile of charges overtime, which helps allow management of costs;
- secure that NERL can finance its activities by facilitating return on and depreciation of new investment; and
- secure that the reasonable demands of consumers are met by supporting efficient investment.

5.7 We recognise that NERL's RAB is relatively small compared to other companies in aviation and other sectors that have RAB-based regulation.

Stakeholder views

5.7 In its NR23 business plan, NERL proposed to continue to index the RAB to RPI.[113] It also said that TRS revenues should be included in the RAB for NR23.

[113] NERL, "NR23 Business Plan – Appendix I: Determined costs, DUCs and prices," page 5.

5.8 NERL has projected that the TRS revenues will "drive significant growth in the RAB until 2023 to a peak of £1,602 million [in 2020 RPI prices], followed by a year-on-year reduction as the revenue shortfalls are recovered over time via user charges." [114]

5.9 easyJet has opposed the recovery of the TRS revenues and its inclusion in the RAB and has suggested that these costs should be borne by the government and/or shareholders.[115]

Our views and Initial Proposals

5.10 Given it is central to the funding of efficient investment, we intend to retain a RAB-based price control and note that during the pandemic and the sharp fall in its revenues NERL was able to retain a strong investment grade credit rating and finance necessary investment in its regulated activities.

5.11 In the particular circumstances of the pandemic where we delayed the recovery by NERL of its TRS revenues (to avoid a spike in NERL charges), we see the use of the RAB for the TRS revenues as a pragmatic way of ensuring that NERL can continue to finance its licensed activities efficiently. It will also provide a mechanism to help avoid an undue spike in NERL's charges that would raise affordability concerns for NERL's customers.

5.12 It is not our role to assume unrecovered TRS revenues would be funded by government. Given the sums involved we do not consider it would be reasonable or consistent with our financeability duty to simply assume that unrecovered TRS revenues would be funded by shareholders.

5.13 We propose to retain RPI indexation of the RAB for NR23, which is consistent with our approach for H7 and with NERL's proposals. We will consider moving to CPI indexation for NERL's RAB at NR28.

5.14 To facilitate greater transparency in the calculation of NERL's RAB, we will publish draft RAB rules with our Initial Proposals to. We will finalise these rules when publishing our Performance Plan decision for NR23.

5.15 These RAB rules include updates for how the RAB should be calculated for NR23. These include:

- the removal of the Rolling Incentive Mechanism (RIM) amortisation as it is no longer relevant;

[114] NERL, Business Plan, Appendix I, page 5.

[115] easyJet, "easyJet comments on the proposed NERL business plan for NR23," 10 March 2022, page 1.

- aligning the treatment of allowances for working capital for it to operate with the approach we are adopting in our PCM. In particular, working capital is estimated using our initial inputs such as a starting price, allowed costs and initial tax allowance and is fixed over the price control period;
- an additional section that summarises the treatment of the RP3 TRS revenues through working capital; and
- the removal of the delivery incentive as per the CMA determination.

5.16 We engaged Gridlines and Vercity (Gridlines) to provide an independent review of our PCM used in the proposals, including calculation of the RAB and consistency with the NR23 RAB rules. Gridlines did not identify any remaining material issues.

5.17 The table below sets out our projections of NERL's RAB for NR23. This is higher on average than NERL's business plan forecasts, primarily reflecting the longer recovery period for the RP3 TRS revenue than NERL proposed (which means that the carrying number in the RAB is higher for longer), partly offset by our lower allowances for capex. These adjustments to NERL's proposed values are discussed in chapter 3. Nonetheless, there are also true-up arrangements in place, so the final level of the RAB will depend on the actual levels of capex (subject to efficiency test) and the RPI, among other factors.

Table 5.1: Forecast Average RAB for NR23 – UKATS and Oceanic

Average RAB, £m 2020 RPI Prices	2023	2024	2025	2026	2027	Average RAB
NERL BP	1,602	1,498	1,387	1,265	1,129	1,376
CAA IPs	1,555	1,506	1,424	1,339	1,235	1,412

Source: NERL business plan, Appendix I, page 6; CAA Calculations.

Regulatory depreciation

Context

5.18 We make projections of regulatory depreciation to allow the recovery of an appropriate proportion of the RAB from users in each price control period.

5.19 At RP3, our approach to regulatory depreciation included:[116]

[116] CAA, CAP 1830: UK RP3 CAA Decision Document, p.93-95, (link).

- 20-year straight-line[117] depreciation for the opening RAB at privatisation. These assets will be fully depreciated by the end of 2022;
- 15-year straight line depreciation for new assets added to the RAB through capex;
- a true-up for depreciation if there were any differences between the actual and forecast RPI-CPI wedge[118];[119]
- an adjustment for depreciation to remove costs associated with NERL's pension cost pass-through which was recovered through revenue adjustments instead; and
- allowing only efficiently incurred capex to be recovered through the depreciation allowance.

5.20 The CMA made no adjustments to our depreciation policy as part of its determination.

5.21 Issues relating to the recovery of the TRS revenue are addressed in chapter 6.

Stakeholder views

5.22 In its business plan, NERL states that it expects regulatory depreciation to be 25% lower per annum on average than NERL's allowed depreciation in RP3. It said this is driven by:[120]

- assets from the time of privatisation are now fully depreciated and no longer form part of its RAB; and
- capex was lower than expected as NERL deferred its non-essential investments due to the impact of covid-19.

5.23 NERL has not proposed to change the depreciation policy applied in RP3[121] but has noted the possibility of deferring depreciation into NR28 and other future price controls to reduce charges in NR23.[122]

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117 Straight-line depreciation assumes the same depreciation expense is incurred during the asset's operational life. For example, if an asset had a starting value of 100 and an assumed useful economic life of 10 years, the depreciation expense would be equal to 100 ÷ 10 = 10

118 We use two measures of inflation as part of NERL's price control, RPI and CPI. The difference between these measures is known as the RPI-CPI wedge. It is calculated as follows RPI-CPI wedge = (1 + RPI) ÷ (1 + CPI) – 1

119 CAA, CAP 1830: UK RP3 CAA Decision Document, p.93, (link)

120 NERL business plan p.37

121 NERL business plan, page 37, footnote 12.

122 NERL business plan, page 44.

5.24 We have not received views on regulatory depreciation from other stakeholders.

Our view and Initial Proposals

5.25 There are advantages in terms of credibility and stability in retaining a broadly consistent and reasonable approach to regulatory depreciation over time. This should facilitate the smooth recovery of the RAB over time, which will generally be in the interests of customers and consumers. It will also allow for relatively low cost of debt and equity financing, as stability in the regulatory framework supports investor confidence.

5.26 As we explain in chapter 6 we are also taking steps to profile the recovery of the RP3 TRS revenues to promote the overall affordability of NERL's charges. In these circumstances there are particular advantages in adopting a consistent approach to regulatory depreciation, as this should support regulatory stability and low-cost financing. Therefore, we have retained the RP3 approach to estimating regulatory depreciation in our Initial Proposals. This involves:

- 15-year straight line depreciation for new assets added to the RAB through capex;
- a true-up for depreciation for any differences between the actual and forecast RPI-CPI wedge;
- to allow only efficiently incurred capex to be recovered through the depreciation allowance; and
- an adjustment for depreciation to remove costs associated with NERL's pension cost pass-through which are recovered through revenue adjustments instead.

5.27 The depreciation of assets from privatisation is no longer required as these assets have now fully depreciated out of NERL's RAB.

5.28 The table below outlines the depreciation from NERL's business plan and our Initial Proposals for UKATS.

Table 5.2: UKATS allowed regulatory depreciation in our Initial Proposals

Depreciation, £m 2020 Prices	2023	2024	2025	2026	2027	Total
NERL BP	123	132	132	132	131	650
CAA IPs	117	126	126	125	121	614

Source: NERL business plan, Appendix I, page 2; CAA analysis.

5.29 Our proposed depreciation profile is around £36 million lower than NERL's business plan across NR23. This is because of two main factors:

- we reallocate the financing costs adjustment to the TRS revenues so it is recovered in line with the TRS. NERL has assumed these financing costs are added to the RAB and depreciated over 15 years in line with any new capex. This lowers the depreciation expense but increases the TRS revenue to be recovered. This reflects a difference in cost allocation between us and NERL; and
- as we have explained in chapter 4 we have made a lower allowance for capex than the forecast in NERL's business plan, which lowers depreciation as it is a function of the existing RAB and new capex.

Inflation

Context

5.30 NERL's RAB and the average prices it can charge its customers are indexed to inflation. To calibrate NERL's price control and to allow for financial modelling of its activities we use forecasts of inflation.

5.31 The inflation assumption is also important for estimating NERL's WACC. Some inputs into the WACC estimation such as the yield on corporate debt are often expressed in nominal terms. To use these in our WACC calculation, we need to adjust these figures to reflect the real yield to ensure consistency with the overall price control.

5.32 At RP3, NERL's RAB was indexed to RPI while NERL's prices are indexed to CPI. At RP3, we used CPI forecasts from the International Monetary Fund (IMF)[123] and the average RPI forecasts from HM Treasury's survey of independent forecasts.[124] The CMA retained this approach as part of its determination.[125]

5.33 At RP3, we noted that the difference between the forecast and actual difference between RPI and CPI (known as the RPI-CPI wedge) created some risks for NERL as the RAB was indexed to RPI and charges to CPI. As a result, we introduced a true-up to reflect the differences between the actual and forecast RPI-CPI wedge as noted in the sections on RAB and regulatory depreciation.[126]

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123 This was to be consistent with SES regulations. However, due to the UK's departure from the EU, the CAA is no longer subject to these regulations.

124 CAA, UK RP3 CAA Decision Document, p.95-96, (link).

125 CMA NATS (En Route) Plc/CAA Regulatory Appeal Final report, p.212, (link).

126 CAA, UK RP3 CAA Decision Document, p.96, (link).

This approach is designed to ensure that NERL is not under or over remunerated if RPI and CPI is different from our forecast.

NERL's business plan and stakeholder views

5.34 NERL's advisors, Oxera, used a RPI forecast equal to 3% p.a. when deflating nominal yields to calculate real yields.[127] This is based on the long-term RPI forecast from the OBR's March 2021 Economic and Fiscal Outlook, which was the latest available at the time of Oxera's report.

5.35 NERL's inflation assumptions used in its business plan are detailed in the table below, which we understand to be from Oxford Economic Forecasts.

Table 5.3: NERL NR23 inflation assumptions

Annual Inflation Growth, FY	2023	2024	2025	2026	2027	Average
RPI	3.16%	2.96%	3.11%	3.17%	3.20%	**3.12%**
CPI	2.13%	1.85%	1.84%	1.87%	1.93%	**1.92%**

Source: NATS Financial Model

5.36 We have not received specific views from other stakeholders on inflation.

Our views and Initial Proposals

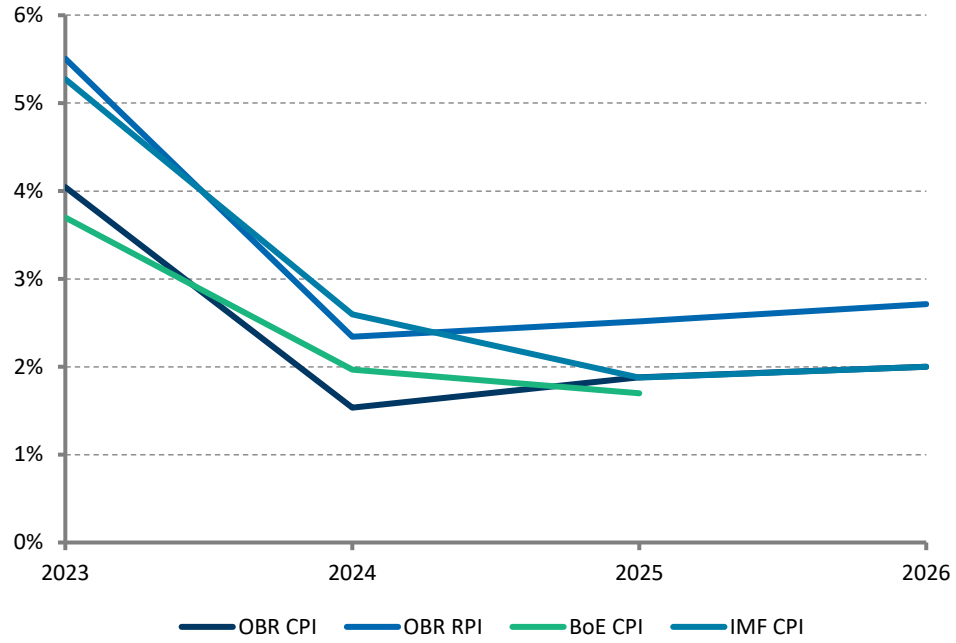
5.37 We have reviewed inflation forecasts for RPI and CPI from various sources, including HM Treasury, OBR and the IMF.[128] We have cross-checked these forecasts against market-based measures of forecast inflation, such as breakeven inflation.[129] While breakeven inflation is not appropriate for directly inferring inflation forecasts, as it reflects expected inflation plus a risk premium, it is a useful cross-check as our inflation forecast should be equal to or less than the values implied by breakeven inflation.

[127] Oxera, Cost of Capital for NR23, p.52, (link).

[128] The forecasts we reviewed are as follows: i) HMT March 2022 forecast; ii) OBR's March 2022 forecasts; iii) IMF's April 2022 forecasts; and iv) Bank of England February 2022 forecast.

[129] Breakeven inflation is the difference between the yield on inflation-linked and nominal government securities. It is considered to be a measure of expected inflation, although breakeven inflation also reflects an inflation risk premium which reflects the uncertainty associated with future inflation.

Figure 5.1: Inflation forecasts



Sources: OBR March 2022 RPI and CPI forecast; HMT

Note: We do not include HMT forecasts as it only extends to Q4 2022.

5.38 We have considered inflation forecasts from authorities such as the OBR, IMF and HM Treasury when compiling our inflation forecast. Based on our review, we have based these Initial Proposals on the following approach:

- for RPI and CPI, we have used the OBR's forecast to ensure our RPI and CPI forecasts are internally consistent;
- we have used the forecast available from March 2022 as these were the latest OBR forecasts available when we carried out the financial modelling that supported these proposals; and
- as the OBR's forecast cited above does not encompass 2027 (the final year of NR23) we have rolled over the 2026 forecast for 2027;

5.39 Based on a simple average, we estimate an average forecast of 3.16% and 2.29% for RPI and CPI respectively.

Table 5.4: CAA Initial Proposals inflation forecasts

Annual Inflation Growth , FY	2023	2024	2025	2026	2027	Average
NERL RPI	3.16%	2.96%	3.11%	3.17%	3.20%	**3.12%**
NERL CPI	2.13%	1.85%	1.84%	1.87%	1.93%	**1.92%**
CAA IPs RPI	5.51%	2.34%	2.52%	2.71%	2.71%	**3.16%**
CAA IPs CPI	4.04%	1.54%	1.88%	2.00%	2.00%	**2.29%**

Source: NATS Financial Model and CAA analysis. Note that these forecasts were produced based on data available prior to the cut off date of 31 March 2022. We are aware that inflation expectations have evolved markedly since this date and we will update our forecasts ahead of final proposals.

5.40 Our RPI and CPI forecast is higher than NERL's average business plan assumption of 3.12% and 1.92% respectively. This is consistent with the increases we have observed in inflation forecasts.

5.41 Nonetheless, we also recognise inflation forecasts have been subject to significant changes in recent months. We will update our inflation forecasts in the final performance plan decision to take account of more recent inflation forecasts. We explore further the possible impacts of changes to our assumptions on inflation on our Initial Proposals in chapter 6, which includes a scenario that tests the impact of higher inflation on the level of the price control.

5.42 As noted above, we propose to maintain the existing RPI–CPI wedge reconciliation from RP3 for NR23.

Tax

Context

5.43 As well as incurring operating and capital costs and providing a return on investment, NERL will need to fund payments of corporation tax. Therefore, as part of NERL's revenue allowance, we include an allowance for these tax payments.

5.44 The approach that we take to corporation tax is important to consumers as they will ultimately pay for NERL's tax allowance through charges levied on airlines and it is important NERL is able to fund these payments so it can keep operating and investing in its business. In deciding on what approach to take to corporation tax we have considered how best to:

- reasonably to support the financeability of the notional company in a proportionate way by setting appropriate tax allowances;
- incentivise NERL's management to run the business (including its tax affairs) efficiently;
- support new investment; and
- ensure that the approach to tax allowances is consistent with our approach to other elements of the price control, and where appropriate, over time.

5.45 At RP3, we remunerated NERL on tax through uplifting our vanilla WACC[130] to a pre-tax WACC. In uplifting our vanilla WACC to a pre-tax WACC, we considered

[130] A vanilla WACC is a combination of a post-tax cost of equity and a pre-tax cost of debt. It is commonly used by other UK regulators when setting the allowed revenue.

NERL's tax deductible expenses such as capital allowances and the interest payable on its debt. We estimated a tax uplift of 9.9% on the cost of equity.[131] The CMA adopted the same approach for its determination and estimated a tax uplift of around 16%.[132] This was driven by a higher cost of equity allowance and a lower notional gearing assumption set by the CMA resulting in a higher implied profit after tax figure for NERL and consequently requiring a higher tax uplift.[133]

5.46 At RP3, we estimated NERL's tax allowance using the following steps:

- we estimated the notional company's taxable revenue using the building blocks (depreciation, opex and return on RAB) excluding tax;
- we deducted the notional company's allowable tax expenses (capital allowances, interest and opex) to estimate the notional company's taxable profits;
- we estimated the required uplift to ensure the notional company would earn its WACC on a post-tax basis;[134] and
- we converted this tax uplift into a cost of equity and WACC uplift and included this tax allowance as part of the allowed WACC for RP3.

Stakeholder views

5.47 NERL proposed a tax uplift on its cost of equity of around 45%[135] for NR23. Our review of the documents provided by NERL suggests this was due to NERL uplifting the cost of equity using a higher corporation tax rate than the proposed increase in corporation tax at the time of NERL's business plan submission (25%). We are not aware why a tax rate higher than the headline corporation tax

131 CAA, CAP 1830a: UK RP3 CAA Decision Document: Appendices, para E179, (link).

132 We estimate this by taking the CMA's cost of equity for RP3, 3.88% and estimating the required uplift to ensure the CMA's vanilla WACC of 3.05% equals it pre-tax WACC of 3.48%. We estimate the pre-tax cost of equity consistent with the CMA's estimate is equal to 3.48% – 30% × 1.12% ÷ (1 – 30%) = 4.49% which implies a tax uplift of 16% i.e. 4.49% ÷ 3.88% – 1 = 16%. See CMA NATS (En Route) Plc/CAA Regulatory Appeal Final report, p.243-250 for more details. (link).

133 A higher cost of equity figure implies a higher profit after tax figure for the notional company, all else equal. A lower notional gearing assumption implies a lower level of tax deductible interest which also increases the profit after tax for the notional company, all else equal.

134 We achieve this by grossing up the notional company's taxable profits using the following formula: $\frac{TP}{[1-t]}$ where TP is the taxable profit and t is the headline corporation tax rate.

135 We estimate this by taking the NERL's proposed cost of equity for NR23, 8.19% and estimating the required uplift to ensure NERL's proposed vanilla WACC of 3.48% equals its proposed pre-tax WACC of 5.32%. We estimate the pre-tax cost of equity consistent with NERL's estimate is equal to 5.32% – 50% × (1.11)% ÷ (1 – 50%) = 11.75% which implies a tax uplift of 43% i.e. 11.75% ÷ 8.19% – 1 = 43%.

rate was used as we would expect NERL's effective tax rate to be lower than the headline corporation tax rate due to deductions such as capital allowances.

5.48 We have not received views on tax issues from other stakeholders.

Our views and Initial Proposals

5.49 We propose to adapt our approach for NR23 to increase transparency and to make it easier for stakeholders to compare NERL's actual tax expense against the tax allowance included in NERL's revenue allowance.

5.50 We set out an explicit tax allowance or revenue building block in our calculations of NERL's price control revenue, rather than applying an uplift to the cost of equity to take account of these costs. This revised approach is similar to the approach adopted by other regulators such as Ofwat and Ofgem.

5.51 We have not identified any significant disadvantages with this approach compared to the approach we used at RP3. This is because the same steps involved in setting the tax allowance for NR23 as were used at RP3, but we do not need to convert the tax allowance into a tax uplift to the WACC.

Further detail

5.52 For NR23, we have estimated NERL's tax allowance using the following steps:

- we estimated the notional company's taxable revenue using the building blocks (depreciation, opex and return on RAB) excluding tax;
- we deducted the notional company's allowable tax expenses (capital allowances, tax credits, interest and allowable opex) to estimate the notional company's taxable profits;
- we estimate the required uplift to ensure the notional company would earn its WACC on a post-tax basis; and
- we have added the tax uplift to the notional company's revenue allowance as a separate building / revenue building block.

5.53 In these calculations, we have also taken into account that NERL qualifies for the patent box tax relief, where all qualifying companies are able to apply a lower corporation rate of 10% to all profits relating to patent inventions. We have determined that over NR23, £4 million of NERL's total profits related to patent inventions. This is determined based on the proportion of NERL's RAB which relates to the iFACTS project. We present our patent box assumption below.

Table 5.5: Patent box tax relief

£'0000	Ref	2023	2024	2025	2026	2027
Proportion of Profits Related to Patent Innovation	A	800	800	800	800	800
Patent Box Tax Relief Rate	B	10%	10%	10%	10%	10%
Patent Box Tax Relief	C=A*B	80	80	80	80	80

Source: CAA analysis.

5.54 The table below outlines the differences between NERL's and the CAA's tax allowance.

Table 5.6: CAA tax allowance for Initial Proposals – UKATS and Oceanic

Tax Allowance, £m 2020 Prices	2023	2024	2025	2026	2027	Total
NERL business plan	29	27	25	23	20	**124**
CAA NR23	26	29	19	18	15	**107**

Source: NERL business plan, Appendix M, page 9 and Appendix I, page 6; CAA Calculations.

5.55 We estimate that our proposed tax allowance for NR23 is around £17 million lower than NERL's business plan. This is because of:

- lower regulatory return, due to the proposed lower WACC of 2.81%;
- this offsets lower capital allowances due to lower capex; and
- slightly lower Research and Development Expenditure Credit and patent box allowance which would increase the tax allowance all else equal.

5.56 The proposed average tax allowance of £21 million per year is also much higher than the CMA determination tax allowance of an average of £5.1 million per year.[136] This is because of:

- a much lower RAB in the CMA determination. On average, the RP3 RAB was £1,171 million whereas the average NR23 RAB is £1,485 million; and
- lower corporation tax rate of 19% during RP3 instead of 25% which we have assumed for NR23.

[136] All values are stated in CPI 2020 prices.

5.57 We have asked Grant Thornton to review the tax calculations[137] used to estimate tax allowances in our Initial Proposals, to ensure we accurately capture NERL's tax liabilities. We have reflected their recommendations and advice in our proposals.

5.58 We have assumed the following items to be tax deductible:

- capital allowances, which we have calculated using our assumption of NERL's efficient capital spending and the relevant writing down allowance;
- interest payments, we estimated this using our assumptions of the notionally efficient company's interest payments;
- based on our review of NERL's financial statements and tax returns, it is our understanding that NERL recognises the shortfall between the allowed revenue and recovered revenue (that is, the TRS revenues) as a revenue line in these documents. This means that the TRS revenues had already incurred an initial tax liability when they were recognised. We follow the same treatment of the TRS revenue on a tax basis for the notional company to avoid double counting the tax impact of the TRS revenue; and
- opex (including pension costs) as these costs are normally tax deductible in the year they are incurred.

5.59 For Determined Costs such as pensions and adjustments we assume these costs are tax deductible in the year they are recovered. This is because any difference between when they are recovered and their tax status is likely to reflect a timing difference.

WACC

Context

5.60 The WACC is an input to the calculation of NERL's allowed revenue and is used to calculate the return that NERL needs to provide to its investors to attract the required capital during the NR23 price control.

5.61 There are two components of the WACC: the cost of equity and the cost of debt. We have used the Capital Asset Pricing Model (CAPM) to determine the cost of equity. The CAPM is an established method with well-understood theoretical foundations. It is used by all UK regulators when calculating the WACC, and was the framework used by NERL in its NR23 business plan. We perform our own assessment of each parameter of this model, using market data.

5.62 Our approach is summarised below, with further details set out in appendix C.

[137] The Grant Thornton report is published alongside these Initial Proposals

Stakeholder views

NERL's business plan

5.63 As per our RP3 business plan guidance, we have asked for NERL to assume a WACC "no more than the efficient level necessary to compensate NERL for the business and regulatory risks it faces."[138]

5.64 In its NR23 business plan, NERL estimates an RPI-real pre-tax WACC and RPI-real vanilla WACC of 5.32% and 3.54% respectively.[139,140] This results in an allowed return of £377 million. In reaching this estimate, NERL relied on a report from Oxera.

Airline views

5.65 British Airways commented on the risk-free rate, asset beta, total market return (TMR), gearing and the cost of debt. British Airways considered that "NERL's proposed WACC allowance does not reflect a balanced and complete assessment of the available evidence on aviation sector asset betas in light of the impact of covid-19 on the sector",[141] and that its preferred approach would result in a significantly lower asset beta.

5.66 British Airways expressed a preference for the use of index-linked gilts (ILGs) as a benchmark for the risk-free rate. It also expressed various concerns with Oxera and NERL's approach with respect to the estimate of the asset beta.

5.67 IATA, on behalf of Air France and Air Canada, and Lufthansa did not accept that NERL's cost of debt would increase significantly by maintaining the CMA determination gearing of 30%.[142, 143]

Our views and Initial Proposals

Overall Approach

5.68 To estimate the WACC in a manner consistent with established regulatory and other precedent, we estimate the individual components of debt and equity finance, including:

- the risk free rate;

138 CAP 1626, "Guidance for NERL in preparing its business plan for Reference Period 3," page 46.

139 NERL Business Plan, "NR23 Business Plan," 7 February 2022, page 36.

140 NERL Business Plan, "NR23 Business Plan – Appendix M: Cost of Capital," 7 February 2022, page 9.

141 British Airways (2022), "British Airways response to NR23 Business Plan: Economic regulation of NATS En Route plc", March, paragraph 7.30.

142 IATA, "IATA Response to NATS Enroute Limited (NERL) NR23 Business Plan," 10 March 2022, page 5.

143 Lufthansa, "Lufthansa Feedback on NR23 business plan," 10 March 2022, page 2.

- gearing;
- equity, debt and asset beta;
- TMR;
- the cost of embedded debt;
- the cost of new debt; and
- issuance and liquidity costs.

5.69 This approach produces a range of estimates for NERL's real WACC. We then consider where in this range we should select a point estimate for the purposes of our Initial Proposals.

Risk-free Rate (RfR)

5.70 We agree with Oxera that the appropriate tenor of reference instruments is 10 years, as it reflects NERL's average remaining asset life. We estimate the RfR using ten-year maturity ILGs.

5.71 A one-month trailing average on the yields of reference instruments appears to balance the trade-off between relevancy against randomness and volatility. This approach is consistent with our approach for H7.

5.72 We also agree with Oxera that the yield on ILGs could reflect factors other than the expected return on these instruments, for example convenience yield. Therefore, we consider that it is appropriate to place some weight on an estimate of the RfR that includes an estimated convenience yield.

5.73 However, we do not consider a forward adjustment to be appropriate, which is consistent with the CMA's PR19 determination[144].

5.74 Based on information available up to March 2022, our Initial Proposals for the RfR are based on a range of -2.78% to -2.41% with a midpoint of -2.60%, RPI deflated.

Gearing

5.75 The precedent set by the CMA determination on notional gearing from RP3 is relatively clear and we have adopted a similar approach for NR23. We have based the notional gearing for the WACC based on the gearing of the comparators used to set the beta for NR23.

[144] CMA (2021), "Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations: Final report", March, paragraphs 9.228-9.234.

5.76 We use a notional gearing of 30% for NR23 in setting the WACC. However, we adopt a floating gearing assumption in the financial model based on our modelling of the notional company's cash requirements.

Equity, Debt and Asset Beta

5.77 We have considered NERL's approach to estimating its asset beta. We have commissioned a report from Flint Global (Flint) to estimate the asset beta for NERL, which we are publishing with our Initial Proposals.

5.78 We consider that it is more appropriate to place weight on data from before and during the pandemic, which is also in line with advice received from Flint. This has two important benefits: firstly, it takes into account pre-pandemic data; and secondly, it does not artificially bound or restate the actual pandemic data.

5.79 Flint has placed weight on four comparators: ENAV, ADP, Fraport and AENA,[145] while excluding five others due to a lack in reliability of the equity beta estimate and/or differences in regulatory frameworks which are not comparable to NERL's framework.

5.80 Given the in-depth review of the debt beta at RP3, we do not consider that it would be necessary to undertake a further detailed assessment. Instead, we focus on what has changed since RP3 in setting a debt beta for NR23.

5.81 We have evaluated Flint's results and propose an asset beta range of 0.54 to 0.64. We propose maintaining the RP3 debt beta of 0.05 for NR23. Using a notional gearing assumption of 30%, we re-lever the betas to arrive at an equity beta range of 0.69 to 0.89.

Total Market Return (TMR)

5.82 Oxera has suggested that we "exclude the bottom half of the CMA's range" as it is unreliable for estimating the forward-looking TMR.[146] However, we do not think that this claim is substantiated and instead propose to include the full TMR range estimated by the CMA in its PR19 water sector determinations.

5.83 Our Initial Proposals assume an RPI-deflated TMR range of 5.20% to 6.50%.

Cost of Embedded Debt

5.84 We have some concerns with Oxera's cost of embedded debt analysis. Firstly, Oxera appears to have overstated the efficiency of the bonds issued during the

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145 ENAV is the listed Italian ANSP; ADP (Aeroport de Paris) is a French airport group that owns and operates Charles de Gaulle Airport, Orly Airport and Le Bourget Airport; Fraport is an international airport group that owns and operates Frankfurt Airport; and AENA is Spanish airport management company that operates multiple airports including Madrid.

146 Oxera (2021), "*Cost of capital for NR23*", October, page 41.

April 2021 restructuring. Second, Oxera's estimate has not taken account of the amortising nature of NERL's existing bonds.

5.85 We have benchmarked NERL's bonds against the appropriate market benchmark based on credit rating and maturity (we include details of this analysis in appendix C) and taken account of the amortising balance. We have updated the interest rate on NERL's proposed bond for refinancing its bridge loan to reflect latest market conditions. We estimate the nominal cost of embedded debt for NR23 to be 2.11%, which is equal to -1.02% on a RPI-deflated basis.[147]

5.86 The increase over NERL's proposal, -1.24%, is driven by market interest rates increasing by more than Oxera's use of the forward curve suggested. This results in a higher cost for NERL's refinancing of its bridge loan.

Cost of New Debt

5.87 NERL has not proposed to issue any new debt during NR23, therefore we have not proposed to include an allowance for the cost of new debt when setting the WACC for our proposals. In the downside scenarios used to test NERL's financeability in chapter 6, we have assumed the notional company would issue debt in line with the iBoxx non-financials A-rated 10-15 year index as that is consistent with NERL's current credit rating and the maturity proposed by NERL for refinancing its bridge loan.

5.88 We estimate the nominal cost of new debt for NR23 is equal to 2.88%, which is equal to -0.27% on an RPI-deflated basis.[148]

Issuance and Liquidity Costs

5.89 We have reviewed NERL's proposals of including an allowance of 0.13% on the cost of debt to cover its issuance and liquidity costs. This estimate appears to be reasonable, and we therefore propose to include an allowance of 0.13% on the cost of debt for our proposals.

WACC used for NR23

5.90 As we have indicated earlier in this chapter, our Initial Proposals for corporation tax no longer rely on using a pre-tax WACC but instead use a vanilla WACC and tax building block. A pre-tax WACC is no longer relevant for our proposals for NR23 and we will focus on the vanilla WACC only.

5.91 These Initial Proposals are based on a vanilla WACC range of 2.04% to 3.59%.

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147 We estimate this by deflating our nominal cost using our inflation assumption of 3.16% i.e. (1 + 2.11%) ÷ (1 + 3.16%) – 1 = (1.02%)

148 We estimate this by deflating our nominal cost using our inflation assumption of 3.16% i.e. (1 + 2.88%) ÷ (1 + 3.16%) – 1 = (0.27%)

Choosing a point estimate

5.92 As there is a degree of uncertainty associated with estimating each of the parameters used to assess NR23's WACC, we have estimated a range of plausible estimates for each parameter. To determine a single point estimate for the WACC for the NR23 price control, we need to determine the appropriate balance between the risk of setting the WACC too high, leading consumers to paying too much; and setting the WACC too low, and potentially undermining long-term financeability and/or incentives for investment.

5.93 Overall, we do not currently see a compelling case for departing from the midpoint of our WACC range for NR23.

Initial Proposals

5.94 We have reviewed a wide range of evidence to estimate an appropriate WACC for NR23, including:

- a report we commissioned from Flint on the appropriate beta for NR23[149];
- market information and trends up to our March 2022 cut-off date;
- recent UK regulatory precedent; and
- information and supporting evidence provided by NERL.

5.95 The table below summarises our Initial Proposals ranges for each parameter and the overall WACC. We propose a vanilla RPI-deflated WACC in the range of 2.04% to 3.59%.

5.96 For our Initial Proposals we use the midpoint of our proposed RPI-real, vanilla WACC range, 2.81%, but will review whether an approach based on the mid-point remains valid for our final performance plan decision.

5.97 Our estimate is consistent with the strong evidence pointing to a reduction in vanilla WACC since RP3. This is lower than the 3.54% vanilla WACC proposed by NERL in its NR23 business plan and below the 3.05% vanilla WACC set by the CMA for RP3.[150,151]

5.98 The reduction in WACC since RP3 is mainly due to recent market trends and regulatory precedents that point to a fall in NERL's cost of debt due to its restructuring in 2021. Our estimate uses data from March 2022 and we will consider updating for more recent information in our final performance plan decision.

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149 Flint (2022), "Support to the Civil Aviation Authority: Estimating NERL's beta at NR23", May.

150 NERL Business Plan, "NR23 Business Plan – Appendix M: Cost of Capital," 7 February 2022, page 9.

151 CMA, "NATS (En Route) Plc / CAA Regulatory Appeal," 23 July 2020, paragraph 62, page 21.

5.99 Our proposed WACC for NR23 is lower than our H7 Final Proposals WACC for Heathrow (3.26% RPI-real), which is largely driven by NERL's shorter assumed average asset life (which reduces both its cost of equity – through the risk free rate – and cost of debt). This is partly offset by NERL's higher assumed asset beta.

5.100 It is higher than Ofgem's Final Decision for the WACC under the RIIO-GD2 and RIIO-T2 price controls of 1.96% RPI-real. This is driven by various methodological differences, including a significantly lower asset beta for the energy networks compared with NERL. It is partly offset by NERL's lower assumed asset lives compared with the energy networks.

Table 5.7: Proposed range for WACC parameters

	Ref	CAA Low	CAA High	NERL Point Estimate
Gearing	A	30.00%	30.00%	50.00%
Risk Free Rate	B	(2.41%)	(2.78%)	(1.80%)
TMR	C	5.20%	6.50%	5.85%
Asset Beta	D	0.54	0.64	0.678
Debt Beta	E	0.05	0.05	0.05
Equity beta	F = (D-E*A)/(1-A)	0.75	0.89	1.31
Cost of equity	**G = B + F*(C-B)**	**3.30%**	**5.51%**	**8.19%**
Cost of new debt	H	(0.27%)	(0.27%)	n/a
Cost of embedded debt	I	(1.02%)	(1.02%)	(1.24%)
Proportion of new debt	J	0.00%	0.00%	0.00%
Issuance and liquidity cost	K	0.13%	0.13%	0.13%
Cost of debt	**L = H*J + (1-J)*I + K**	**(0.89%)**	**(0.89%)**	**(1.11%)**
Vanilla WACC	**M = L*A + G*(1-A)**	**2.04%**	**3.59%**	**3.54%**

Source: CAA analysis; NERL business plan Appendix M, page 10.
Notes: All figures are presented in RPI-real terms.

5.101 Appendix C provides more details on our approach to estimating the WACC.

5.102 Table 5.8 summarises the impact on NERL's allowances for regulatory return, calculated by applying a RPI-real vanilla WACC of 2.81% (the mid-point of our

WACC range) to the average RAB.[152] These allowances have reduced from £244 million in NERL's NR23 business plan to £205 million in our Initial Proposals.[153]

Table 5.8: Regulatory return using NERL and CAA vanilla WACC proposals (UKATS)

£ million, 2020 prices	2023	2024	2025	2026	2027	Total
NERL NR23 business plans[154]	55	52	49	45	42	243
CAA Initial Proposals	44	43	42	39	37	205
Difference	11	9	7	6	5	38

Source: CAA analysis of NERL's NR23 business plan.

[152] As stated in paragraph 5.94, a vanilla WACC of 2.81% is the midpoint of our proposed WACC range.

[153] The regulatory return used here is calculated from NERL's BP vanilla WACC of 3.54%, instead of the pre-tax real (RPI) WACC of 5.32%.

[154] The regulatory return presented here uses NERL's BP vanilla WACC of 3.54%, instead of the pre-tax real (RPI) WACC of 5.32%.

Chapter 6

Charges and financeability

Introduction and context

6.1 The actual charges that airlines pay are based on DUC, which are then adjusted for a number of factors, such as the difference between actual and forecast inflation, traffic risk sharing adjustments and pass-throughs. These adjustments are generally, but not always, made on an n+2 basis. For example, the difference between actual and forecast inflation in 2021, will be applied to the 2023 unit rate. For NR23, this is especially relevant as NR23 DUCs are adjusted to take account of the TRS revenues from RP3.

6.2 This chapter starts by summarising our proposals for the overall level of NERL's NR23 DUC that should be recovered and includes the costs of NERL, as the national en route ANSP, as well as the costs of the other entities that contribute to the provision of en route ANS.

6.3 The other elements of the total UK Determined Costs, include:

- Met Office meteorological service costs that relate to UK aviation;
- the UK's share of Eurocontrol costs; and
- relevant ATS and airspace costs of the CAA.

6.4 As we have explained in chapter 3, in addition to NERL's Determined Costs, there are TRS revenues from the reconciliation period that it will be important for NERL to recover. This adjustment puts considerable upward pressure on the NERL unit rate in NR23 and on the total costs of the provision of en route ANS.

6.5 Bearing these issues in mind we consider profiling of revenues in our assessment of the affordability of NERL's unit rate.

6.6 As part of our secondary statutory duty to secure that NERL will not find it unduly difficult to finance its UK en route business, we consider that it is important that NERL retains access to financial markets on reasonable terms. This is important to allow NERL to be able to fund necessary investments efficiently (so that customers pay no more than is necessary) and deliver an appropriate level of service to the users of its services in discharging its own duties under the TA00. NERL's licence also includes a requirement for it to use all reasonable endeavours to ensure that it maintains an investment grade issuer credit

rating.[155] In the light of these considerations we also set out our assessment of the financeability of these Initial Proposals.

6.7 Finally, given the uncertainty around forecasts for particular external factors, such as traffic levels and inflation, we consider the impacts of alternative scenarios for high inflation and low traffic levels on the unit rate and NERL's financeability. We will consider these matters further in developing our final performance plan decision.

6.8 In summary, this chapter outlines the following issues:

- overall Determined Costs and DUC for the UK;
- the recovery of TRS revenues, affordability and the NERL unit rate;
- financeability; and
- alternative scenarios for traffic and inflation.

Overall Determined Costs and Determined Unit Costs

Context

6.9 This section discusses the UK's overall Determined Costs and DUC, which comprise NERL's costs and the relevant costs from the Met Office, DfT and CAA.

NERL's UK en route Determined Costs

6.10 The building blocks for NERL's UK en route Determined Costs in these proposals are set out in chapters 4 and 5 and summarised in Table 6.1 below. This shows that our projections of NERL's Determined Cost allowance we set for UK en route is around £249 million (or around 8%) lower than NERL's business plan.

[155] See condition 5, paragraph 23 of NERL's licence.

Table 6.1 – Initial Proposals for en route Determined Costs (£ million, 2020 prices)

£ million, 2020 CPI prices	2023	2024	2025	2026	2027	NR23 total	NERL BP total	Difference
Opex (excl. pension costs)	398	408	409	409	408	2,033	2,077	(44)
Pension costs	109	107	74	72	72	436	542	(106)
Depreciation	117	126	126	125	121	614	650	(36)
Regulatory return and tax	43	42	41	38	36	200	367 (incl. tax)	(65) (incl. tax)
Tax	25	28	18	17	14	101	-	-
Non-regulatory revenues	(86)	(85)	(86)	(86)	(86)	(428)	(433)	5
Total Determined Costs (CSU-based)	**606**	**627**	**582**	**575**	**566**	**2,956**	**3,203**	**(247)**
Uplift to get to TSUs[156]	7	7	6	6	6	33	35	(2)
Total Determined Costs (TSU-based)	**614**	**634**	**588**	**582**	**572**	**2,990**	**3,238**	**(248)**
CPI inflation index	**1.147**	**1.164**	**1.186**	**1.210**	**1.234**	**-**	**-**	**-**
Total Determined Costs (TSU-based) – nominal prices	704	738	698	704	706	**3,550**	**-**	**-**

Source: CAA analysis and NERL business plan Appendix I

Met Office Determined Costs

6.11 The Met Office consulted stakeholders through 2020 and 2021 on its services and priorities for the NR23 period. This was overseen by the Met Authority function carried out by SARG. Its costs comprise aviation's share of the National Capability and International Subscriptions (the underpinning infrastructure and shared commitments that are fundamental to the provision of an accurate weather forecasting capability) and Service Delivery and Development costs (the delivery of aviation-specific meteorological services and their ongoing improvement).

6.12 The annual average level of Met Office costs over NR23 increases by 7% in real terms relative to the base level in 2022. Further details on Met Office costs are provided in chapter 10 and are set out in Table [6.3].

[156] This adjustment relates to the difference between CSUs and TSUs and is described later in the chapter.

Table 6.3 – Met Office Determined Costs

£ million, TSU-based	2022 Base	2023	2024	2025	2026	2027	NR23 total
Met Office Determined Costs (nominal)	33.5	34.3	38.6	39.5	39.9	40.7	193.0
Met Office Determined Costs (2020 CPI prices)	30.4	29.9	33.2	33.3	33.0	33.0	162.3

Source: Met Office

Department for Transport Determined Costs

6.13 The DfT component of the UK en route costs represents the UK's share of the running costs of Eurocontrol. The costs are based on proportions allocated to the UK related to GDP (and exchange rates). Eurocontrol has sought to bear down on its cost base in the face of the impact of the covid-19 pandemic, and this is feeding through to lower charges.

6.14 We note that Eurocontrol's budget for 2027 has not yet been agreed so the value for 2027 is currently assumed to be the same as 2026. Further details on DfT/Eurocontrol costs are provided in chapter 10 and are set out in Table 6.4 below.

Table 6.4 – DfT Determined Costs

£ million, TSU-based	2022 Base	2023	2024	2025	2026	2027	NR23 total
DfT Determined Costs (nominal)	52.0	49.2	49.4	50.2	51.5	52.5	252.8
DfT Determined Costs (2020 CPI prices)	47.1	42.9	42.4	42.3	42.5	42.5	212.8

Source: Met Office

CAA Determined Costs

6.15 The CAA's airspace activities include a wide range of functions including airspace regulation, policy, strategy, oversight and obligations to meet the costs of NATS pensioners prior to its separation from the CAA. For NR23, the CAA's costs include the recovery of the costs of economic regulation of NERL, which were previously met through a licence fee on NERL. We are also continuing the fund to support the implementation of the AMS.

6.16 CAA costs in NR23 have increased compared with the RP3 plan. This increase is driven by a number of factors, including the switch in NERL licence fee, an increase in staff costs and return on capital, and the Airspace Coordination and Obstacle Management Service project. Further details on CAA costs are provided in chapter 10.

Table 6.5 – CAA Determined Costs

£ million, TSU-based	2022 Base	2023	2024	2025	2026	2027	NR23 total
CAA Determined Costs (nominal)	22.8	27.5	27.5	27.9	29.1	29.1	141.1
CAA Determined Costs (2020 CPI prices)	20.7	24.0	23.6	23.5	24.0	23.6	118.8
CAA AMS Support Fund (2020 CPI prices)	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*10.5*
CAA excl. ASF (2020 CPI prices)	*18.6*	*21.9*	*21.5*	*21.4*	*21.9*	*21.5*	*108.2*

Source: CAA analysis

Summary of overall UK en route total and unit cost

6.17 The DUC is expressed in local currency and derived by dividing Determined Costs by forecast air traffic, expressed as total service units (TSUs).[157]

6.18 We note that the Eurocontrol Principles require DUC to be expressed using TSUs, to recover the costs of both civil and military flights. As military and exempt flights are funded separately, NERL's DUCs are expressed relative to CSUs for civil flights only. To express NERL's DUC in Eurocontrol Principles terms, NERL's Determined Costs have been grossed up for military and exempt flight service units (the difference between CSUs and TSUs) in a way that means the DUC calculated using TSUs is therefore the same as calculated using CSUs.

6.19 These are set out in Tables 6.6, 6.7 and 6.8.

Table 6.6 – Initial Proposals for Total overall UK Determined Costs for NR23

2020 prices £ million	2022 Base	2023	2024	2025	2026	2027	NR23 total
NERL	579	614	634	588	582	572	2,990
MET	30	30	33	33	33	33	162
CAA & DFT	68	67	66	66	67	66	332
UK	677	710	733	687	681	671	3,483

Source: CAA analysis

[157] Service units are a product of the distance factor and the weight factor.

Table 6.7 – Initial Proposals for UK DUC per TSU for NR23

2020 prices £ per TSU	2022 Base	2023	2024	2025	2026	2027	NR23 total
NERL	54.5	52.4	51.9	47.3	46.0	44.5	48.4
MET	2.9	2.6	2.7	2.7	2.6	2.6	2.6
CAA & DFT	6.4	5.7	5.4	5.3	5.3	5.1	5.4
UK	63.7	60.6	60.0	55.3	53.9	52.2	56.4

Source: CAA analysis

Table 6.8 – Summary for draft UK NR23 performance plan

Real in 2020 CPI prices	2022 Base	2023	2024	2025	2026	2027	NR23 total
DC nominal (£000)	746.1	814.7	854.1	815.4	824.2	828.4	4,136.6
Inflation index	110.2	114.7	116.4	118.6	121.0	123.4	-
DC real (£000)	676.9	710.4	733.5	687.3	681.1	671.2	3,483.5
Total Service Units (000)	10,624	11,715	12,228	12,424	12,641	12,850	61,858
DUC real (£)	63.71	60.64	59.98	55.32	53.88	52.23	56.31

Source: CAA analysis

TRS recovery, the NERL unit rate and affordability

Context

6.20 In addition to recovering its Determined Costs, summarised above, as we have explained in chapter 3 there are considerable TRS revenues to recover from the 2020 to 2022 period, consistent with our reconciliation review.

6.21 This section sets out our Initial Proposals in relation to these matters, and includes our views on the appropriate length of the recovery period and allowed return on the TRS revenues, taking into account the following policy principles (as set out in November 2021):[158]:[159]

[158] In CAP 2279, CAA, Economic regulation of NATS (En Route) Plc: decision on licence modifications to implement exceptional measures.

[159] In CAP 2279, CAA, Economic regulation of NATS (En Route) Plc: decision on licence modifications to implement exceptional measures.

- to the extent it is reasonable, we will look to allow NERL to recover the TRS revenues shortfall throughout NR23 with outstanding amounts recovered in NR28, subject to assessments of affordability and financeability. We would also consider the views from stakeholders around profiling of TRS revenues;
- the TRS revenue shortfall will continue to be accounted for in NERL's RAB through a debtor in the movements in working capital with the amount unwinding as revenue is recovered;
- it is appropriate to provide an allowance for financing costs or time value of money for the TRS recovery;
- we did not rule out that NERL's shareholders might need to provide additional support to the regulated business if there was undue pressure on affordability of charges or financeability. We would seek first to use conventional regulatory levers and mechanisms to manage affordability, take account of wider price control package, and consider our statutory duties, including to protect the interests of consumers and to have regard to NERL's financeability; and
- it is not our role to decide whether further government support should be provided as an alternative to regulatory intervention.

6.22 For NR23, we are seeing allowed revenues increase compared with RP3, leading to increases in the unit rate. We aim to set NERL's charges in a way that is affordable to its customers and consumers, while still making sure NERL would retain access to financial markets on reasonable terms. We have used both the recovery period (by assuming revenues are recovered in both NR23 and NR28) and the profiling of revenues within the NR23 period to manage the expected increase in the unit rate in 2023.

6.23 We have considered the impact of the unit rate increase on customers and consumers and compared the forecast unit rates with historical levels and the equivalent rates of NERL's European comparators. Our present view is that this analysis indicates that the proposals set out below are in line with our statutory duties, affordable and provide reasonable value for money.

Stakeholder views

NERL

6.24 NERL has stated that, to support customers, it proposed to extend the recovery of the TRS revenue from a single year (with a two-year lag – that is, on the conventional n+2 basis), to recovery over two regulatory periods (NR23 and NR28), or 10 years, using a split of 75% and 25% respectively. NERL assumes the TRS revenue to be recovered is added to the RAB, thus earning its proposed

allowed WACC and meaning that the amounts recovered would be adjusted for inflation, mirroring the treatment of capex in the RAB.

6.25 Following customer feedback, where there was no consensus on the proposed options, NERL has proposed a flat unit rate profile of £61 throughout NR23 in real terms (in 2020 CPI prices).[160] We estimate that around £9 per TSU is due to the uplift from recovery of the TRS revenue, which is more than half of the increase from around £46 in RP3. NERL states there was limited support to defer regulatory depreciation or other costs into NR28.

Other stakeholder views

6.26 In response to NERL's proposals, British Airways stated that the CAA should consider the profile for recovery of the TRS revenue and whether more of the TRS revenue should be pushed into NR28 and beyond, given material price increases in the current environment are challenging for airlines. British Airways also suggested a different WACC may be appropriate for TRS revenues included in the RAB. British Airways supported the starting point of considering a flat profile of charges and reserved judgement on an appropriate profile until the price control analysis is more complete. Nevertheless, it said any change in 2023, and deviation from a typical profile of charges in the previous period, would need to be fully justified by the CAA.

6.27 easyJet supported the extension of the TRS recovery into NR28 but noted that an increase in the unit rate is not proportionate or justifiable. It said that:

- NERL should absorb at least 50% of its own losses;
- UK Government funding should be the primary source for sustaining revenue shortfalls;
- the TRS revenues should not be included in the RAB earning the WACC; and
- higher amounts should be distributed to later years when traffic is higher.

6.28 easyJet did not support a flat pricing profile throughout NR23. Instead, it suggested no increase in en route prices in 2023, with any increases to be made on a linear basis across the remaining years of NR23.

6.29 IATA opposed applying the allowed WACC to the TRS revenues, noting that the impact of the covid-19 pandemic was outside the control of airlines, and the full WACC was not applied by France and Germany. IATA also stated that government and/or shareholders must take at least some of the responsibility for

[160] NERL Business Plan, Appendix I, page 8

covering the shortfall in revenues and that this should not fall solely on airlines. IATA's response was supported by Air Canada and Air France.

6.30 Ryanair strongly objected to the principle of penalising airlines for a traffic downturn that was entirely out of their control and considered the burden should be on shareholders and the UK Government to support NERL.

6.31 Virgin Atlantic supported spreading the TRS mechanism with a 75% to 25% split across NR23 and NR28. However, it expressed concerns that airlines would be used to recover the revenue shortfalls and it should be considered that the TRS mechanism was not designed to apply in such an environment when operations were severely restricted over a long period.

6.32 Prospect supported NERL's pricing profile with respect to the TRS revenues shortfall and said that the CAA should be clear that its approach to regulation will be consistent across NR23 and NR28.

Our views and Initial Proposals

Recovery of TRS revenues from 2020 to 2022

6.33 For RP3 and previous price control periods, NERL and other European ANSPs had in place a TRS mechanism, which provided a high level of revenue protection to ANSPs from unexpected variations in traffic levels. Similar to other European ANSPs, we have put in place special arrangements to allow NERL to recover its TRS revenues over an extended period of time, to mitigate the increase in allowed revenues and the unit rate that would arise if these revenues were recovered over a shorter period.

6.34 As we explained in our policy principles in November 2021, to the extent reasonable, we would look to allow NERL to recover the TRS revenues shortfall throughout NR23 with outstanding amounts recovered in NR28, subject to assessments of affordability and financeability. In its business plan, NERL has proposed to recover 75% of the TRS revenues in NR23 and 25% in NR28.

6.35 We have considered the views from stakeholders, where there were mixed views on the appropriate recovery period. Having analysed the expected profile of charges we consider that an even recovery of TRS revenues shortfall over the 10-year period of NR23 and NR28 (that is, 50% recovery in each five-year period) would provide an appropriate balance between the affordability of charges in the short-term and longer-term certainty to support financeability. This is based on our assessment that an even recovery profile would increase charges by around £6 per TSU (compared to around £9 per TSU in NERL's business plan), mitigating some of the upward pressure on charges as the industry is recovering. As we show later in the chapter, this also keeps the forecast unit rate more in line with other European ANSP comparators and is consistent with the notional company being financeable during NR23. We do not

consider front-loading the TRS recovery to be necessary to support financeability, as the TRS revenues balance is included in the RAB, providing certainty about recovery of these revenues.

6.36 In the short-term, this would reduce the increase in charges in NR23 compared with the profile suggested by NERL. In the longer-term, we are providing important certainty around recovery of the TRS revenue to support NERL's financeability and allow NERL to be able to continue to invest on the basis of a relatively low WACC, which supports lower Determined Costs and charges to users.

6.37 Some stakeholders consider all or part of the TRS revenues should be recovered from other sources, such as NERL's shareholders or the UK Government. The TRS revenues relates to a revenue shortfall under an existing regulatory mechanism that NERL should be able to recover. This provides regulatory certainty, providing greater certainty on regulatory treatment, to the benefit of customers and consumers in the longer-term as it should support a lower WACC and continued investment. It is not the CAA's role to set out or assume a level of support from government.

6.38 As outlined in our policy principles in November 2021, we will continue to assume that the unamortised balance of NERL's TRS revenues is included in its RAB, through changes in working capital.

6.39 These Initial Proposals assume that NERL should earn an allowed return on the TRS revenues as these costs were efficiently incurred and are being recovered over an extended period of time, meaning they would otherwise lose value in present value terms. To calculate the allowed return, we propose to apply our estimate of NERL's WACC with corporation tax costs considered separately as explained in chapter 5. This takes account of the implicit and explicit costs associated with raising the finance to cover the revenue shortfall and is consistent with our approach to the overall RAB and financing for the notional company.

6.40 The TRS revenues to be recovered is summarised in Table 6.9 below. As stated above, we estimate this recovery increases NERL's charges by around £6 per TSU in NR23, compared to the increase of £9 per TSU in NERL's business plan.

Table 6.9 – TRS revenue to be recovered by NERL (nominal prices)

£ million, Nominal prices	TRS balance to be recovered (NR23)	TRS balance to be recovered over NR23 and NR28
NERL Business Plan	555 (75% of total balance)	740
CAA Initial Proposals	341 (50% of total balance)	681

Source: CAA analysis

Note: These figures exclude the adjustments for inflation and the allowed real return

Profiling the UK en route unit rate in NR23

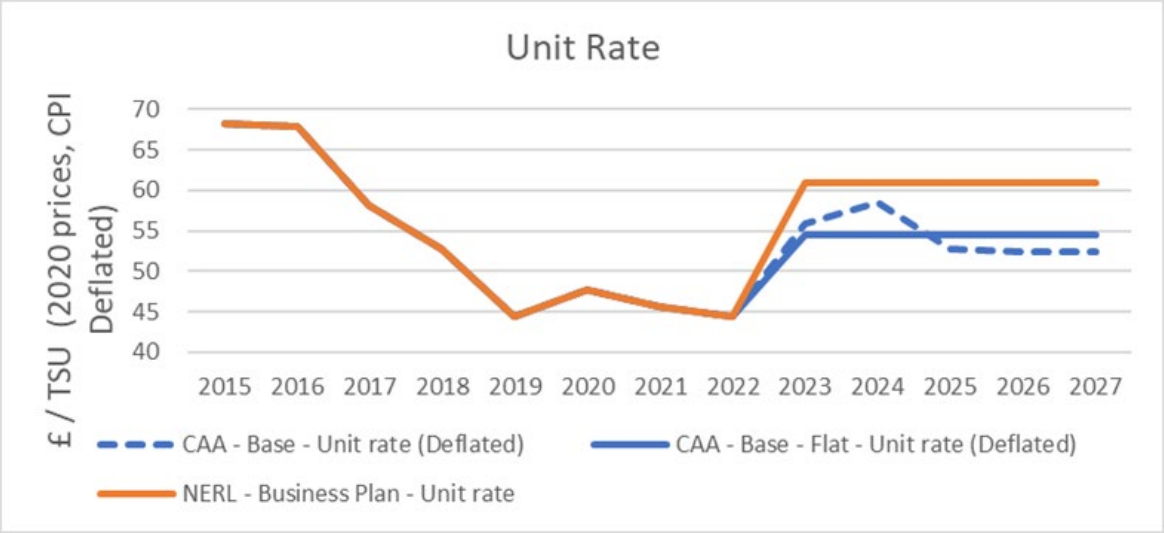
6.41 In its business plan, NERL proposed a flat unit rate in real terms over NR23. While some stakeholders expressed views on the appropriate profile of the unit rate, there was no consensus and some stakeholders wanted to wait to take a view once they saw these Initial Proposals and the overall NR23 package.

6.42 Assuming the even recovery of TRS revenues over NR23 and NR28 and using our unprofiled projections of NERL's Determined Costs leads to a peak in NERL's unit rate in 2023 and 2024 before it reduces for the rest of the period (see Figure 6.1 below). This reflects the higher underlying revenue building blocks in the early years of NR23 as well as the lower traffic levels at the start of NR23. We consider there is a strong argument for re-profiling the unit rate to support affordability in the early years of the price control, to support the recovery of the sector appropriately, and that more stable prices would further the interests of consumers both at the start and throughout the NR23 period. We consider that this is in the interests of consumers.

6.43 We have assessed different approaches to profiling the unit rate within NR23 to reduce the increase in unit charges in 2023 and smooth the unit rate over the whole period. This included increasing profile of charges and flat profiles of charges in real terms. We propose to adopt a flat profile of charges in NR23 in real terms. This appears to be a reasonable approach as it reduces the increase in the unit rate in 2023, while still allowing NERL to recover its in-year costs and start to recover TRS revenue. It also means the unit rate by the end of NR23 is lower than if we had adopted an increasing profile.

6.44 We have applied the revenue profiling adjustments to the TRS revenues recovery profiling. The net revenue recovery is shown in the next section. We show the impact of this profiling in Figure 6.1 below.

Figure 6.1 – Initial Proposals for the en route unit rate, profiled and unprofiled



Source: CAA analysis

Allowed revenue and the forecast en route unit rate in NR23

6.45 The forecast allowed revenue in NR23 comprises the Determined Costs and the revenue adjustments set out in NERL's licence. The forecast allowed revenues in our Initial Proposals are set out in Table 6.10 below.

6.46 After taking into account recovery of TRS shortfall and other revenue adjustments, we forecast that NERL's unit rates over NR23 will be £54 per TSU compared with £61 in NERL's business plan (CPI-real 2020 prices).

6.47 We note this is the forecast unit rate for NR23. The actual unit rate may change if there are changes in period, for example to traffic levels and incentives, that lead to increases or reductions to actual allowed revenues.

6.48 These Initial Proposals will be used to set the level of charges in 2023. We plan to provide an adjustment to "true up" or "true down" to take account of any differences in our final performance plan decision, to have effect from 2024. This will reflect any differences between the 2023 charge in our Initial Proposals and our final Performance Plan decision.

Table 6.10 – Initial Proposal forecasts for the NR23 unit rate, after re-profiling (2020 CPI prices)

£ million and £ per TSU, 2020 CPI Prices	2023	2024	2025	2026	2027
Determined Cost Revenue (£m)	614	634	588	582	572
Inflation (INF) (£m)	(3)	28	-	-	-
Traffic risk sharing and re-profiling adjustments (£m)	59	10	91	102	123
Cost sharing mechanism (£m)	7	6	4	4	4
INEA and other revenues (£m)	(5)	(3)	(7)	-	-
Traffic variance (TVAR) (£m)	(34)	(11)	-	-	-
Total Revenue Allowance (£m)	**637**	**665**	**676**	**687**	**699**
Forecast TSU ('000)	11,715	12,228	12,424	12,641	12,850
Unit Rate (profiled) (£ per TSU)	**54.38**	**54.38**	**54.38**	**54.38**	**54.38**
Unit rate in NERL's Business Plan (£ per TSU)	*60.99*	*60.96*	*60.89*	*60.99*	*60.91*

Source: CAA Calculations

6.49 We have also considered profiling of allowed regulatory depreciation between price control periods. We note that deferring depreciation will put pressure on the financeability of the notional company by reducing revenues in the short term. However, accelerating depreciation will improve financeability by bringing forward revenues, at the expense of affordability. We consider that such an adjustment does not appear to be warranted at this stage, given our analysis on affordability and financeability, which are discussed further below.

Assessing the affordability of our Initial Proposals

6.50 While the services provided by NERL are a relatively small proportion of the costs of operating a flight,[161] we understand that airline customers and consumers will be sensitive to higher charges as they recover from the impact of the covid-19 pandemic.

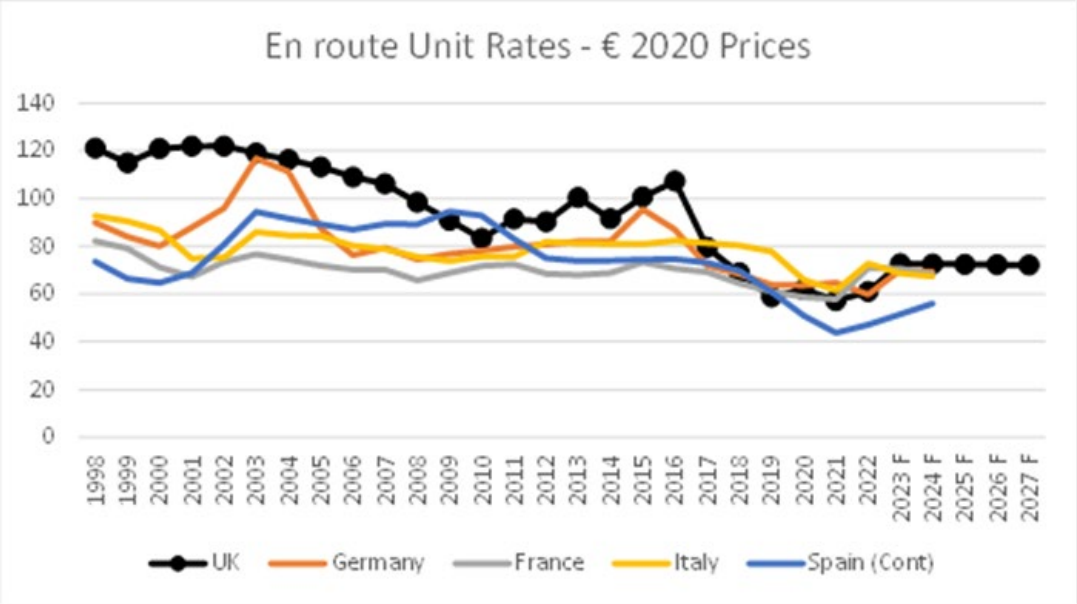
6.51 The TA00 requires us to carry out our relevant functions in the manner we think is best calculated to apply the secondary duties, while maintaining a high standard of safety in the provision of ATS as a priority. We therefore seek to set price controls at efficient and affordable levels, while enabling NERL to provide a resilient and high-quality level of service. We are seeking to calibrate the price controls to achieve both affordability and financeability.

[161] We estimate that these Initial Proposals lead to a unit rate of around £2.03 per passenger per flight (in CPI 2020 prices). Our analysis of UK airline financial data for 2019 shows that navigation charges from all ANSPs globally represent between 3% to 9% of airline revenues.

6.52 The analysis set out in appendix F and summarised below shows NERL's charges for NR23 are below the average levels for the RP2 period and are broadly comparable with forecasts for other European ANSPs. While some ANSPs (notably Spain) currently have lower unit rates than NERL, there is uncertainty about the future level of these charges.

6.53 Our present view is that, while there is an increase in NERL's charges in NR23, it is essential that the price control arrangements allow NERL to continue to finance new investment and that the steps we have taken to profile the recovery of TRS revenues mean that while charges have increased, the average level remains affordable given the benchmarks from the RP2 period and from European comparisons.

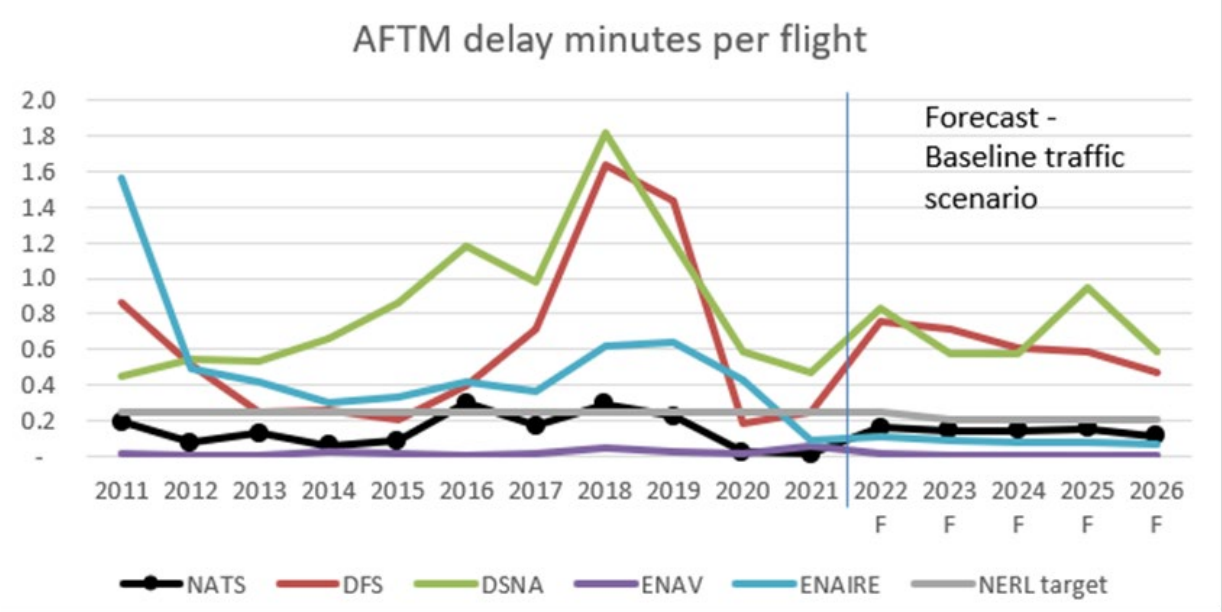
Figure 6.2 – Unit rates for NERL and European ANSPs (Euros per TSU, 2020 prices)



Source: CAA analysis of Eurocontrol unit rate dashboard and CRCO tables

6.54 We consider that NERL's charges set out in our Initial Proposals provide reasonable value for money to customers and consumers, when compared with comparable European ANSPs, given forecast service levels. For example, our Initial Proposals include a target for NERL's ATFM delays of approximately 0.2 minutes per flight, similar to forecast performance from Spain (Enaire) and Italy (ENAV) and significantly better than Germany (DFS) and France (DSNA), as shown in Figure 6.3. ENAV's very low delay forecast seems to reflect that it plans to provide sufficient capacity even in a high-traffic scenario, in contrast with forecasts for NERL and other comparators.

Figure 6.3 – Forecast AFTM delay minutes per flight for NERL and Euopean ANSPs



Source: CAA analysis of Eurocontrol ANS performance data and European Network Operations Plan 2022-2026

Financeability

Context

6.55 In this section, we set out our approach to applying our secondary duties, and particularly to furthering the interests of customers and consumers and discharging our financeability duty. We do so by setting a price control that facilitates an efficiently or 'notionally financed company' having ongoing access to sufficient capital to carry out its activities. This should support NERL's access to financial markets on reasonable terms (which is important so that it can continue to finance capex) and ensures that prices to consumers are no higher than necessary. NERL's RAB is financed through a mixture of debt and equity finance. While we also test NERL's financeability in plausible downside scenarios, this approach does not constitute an absolute guarantee that the notional company will be financeable in all possible situations.

Stakeholder views

NERL

6.56 In Appendix N of its business plan, NERL set out an assessment of the financeability of its plan, based on its view of efficient costs, traffic forecasts and other building blocks[162].

[162] NERL assumed that the notional company did not incur any incentives penalties in NR23.

6.57 NERL proposed a target credit rating for the notional company of A3/A-. It stated that while a higher credit rating target would not be in the interest of customers, a credit rating lower than A3/A- would be inconsistent with the gearing cap in its Licence. NERL noted that its actual credit rating is expected to be higher than the target rating for the notional company, due to the uplift given by both Moody's and Standard & Poor's (S&P) for their assessment of the likelihood of extraordinary government support.

6.58 NERL assessed the financeability of its business plan based on five key financeability metrics, which are summarised in the table below along with the corresponding thresholds.

Table 6.12: Financeability metrics and thresholds used by NERL to assess the financeability of its business case

Metric	Target (base case)
Gearing (net debt / RAB)	50% average over NR23
Liquidity (£m)	Minimum of £400 million
Adjusted net debt / RAB (%)	No higher than 70%
FFO / net debt (%)	18%, measured as an average over a 2-year rolling period
Ex-post regulatory return (%)	NERL proposed allowed return

6.59 Based on this assessment, NERL considered that its plan was financeable.

6.60 NERL also considered projections of credit metrics for the notional company under three downside scenarios, all of which envisage some form of lower-than-expected traffic volumes in NR23. Under these scenarios, credit metrics weaken and in some cases breach NERL's proposed thresholds. However, NERL did not consider that this is necessarily problematic from a financeability perspective, as the risk of more than a one notch downgrade appears low. NERL concluded that its plan is financeable under a range of stress test scenarios and appropriate underlying assumptions[163].

Other Stakeholders

6.61 We have not received views from other stakeholders on the approach to assessing financeability.

[163] NERL note that this conclusion is contingent on a number of assumptions, most critically in relation to CAA's view of the TRS debtor and the WACC.

Our view and Initial Proposals

Our Approach

6.62 Our assessment of both debt and equity financeability is based on projections derived from our PCM and the building block inputs that are set out in other chapters of this document (which include certain differences from the building block inputs set out in NERL's business plan).

6.63 We have also based our assessment on a 'notional' financial structure. Under this structure, the notional company is assumed to enter RP3 with a ratio of net debt to RAB in line with its historical gearing prior to the pandemic.

6.64 The notional company is then assumed to meet its funding requirements through retained earnings in the first instance and then through debt issuance. We assume that the notional company pays no dividends in 2021 and 2022, and that its gearing increases significantly to just over 60% in 2022. This is due to NERL having to meet funding requirements during the pandemic in the face of lower revenues recovered from its customers.

6.65 From 2023 onwards, we have assumed a fixed profile of dividends, that are paid in all scenarios. This profile has been developed by scaling down NERL's assumed dividend profile to reflect:

- our lower cost of equity assumption; and
- a lower effective payout ratio of 50% (compared with NERL's effective payout ratio of 55%), in line with assumptions adopted by other regulators.

6.66 We have then assumed an additional year of dividend forbearance in 2024. This reflects elevated gearing in 2024 under our model assumptions, and the consequent need to alleviate pressure on the notional company's balance sheet.

6.67 This dividend profile is set out below:

Table 6.13: Assumed notional dividend profile (£m)

	2023	2024	2025	2026	2027
NERL BP dividend profile	✂	✂	✂	✂	✂
Assumed notional dividends	0	0	36	36	53

Source: NERL business plan and CAA calculations

Debt financeability

6.68 Our assessment of debt financeability considers whether the notional company can retain access to cost effective investment debt financing, including under reasonable downside scenarios.

6.69 In our work on the WACC we have based our cost of debt allowance on A-rated corporate bond indices, based on a gearing assumption of 30%. We consider that this is consistent with the assumptions underpinning our financeability assessment, since our approach to estimating the WACC assumes it is invariant to the level of gearing. As such, the WACC would not be materially different at the notional gearing level used in our financeability assessment. However, it is reasonable to assume that the credit rating of the underlying bonds used to estimate the cost of debt would have been lower as set out further below.

6.70 As far as reasonably practicable, we have based our assessment on the methods used by credit rating agencies and we have examined the metrics and thresholds that credit rating agencies said are associated with particular credit ratings (for example BBB+ by S&P and Baa1 by Moody's). We have also sought to confirm our understanding of the credit rating agencies' approach to NERL through informal discussions with each agency. However, this has involved the application of a degree of judgement:

- where there is no clear threshold associated with a particular credit rating metric, we have had to apply judgement to assess the levels that would be consistent with each rating: for example, by applying thresholds from published credit rating agency guidance pertaining to other regulated sectors;
- we apply a degree of discretion in determining whether a breach of one or more rating thresholds over a particular length of time would result in a downgrade to a lower credit rating – for example, the marginal breach of a single threshold in a single year would not automatically translate into a downgrade; and
- we also apply our discretion in drawing inferences regarding whether the notional company would be able to retain cost-effective access to debt finance at different credit ratings.

Target credit rating

6.71 We disagree with NERL's view that a notional, stand-alone credit rating lower than A-/A3 would be inconsistent with the gearing cap in its Licence. A lower credit rating could be driven by cashflow metrics such as Funds from Operations (FFO)/debt or FFO/net debt and does not necessarily imply a breach of the gearing cap. At the same time, we would be concerned if the notional company were to breach this cap as discussed further below.

6.72 The notional company should be able to access cost-effective debt finance with a notional, stand-alone credit rating of BBB+/Baa1, since this is a comfortable investment grade credit rating that provides two notches of headroom above the minimum investment grade credit rating of BBB-/Baa3.

6.73 We do not consider that a single-notch downgrade from BBB+/Baa1 to BBB/Baa2 would necessarily imply that our price control proposals were not financeable or that NERL would be unable to access debt finance as required during NR23. We also note that in our base case scenario, NERL is not expected to issue any new debt in NR23, so its ability to access debt capital markets is in any case less acute than would otherwise be the case.

6.74 We are aware that NERL and its existing bonds are rated by Moody's at A2 and by S&P at A+ as of 22 March 2022. This is a relatively strong investment grade credit rating and is higher than what is typically observed in other regulated sectors.[164] As NERL has observed, its actual credit rating is expected to be higher for the notional company, due to the uplift given by both Moody's and S&P for their assessment of the likelihood of extraordinary government support.

Credit rating metrics and thresholds considered

6.75 We are not aware of any published rating framework for UK ANSPs or for NERL specifically. As such, we have principally relied on metrics derived from S&P's Corporate Rating assessment framework and Moody's rating framework for regulated energy networks. The metrics we have considered are as follows:

- ratio of FFO to net debt, as considered by S&P;
- ratio of net debt to RAB, as considered by Moody's; and
- adjusted interest coverage ratio (AICR), as considered by Moody's.

6.76 The first two of these metrics are consistent with those presented in NERL's business plan. Following discussions with credit rating agencies and having considered Moody's rating framework for other regulated sectors – particularly for UK energy networks – we also consider that it is also appropriate to include AICR within the scope of our assessment.

6.77 We have not adopted the following metrics used by NERL in its business plan:

- liquidity – we agree that ensuring sufficient liquidity is an important element of NERL's corporate financial management. However, in general we would expect that the notional company would seek to issue new debt to address funding shortfalls, rather than drawing down liquidity facilities on an on-going basis. As such we consider it is more important to focus on core measures of debt financeability; and

[164] For example, in the water sector the average credit rating is Baa2/BBB to Baa3/BBB+. Ofwat, Monitoring Financial Resilience Report year ended 31 March 2021, p.5. See: https://www.ofwat.gov.uk/wp-content/uploads/2021/11/Monitoring-Financial-Resilience-Report-2020-21-updated-17Dec2021.pdf

- adjusted net debt/RAB – we consider that the Moody's net debt/RAB measure is adequate for the purposes of assessing financeability.

6.78 We consider the following minimum thresholds for credit metrics:

- FFO/net debt – following discussions with credit rating agencies and having reviewed published credit rating guidance, we have assumed that a ratio of FFO/net debt over a two-year rolling period that is greater than 18% would be consistent with a credit rating of BBB+. We have also considered the S&P threshold of 13% for "intermediate" financial risk for a "low volatility" corporate entity[165]. Based on this guidance, we have assumed that that a ratio of FFO/net debt over the same period that is above this level would be consistent with a rating of BBB;
- net debt/RAB – firstly, we would be concerned if net debt/RAB exceeded the gearing cap in NERL's licence. Secondly, following discussions with credit rating agencies and having reviewed Moody's rating framework for energy networks[166], we have assumed that gearing of less than 70% would be consistent with a credit rating of Baa2; and
- AICR – we have considered the threshold applied by Moody's in its rating framework for UK energy networks of 1.4x for a Baa rating[167]. We have assumed that where the average AICR over a three-year rolling period is above this level, this would be consistent with a Baa1 credit rating. Following discussions with credit rating agencies and having reviewed published credit rating guidance, we have also assumed that a three-year rolling AICR level greater than 1.2x would be consistent with a credit rating of Baa2.

Analysis of credit metric projections

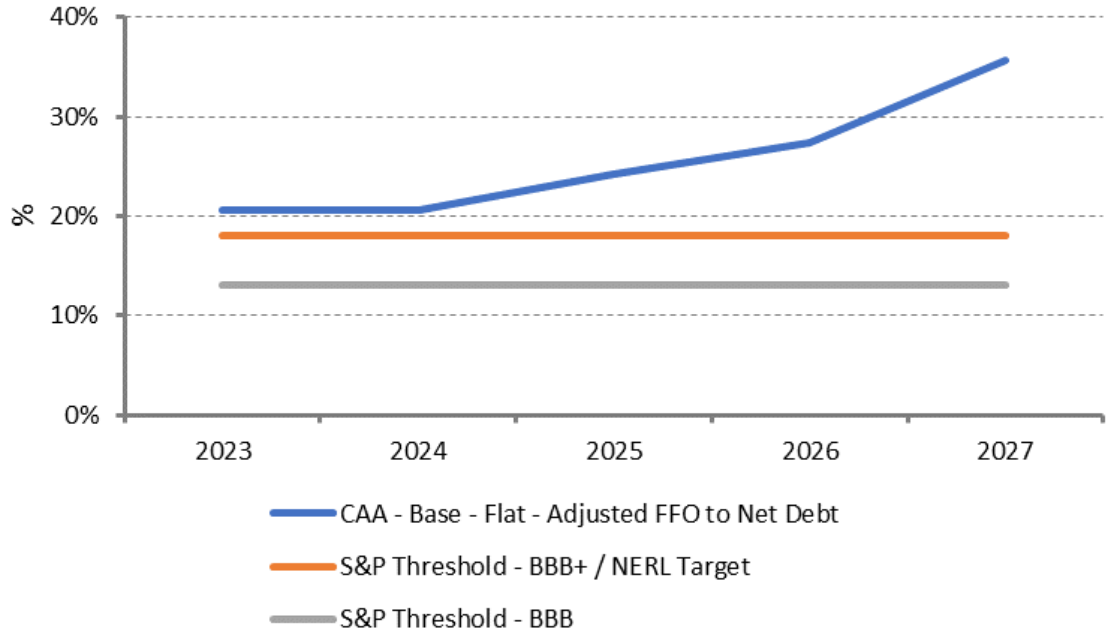
6.79 Figure 6.4 to Figure 6.6 below present the results of our credit metric analysis for each of the metrics described above. For each metric, we show the estimated ratios for our Initial Proposals after re-profiling the unit rate. We compare this with the thresholds set out above.

[165] S&P Global Ratings (2013), "Corporate Methodology", Table 19.

[166] Moody's Investor Service (2017), "Rating Methodology: Regulated Electric and Gas Networks", p19 indicates that a range of 60%-75% would be consistent with a Baa rating. Following discussions with Moody's Investor Service, we have selected a threshold of 70% from within this range for Baa2.

[167] See Moody's Investor Service (2017), "Rating Methodology: Regulated Electric and Gas Networks", p19.

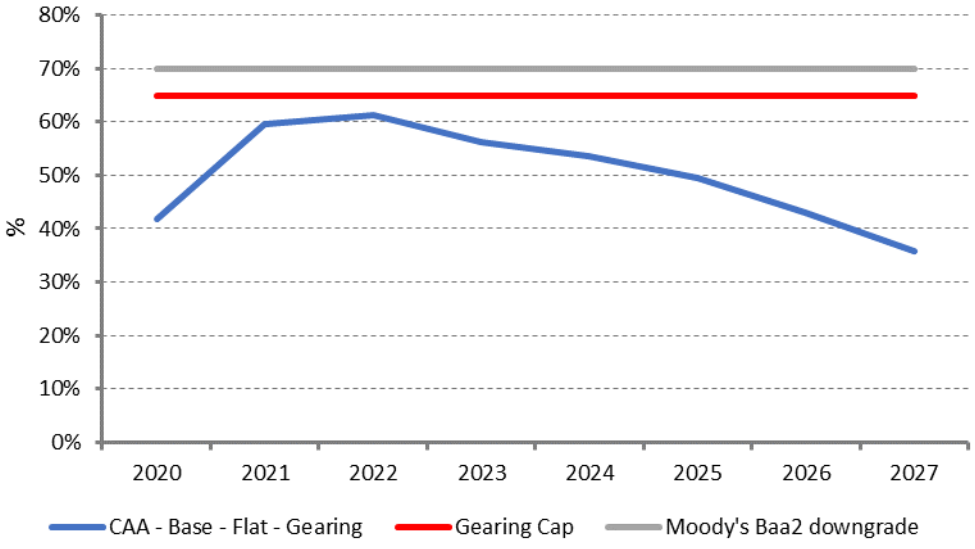
Figure 6.4 – FFO to net debt for Initial Proposals



Source: CAA calculations

6.80 Projected FFO to net debt exceeds the threshold for BBB+ in all years and demonstrates an increasing trend over the period. Average FFO to net debt for NR23 is 26%, which exceeds the threshold of 18% for BBB+ set out by S&P.

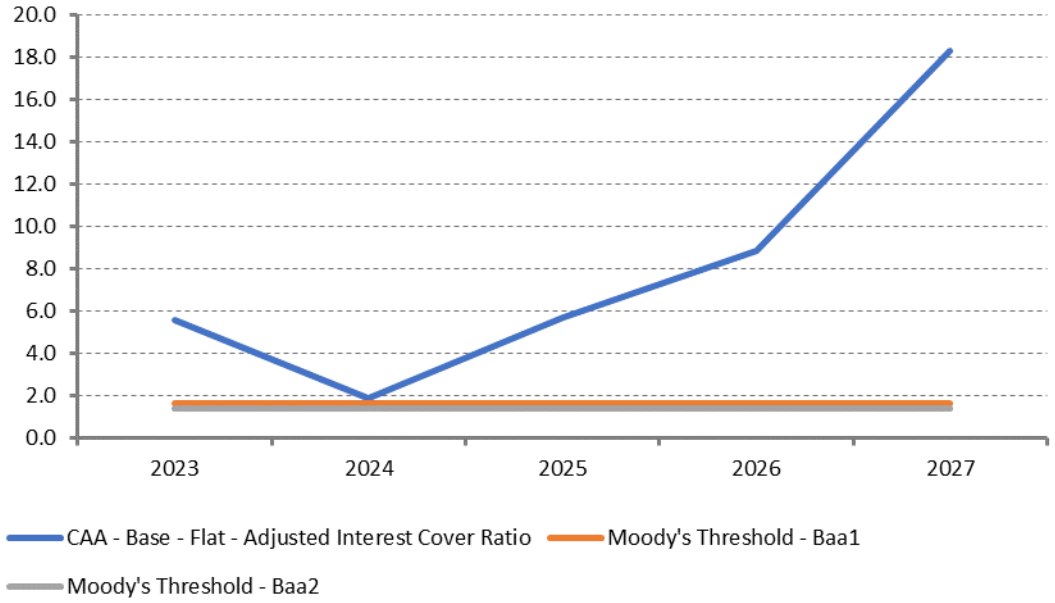
Figure 6.5 – Gearing (net debt to RAB) for Initial Proposals



Note: we have included the RP3 period in the above chart to illustrate the gearing dynamics from 2020 onwards, referred to previously in this section.
Source: CAA calculations

6.81 Similarly, gearing remains below the cap in all years, and exhibits a declining trend over the period. This is broadly consistent with the target gearing profile as set out in NERL's business plan.[168]

Figure 6.6 – Adjusted Interest Cover Ratio for Initial Proposals



Source: CAA calculations

6.82 AICR remains above threshold in all years in NR23. It exhibits an increasing trend from 2025 onwards. The minimum level of AICR in 2024 is driven by a decrease in operating profit, including from profiling of the unit rate, which reduces the unit rate in 2023 and 2024 and increases the unit rate thereafter, compared with the unprofiled case.

6.83 Overall, we consider that the notional company's credit metrics appear to be reasonably strong across NR23. These results indicate that, under our Initial Proposals, the notional company should be able to maintain a comfortable investment grade credit rating and pay our assumed dividend profile to shareholders from 2025.

Downside scenarios

6.84 We also consider a downside scenario where outturn traffic levels in NR23 are around 10% lower than the forecasts used to in our Initial Proposals over NR23. This is based on our assumptions for a downside scenario where traffic does not recover as quickly in 2022 and remains below the STATFOR forecast throughout NR23. We assume that NERL can make cost savings in response to these lower

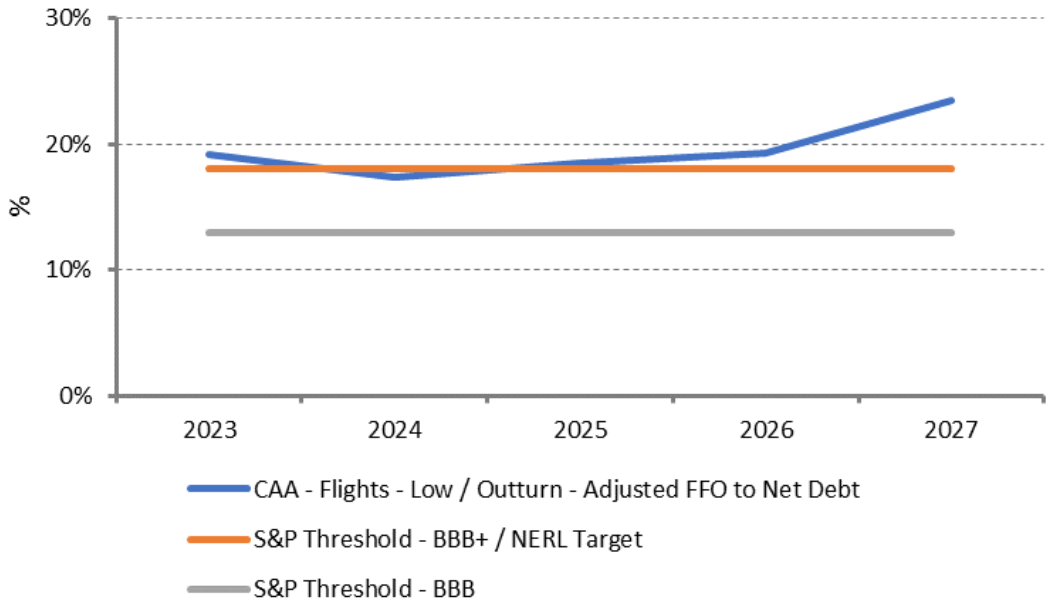
[168] NERL Business Plan, Appendix N: Financeability, page 4.

traffic levels, based on analysis of the elasticity of costs to changes in traffic (as explained further below in the section on the alternative scenarios).

6.85 In this downside scenario, NERL has a high degree of protection derived from the TRS mechanism. After taking account of this, we see the most pressure being on debt financeability in 2024. This reflects the impact of reprofiling which reduces revenue in 2024. For example, in Figure 6.7 FFO to net debt falls below the 18% BBB+ threshold in 2024. However, the ratio remains above the BBB+ threshold in all other NR23 years and the average ratio over NR23 (around 20%) remains above the 18% threshold, indicating a low likelihood of a downgrade. We note that credit rating agencies often base their assessment on a look forward of multiple years rather than focusing unduly on a single year.

6.86 We also see pressure on net debt to RAB and AICR in 2024, before the ratios improve in 2025. If needed, we would expect NERL's management to take measures in the short-term in response to any concerns around financeability.

Figure 6.7 – FFO to net debt for downside assumptions in outturn traffic



Source: CAA calculations

6.87 Our conclusion in respect of debt financeability is that, in the base case and under reasonable downside scenarios, the notional company is financeable in NR23 and NERL should be able to access cost effective, investment-grade debt finance in a timely manner.

Equity financeability

6.88 We consider equity financeability by testing whether NERL can provide reasonable returns in terms of size, timing and likelihood of receiving those returns. We have principally assessed equity financeability by comparing the

Internal Rate of Return (IRR) with our proposed cost of equity. We have also considered the adequacy of our proposed dividend profile, though we note that shareholders should in principle be indifferent regarding the timing of their equity returns, and by extension whether that return is received in the form of cash distributions or capital gains (that is, increases in the RAB).

6.89 We consider that the return on regulated equity may not be an appropriate guide to equity financeability at this review. This is because return on regulated equity is often defined as an accounting measure of profit after tax divided by the proportion of the RAB that is equity financed (sometimes referred to as the 'equity wedge'). This accounting measure often ignores the impact of indexation and reflects other accounting adjustments which may not be relevant for assessing regulatory returns.

6.90 The IRR is a measure of return generated over a set period of time, taking account of any change in the underlying value of the asset. We have used this approach to estimate an IRR over NR23 of 10.2% in nominal terms, similar to and slightly above the allowed cost of equity during NR23 when gearing is adjusted to match modelled values (10.1%).[169] To calculate the IRR we have assumed that the value of the equity is equal to the equity portion of the RAB.

6.91 Our proposed profile of dividends implies lower overall dividend payments in NR23 than NERL has set out in its business plan. We consider that a degree of dividend forbearance is unsurprising under the circumstances, given that NERL is expected to finance significant smoothing of traffic-related under-recoveries pertaining to the RP3 period. At the same time, we note that our allowance implies a return to dividend by 2025, and that there is a reasonable expectation that this period of lower dividends will be compensated through the capacity for higher dividend payments in future periods as the TRS debtor unwinds. As such, we consider that our proposed notional dividend profile is consistent with a financeable and investable business.

6.92 Based on the above equity financeability analysis, we consider that our Initial Proposals provide for reasonable equity returns.

Summary

6.93 Based on the analysis presented above, we consider that our Initial Proposals are financeable. The notional company should be able to retain access to

[169] As discussed in chapter [5], we set the WACC using a notional gearing of 30% but for financeability analysis we allow the notional gearing to be a function of the cash flows in the PCM. This creates a divergence between the two measures of notional gearing. We have adjusted our cost of equity (c. 4.4% RPI-deflated) to reflect that time weighted average NR23 gearing (this places more weight on gearing in earlier years than later years) in the PCM is higher (49%) than our notional gearing (30%) assumption. This results in a cost of equity of c. 6.7% RPI-deflated or 10.1% inflated using our RPI assumption of 3.16%.

investment grade debt finance and should offer returns consistent with the allowed cost of equity. We consider that our Initial Proposals would facilitate the notional company having ongoing access to sufficient capital to allow it to finance its regulated activities and do so in a cost-effective way. This approach exercises our relevant functions in the manner we think best calculated to secure that NERL will not find it unduly difficult to finance its licensed activities.

Alternative scenarios for traffic and inflation

Context

6.94 As we have been developing our Initial Proposals for NR23, we have been aware of the difficulties and uncertainty arising from the impact of the covid-19 pandemic across the aviation sector. While we are seeing traffic recover quickly in 2022, the speed of this recovering outlook for the medium to long-term remains uncertain.

6.95 We have also seen some significant changes in the economic environment and outlook. Since NERL submitted its business plan in February 2022, we have seen a strong recovery of air traffic during the summer 2022, higher energy prices and inflation, significant rises in interest rates, and predictions of recession and high inflation rates (albeit some of the very high forecasts of inflation should be partly mitigated by the energy price guarantee).

6.96 Our Initial Proposals have been prepared on the basis of information available earlier in 2022 before some of these developments came to the fore. This means that we have not yet taken account of the full extent of changes in market variables seen in some recent forecasts,[170] which point to the potential for higher inflation and an uncertain outlook in the short-term. In addition, we understand that Eurocontrol STATFOR expects to publish updated traffic level forecasts around October 2022 and NERL is currently consulting stakeholders on parts of its DP en route and legacy escape capex programme.

6.97 Changes in forecasts for traffic, inflation, interest rates and capex could materially affect NERL's final NR23 price cap. We expect to receive and consider more recent information and developments, which could lead to some material changes to our proposals prior to our final performance plan decision.

6.98 To illustrate the potential impact of these changes, we include two alternative scenarios, for higher inflation rates and lower traffic forecasts than assumed in setting the base case for these Initial Proposals. These alternative scenarios have been designed to illustrate the potential impact on costs, unit rate and

[170] For example, we assume CPI inflation in 2022 below the recent range of forecasts summarised in HM Treasury, Forecasts for the UK Economy, August 2022 (7.7 to 12.4 per cent). The HM Treasury forecasts are available here.

financeability if we were to adopt different forecasts for traffic and inflation, with corresponding changes to costs. As a simplifying assumption, we have only adjusted NERL's opex costs in both scenarios and have not adjusted NERL's non-regulatory revenues and capex. These scenarios are illustrative only at this stage and we will need to consider the latest economic and traffic outlook when reaching our final performance plan decision.

6.99 We are seeking stakeholder views on these matters and, to support our decision making, we have also requested further information from NERL to understand better the impact of these uncertainties on its opex, capex and other parts of its business plan.

Alternative scenario 1 – Lower forecast traffic levels

6.100 In this scenario, we have assumed lower forecast traffic levels from 2022 than in our Initial Proposals, by around 10% over NR23 as a whole. This is a CAA illustrative assumption and is based on NERL's traffic levels not recovering so quickly in 2022 and remaining below the base case forecast levels over NR23. This is overall slightly more pessimistic than the STATFOR October 2021 low case across NR23 as a whole (which had traffic around 8% below the base case), but is more optimistic in 2022 and 2023, reflecting the recovery we have seen so far in 2022.

6.101 We have taken account of the impact on opex based on a cost elasticity figure calculated by Steer of 0.23.[171] This figure implies that a 10% reduction in traffic results in a 2.3% reduction in costs (and vice versa on a symmetrical basis). Steer estimated the 0.23 elasticity figure based on bottom-up analysis, using their shadow operating cost model. It also cross-checked the figure against previous top-down benchmarks (derived using econometric analysis) it had calculated as part of the RP3 review (using Eurocontrol's Air Traffic Management Cost-Effectiveness and Performance Review Report data) which produced similar results. This approach assumes reductions in staff opex (excluding redundancy and other exceptional items), non staff opex and pensions costs (excluding DB deficit repair costs).

6.102 While we understand this to be higher than cost elasticity estimates NERL has provided to the CAA previously, we would expect the sustained reduction in traffic in this scenario to allow further reductions in costs over the medium /longer-term.

Alternative scenario 2 – Higher forecast inflation rates

6.103 Recognising that expectations about inflation for the period 2022 to 2023 have been changing frequently, in this scenario, we model the impact of higher

[171] See Steer Traffic Sensitivities Technical Note, October 2022.

forecasts for CPI and RPI inflation.[172] These are CAA illustrative assumptions based on recent analyst forecasts from HSBC and Goldman Sachs,[173] and reflect the higher forecast inflation across NR23 including taking account of recent UK government announcements on the energy price cap. The assumptions are set out in Table 6.14 below.

Table 6.14 – Inflation assumptions for alternative scenario

	2023	2024	2025	2026	2027	NR23 average
CPI – Initial Proposals	4.04%	1.54%	1.884	2.00%	2.00%	2.29%
CPI – High Inflation scenario	5.64%	3.60%	2.58%	2.00%	2.00%	3.16%
RPI – Initial Proposals	5.51%	2.34%	2.52%	2.71%	2.71%	3.16%
RPI – High Inflation scenario	6.89%	4.48%	3.45%	2.86%	2.86%	4.11%

Source: CAA analysis, based on various analyst forecasts

6.104 We have assumed that NERL's costs in nominal terms will increase as a result of the higher inflation rates. However, we also assumed that NERL is able to mitigate some of this increase in cost escalation without passing through the full increase in costs forecasts.

6.105 We have reviewed recent updates in inflation and average earnings forecasts. Based on this, we have adopted a high-level assumption that around one-third of the forecast increase in inflation rates will be passed through to higher nominal costs in the early years of NR23.[174] We have applied this to staff opex, non-staff opex and pension costs. This assumption results in a reduction in these costs when expressed in real terms under this higher inflation scenario.

6.106 In addition to higher inflation, we note that forecasts for interest rates have also been volatile and seeing an increasing trend. In addition to opex, we have considered an alternative assumption for the allowed WACC. We have considered possible increases in the WACC from higher interest rates (from an increase in the RfR, cost of equity and nominal cost of raising new debt) and possible reductions in the WACC from reductions in the real cost of embedded

[172] This scenario relates to higher inflation assumptions and would not impact the treatment of in period differences between forecast and actual inflation, as provided for in the regulatory framework and discussed in chapter 7.

[173] HSBC, "Freeze!", 8 September 2022, page 6 and Financial Times, "Liz Truss's £150bn energy plan puts Bank of England on the spot," 8 September 2022,

[174] The HM Treasury publishes a summary of new medium-term forecasts for the UK economy from a broad range of analysts every three months. For example, between May 2022 and August 2022, the CPI inflation rate for 2023 increases by 1.8% (from 4.2% to 6.0%), whereas average earnings increased by one-third of this (from 3.7% to 4.3%).

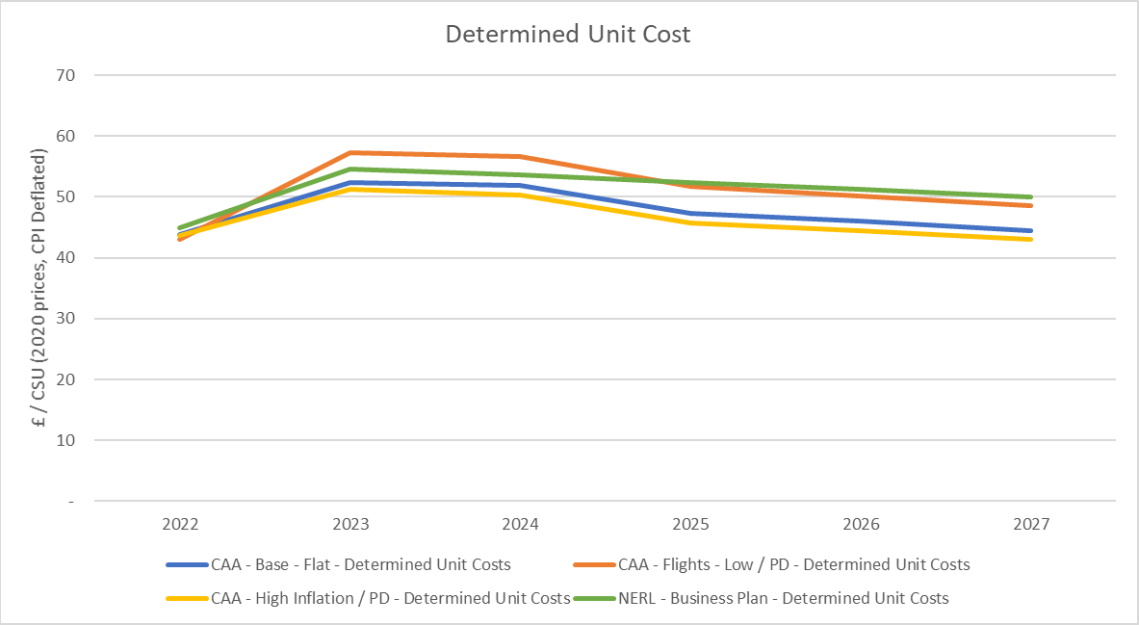
debt. In this illustrative scenario, we have assumed the net impact is an increase in the RPI-real vanilla WACC from 2.81% in our Initial Proposals to 3.05%.

Results from the alternative scenarios

6.107 In Figure 6.8 below we show the impact on DUC under these two illustrative alternative scenarios, as compared with our Initial Proposals and NERL's business plan.

6.108 This shows that lower traffic forecasts could lead to a significant increase in DUC. In this scenario, unit costs would increase from £48 per TSU to £53 per TSU over NR23 following the 10% reduction to traffic forecasts. The high inflation scenario leads to a small reduction in unit costs in real terms (although an increase in nominal terms).

Figure 6.8 – DUC for alternative scenarios (CPI-real terms)

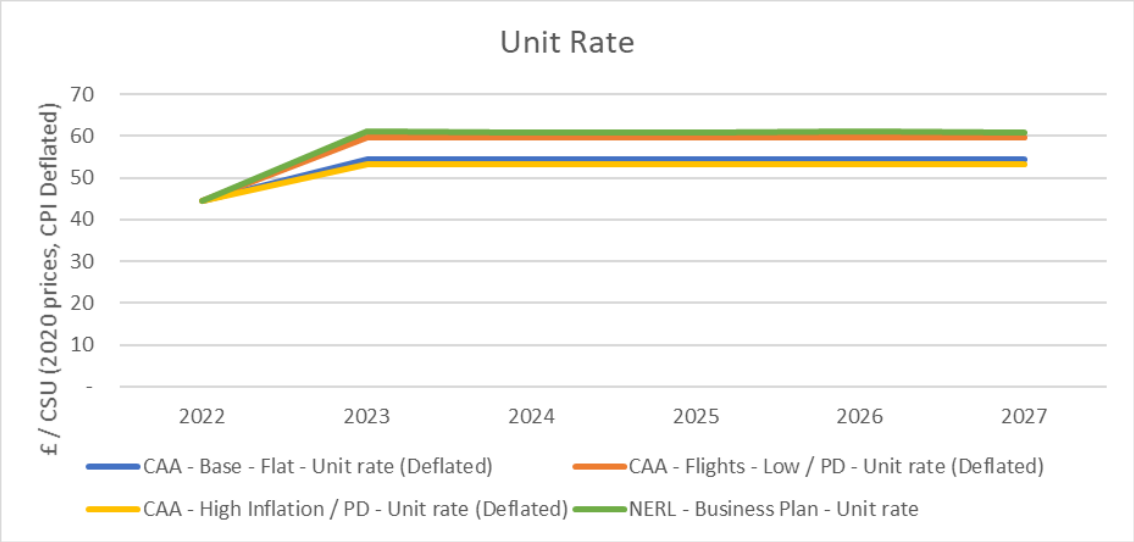


Source: CAA analysis

6.109 In Figure 6.9 below we show the impact on the forecast expected unit rate in real terms, after profiling of revenues. For the low traffic scenario, we would see a similar trend to DUC, where the unit rate increases from £54 per TSU in our Initial Proposals to £60 per TSU under the alternative traffic scenario, similar to NERL's business plan.

6.110 While we would see a modest reduction in the unit rate in real terms under higher inflation, we would see an increase in the nominal unit rate compared with our Initial Proposals, for example, an increase from £67 to £69 per TSU in 2027.

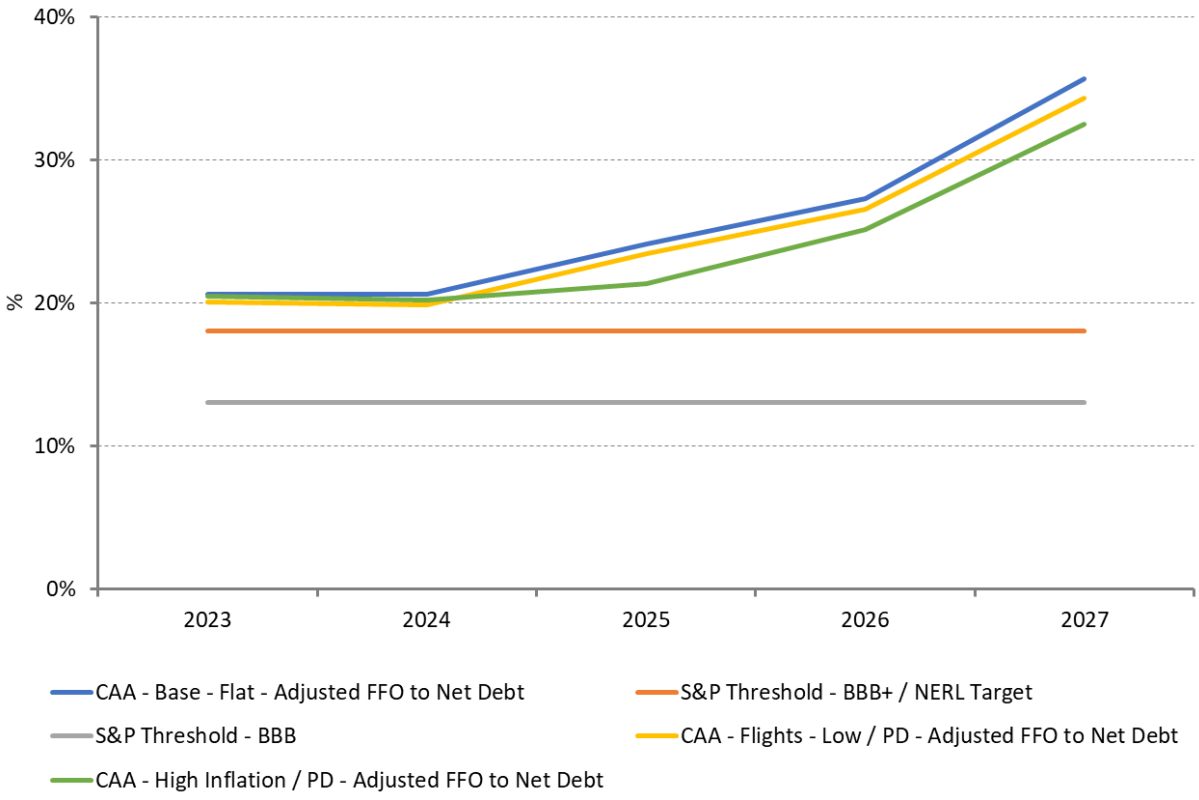
Figure 6.9 – Unit rate for alternative scenarios (CPI-real terms)



Source: CAA analysis

6.111 We have also considered the impact on financeability under these alternative scenarios. In Figure 6.10 below we show the impact on FFO/net debt metric from adopting higher inflation and lower traffic forecasts. As these revised forecasts are built into revised determined costs and unit rates to calculate the price controls for NR23, we do not see a significant impact on financeability, though we will need to keep this under review for our final performance plan decision.

Figure 6.10 – FFO to net debt for alternative scenarios



Source: CAA analysis

Summary of our work on alternative scenarios

6.112 The main finding from our analysis is that our forecasts for Determined Costs, DUC and the unit rate will all be highly sensitive to our assumption for traffic forecasts and sensitive (probably to a lesser extent) to our forecasts for inflation and interest rates during NR23.

6.113 The impacts in this section are purely illustrative. For our final performance plan decision, we will need to consider carefully the appropriate forecast assumptions for the NR23 period and what impacts this will have on other determined cost building blocks, such as opex and WACC.

6.114 For example, even under higher inflation forecasts, our expectation is that NERL should be able to mitigate some of these increases in the short to medium term, such as through fixed price contracts and benchmarking with cost trends in other sectors where inflation is not fully passed through.

6.115 Similarly, if we see reductions in traffic forecasts, we expect to see management action by NERL to look at opportunities to reduce its cost base, although we recognise the ability to make cost savings may depend on whether traffic reductions are prolonged and predictable.

6.116 We expect to examine updated economic and traffic forecasts for our final performance plan decision and to work with NERL on the evidence base for impacts on our Initial Proposals. We would welcome views from stakeholders in response to this consultation on how we should respond to these uncertainties in reaching our final performance plan decision.

Chapter 7

Regulatory incentives and mechanisms

Introduction

7.1 We have developed a range of regulatory mechanisms to help manage uncertainty and to support innovation, including in respect of services to new airspace users for NR23. Some of these mechanisms continue arrangements that have been in place for previous NERL price controls, and some are new for this NR23 period. They are designed to protect the interests of users by supporting NERL in being able to secure efficient financing for investment and allowing users to benefit from innovation.

7.2 This chapter also set outs our approach to capex incentives and governance, with further detail on the capex engagement incentive set out in appendix G.

7.3 This chapter has the following four sections:

- uncertainty mechanisms;
- airspace modernisation;
- new users; and
- capex incentives and governance.

7.4 Where appropriate, we set out the relevant context, the views of stakeholders – including what NERL proposed in its business plan – and our views and proposals for NR23.

Uncertainty mechanisms

Context

7.5 Uncertainty mechanisms allow for risk to be shared between NERL and its customers, with a view to providing appropriate levels of protection for NERL from risks outside its control. This should support a relatively low WACC and hence lower charges to customers and consumers. The appropriate allocation of risk is informed by a range of factors, such as whether NERL or airlines are best placed to bear and manage a particular risk. In present circumstances, with uncertainty about both traffic and macroeconomic factors (which can affect financing costs), this allocation of risk is particularly important.

7.6 In our business plan guidance, we said NERL should consider how the uncertainty due to the impact of the covid-19 pandemic should be mitigated and managed effectively in the interests of consumers. We noted that NERL could

suggest changes to the design of the regulatory framework, including new mechanisms or refinements to existing arrangements.

7.7 In previous periods, the regulatory framework has included uncertainty mechanisms for traffic risks, cost risks, inflation risks, and capex risks. Capex regulation is addressed in chapters 4 and 5. These other matters are dealt with below.

7.8 Notwithstanding these mechanisms, we expect NERL to manage uncertainty appropriately during NR23, responding efficiently to the challenges it faces and mitigating risks in a way that is in the best interests of customers.

Stakeholder views

NERL

Traffic risk

7.9 For NR23, NERL proposed to continue TRS from RP3, but with a change to extend the period over which it recovers revenue for significant traffic downturns where variations are 10% to 30% below forecast. In RP3 under normal circumstances, NERL would recover revenue in a single year, two years after the variation (n+2). It proposed a change to this approach and to recover this revenue over two years, starting three years after the variation (in n+3 and n+4). NERL has not proposed any change to the n+2 return of revenues from higher-than-expected traffic levels. NERL does not assume a 30% downturn would automatically trigger a re-opener, but should at least trigger discussions with us about how to manage this.

7.10 NERL also proposed to extend the TRS mechanism to its Oceanic price control. The TRS would cover the core costs only and excludes the ADS-B data services contract with Aireon.

Cost risks

7.11 NERL has proposed to:

- retain risk sharing for unforeseen changes in DB pension costs relating to changes in financial market conditions; and
- add to these pension pass-through arrangements the pass-through of costs relating to employees transferring from DB to PCA schemes. NERL said that the additional PCA and associated employers' national insurance costs arising within NR23 from the transfer of staff from the DB pension to the PCA could be material, but it is unable to forecast the timing and scale of such transfers.

7.12 In RP3, we introduced the Opex Flexibility Fund (OFF) to manage uncertainty in costs related to airspace modernisation. These costs were included in NERL's Determined Costs, with the intention that the use of the OFF would require a

governance process involving stakeholders, and ultimately the CAA if agreement could not be reached. Unutilised funds were to be returned to customers. NERL did not use the OFF during RP3 and has proposed to not extend it for NR23, confirming that it is not proposing any other contingency costs to replace it. NERL considered that this contingency is not required given its proposed allowance for airspace modernisation and ACOG costs.

Inflation risk

7.13 NERL proposed to retain the same approach to treatment of inflation costs as for RP3, which include annual adjustments of prices for the difference between forecast CPI inflation that underpins Determined Costs and actual CPI inflation.

7.14 For RP3, the RAB was indexed to RPI and we included an adjustment in the RAB rules for differences between the forecast and actual wedge between RPI and CPI inflation. NERL did not propose any change to this approach.

Asymmetric risks

7.15 NERL has requested an asymmetric risk allowance as part of its revenues for NR23, similar to our approach for HAL and the H7 review.[175] It considered that it is also faces such asymmetric traffic risk, and so we should consider applying for NERL a similar regulatory analysis to that undertaken for HAL with necessary adjustments. NERL did not quantify the asymmetric adjustment mechanism in its business plan.

Other stakeholder views

7.16 During NERL's customer consultation, airlines overall were keen to understand the rationale for the current TRS and NERL's proposed changes to the TRS mechanism. Airlines had varying views on the TRS and there was concern whether spreading a larger scale recovery over two years would be enough to avoid over-burdening airlines.

7.17 In its response to the NERL business plan, easyJet mentioned airlines' general objection to airline users funding the TRS but supported the proposed revision of the TRS recovery mechanism and suggested expanding the lower threshold from 30% to 50% in case of traffic downturn to provide more certainty. Lufthansa stated that variations above 10% should trigger cost containment measures and a revision to the price control. British Airways considered that the design of the TRS mechanism should be tailored to NERL's particular business and only make modifications where the evidence is clear that this would benefit customers or increase the efficiency incentive on NERL. It considered NERL's proposed

[175] For H7, we adjusted the price control for traffic risks not captured by the TRS mechanism and the forecast of passenger traffic. We achieved this by applying two adjustments to HAL's revenue allowance: an asymmetric risk allowance and a shock factor (which was added to the passenger forecast).

change was logical but needed to be considered as a whole with other incentives in the price control.

7.18 There was no support from airlines to introduce TRS on Oceanic.

7.19 Prospect supported NERL's proposals for an adjusted TRS recovery mechanism and its extension to the Oceanic price control.

7.20 Virgin Atlantic opposed the proposal for the asymmetric risk adjustment, unless it could be demonstrated that this would lead to a lower WACC and charges.

Our views and Initial Proposals

Traffic risk

7.21 We propose to continue to apply the TRS mechanism for the en route price control. This is consistent with Eurocontrol Principles, our approach in previous price controls prior to the covid-19 pandemic and our approach to risk in setting NERL's allowed WACC, recognising that unexpected changes in levels of traffic are largely outside NERL's control.

7.22 Our Initial Proposals retain the same parameters as used prior to the covid-19 pandemic for:

- the deadband (±2% traffic variation) where NERL bears full risk;
- risk sharing rate (30% of risk borne by NERL for traffic variations between ±2% and ±10%); and
- risk sharing cap (±10% traffic variation), above which NERL bears no traffic risk.

This is the default mechanism under the EU charging rules for RP3.

7.23 In case of a larger traffic downturn, more than 10%, and to mitigate the burden of revenue recovery on airlines, we intend to extend the recovery period, similar to NERL's proposal but with revenue recovery over three years starting in n+2. We propose that adjustments for variations within the existing TRS mechanism, that is up to 10%, are made in year n+2 with outstanding amounts above 10% spread evenly over n+3 and n+4.

7.24 This extended recovery would not apply to traffic that is higher than forecast, where excess revenue would continue to be returned to airlines in n+2.

7.25 These Initial Proposals do not define the maximum level of traffic variation at which the TRS mechanism would warrant a review within the price control period. We propose to retain the flexibility established initially under the EU charging rules, to consider re-opening the price controls for traffic variations greater than 10%. We consider that sections 11 to 11A of the TA00 already allow us to review the best course of action following such events on a case-by-case basis, in light of our statutory duties. For example, during a prolonged and large

traffic downturn we would want to use this flexibility to ensure that any traffic risk sharing approach is appropriate in how risks are allocated for NERL and customers.

7.26 This revision will apply to the TRS mechanisms for both the UK en route and London Approach price controls.

7.27 We do not intend to extend the TRS mechanism to the Oceanic price control. While we recognise that it may go some way in mitigating traffic uncertainty, we think that on balance, it will introduce unnecessary complexity to the price control with limited benefits for customers. We note that a substantial portion of the Oceanic service is already protected from traffic risk under contractual arrangements with Aireon. The Oceanic price control is discussed in chapter 9.

Cost risks

7.28 A key feature of NERL's price controls and Determined Costs is that risks around variations in opex are generally borne by NERL. There is an exception for certain pre-identified costs where unforeseeable changes in such costs can be passed through in future charges. Different arrangements also apply to capex. In relation to cost adjustments, the Eurocontrol Principles provide for:

a) unforeseen changes in costs of new and existing investments;

b) unforeseen and significant changes in pension costs (limited to differences resulting from unforeseeable changes in market conditions or pensions/accounting law);

c) unforeseen and significant changes in costs resulting from unforeseeable changes in interest rates on loans to finance services; and

d) unforeseen and significant changes in costs resulting from unforeseeable changes in national taxation law or other new cost items required by law.[176]

7.29 These cost pass-through mechanisms have been applied consistently over several price control periods and we do not propose to change these for NR23.

7.30 For example, we would expect these cost pass-through mechanisms to continue to apply in the case of unforeseen changes in DB pension costs as a result of unforeseeable changes in financial market conditions. Nonetheless, as set out in our recent regulatory policy statement, costs eligible for pass-through must be reasonable and efficient.[177]

[176] Eurocontrol Principles, paragraph 3.3.4.2

[177] See Appendix C to CAP2119 available from: www.caa.co.uk/cap2119

7.31 We do not propose to extend this pension cost pass-through to the costs from the transfer of employees from the DB pension scheme to the PCA scheme, as proposed by NERL. We do not consider full pass-through of changes in these costs to be appropriate as they are at least partially within NERL's control, it would reduce incentives on NERL to make sure costs are efficient, and they do not meet the criteria set out in the Eurocontrol Principles. We note that we will continue to consider any cost savings, including PCA cost savings, when assessing any claim for recovery of additional pension costs, as has been done in previous years.

7.32 On taxation law changes, we would also expect this to apply to any changes in costs due to significant unforeseeable changes in the corporation tax rate during NR23.

Inflation risk

7.33 We propose to retain the same approach to treatment of inflation risks as for RP3. This broadly isolates NERL from unexpected changes in inflation and is consistent with a low WACC and the Eurocontrol Principles. In practice this means that:

a) the unit rate is indexed to CPI. Determined costs are expressed in NERL's licence in nominal terms, based on an inflation forecast, and there is an adjustment to revenues (the 'INF' term in the licence) to correct for the difference between forecast and actual CPI inflation with a two-year lag; and

b) the RAB is indexed to RPI. We retain the adjustment introduced in RP3 to correct for differences between the forecast and actual wedge between RPI and CPI inflation

7.34 In recent months, we have seen UK inflation forecasts for the NR23 period increase and there remains significant uncertainty in relation to these matters. While the mechanisms described above provide protection for unexpected changes in inflation during the price control period, given more recent inflation forecasts, we will need to review our approach to setting the cost allowances we use in making our final performance plan decision. We expect that NERL will be able to manage some of the recent increases in inflation in its cost base in line with other UK businesses, and intend to examine this closely following publication of these Initial Proposals.[178] We consider this further in chapter 6.

[178] For example, many sectors have not seen staff costs increase at the same rate as inflation in 2022 (see HM Treasury "Forecasts or the UK economy: comparison of independent forecasts" available here; or the OBR "Economic and Fiscal Outlook – March 2022" available here) and we would expect NERL has some fixed costs in the short to medium term.

Asymmetric risk

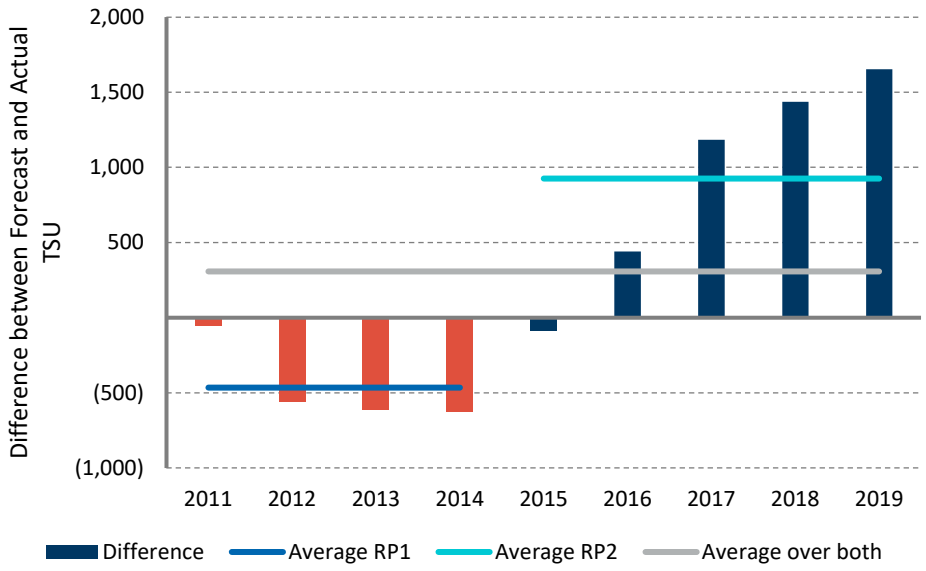
7.35 We do not propose to introduce additional adjustments for asymmetric risks for NR23 as explained further below.

Shock factor

7.36 For H7 Final Proposals, we included a 'shock factor' to account for asymmetric downside traffic risks. While NERL also faces traffic forecasting risks, the source and size of this risk may not be the same for NERL and HAL, given the different nature of the traffic forecasts (for example, NERL's traffic is UK-wide and includes overflights).

7.37 We have considered whether there appears to be asymmetric downside risk in NERL's traffic forecasts. As shown in Figure 7.1, for RP1 and RP2 (which excludes extreme downside traffic seen in RP3), the average difference between actual and forecast TSU is positive, suggesting that forecasts were too conservative. STATFOR traffic forecasts consider low and high scenarios as well as the base case, so it is not clear there would be asymmetric bias in forecasts. We do not see evidence that would make a shock factor appropriate for NERL.

Figure 7.1: Traffic forecasts and outturn in RP1 and RP2



Source: CAA analysis

Asymmetric Allowance

7.38 For H7 Final Proposals, we included an 'asymmetric allowance' to compensate HAL due to its exposure to extreme downside risk. This does not appear to be appropriate for NERL because:

- NERL should have a higher degree of revenue protection than HAL. While, the TRS mechanisms in H7 and NR23 offer broadly similar levels of protection for 'aeronautical' revenues (that is, excluding non-regulatory revenue) NERL has a smaller proportion of revenue from non-regulated sources removed from the Determined Cost that is protected in the TRS mechanism, leading to higher protection overall.[179] We might also expect NERL's non-regulated revenue to be less affected by, for example, economic downturn, compared with commercial revenues for HAL; and
- our approach to the reconciliation review of 2020 to 2022 and related revenue recovery provides a very strong level of protection for NERL following the impact of covid-19 on its revenues and costs.

Airspace modernisation

Context

7.39 Airspace modernisation is a national strategic objective for the UK. In response to SoS Directions,[180] the CAA published an AMS in 2018.[181] In support of delivery of this strategic objective and the AMS, our RP3 price control decisions created obligations on NERL to:

- establish and maintain ACOG to develop and maintain a UK airspace masterplan;
- deliver airspace and technology initiatives in line with the AMS; and
- establish an OFF, as discussed in above in the section on Uncertainty Mechanisms.

The overall RP3 performance plan also included an AMS Support Fund as part of the CAA Determined Costs base, which is discussed in chapter 10.

7.40 At the start of 2022, the CAA consulted on a refreshed AMS to replace the AMS published in 2018. This is intended to extend the coverage of the AMS from 2022 to 2040, while maintaining the vision to "deliver quicker, quieter and cleaner journeys and more capacity for the benefit of those who use and are affected by UK airspace". It is structured around four strategic objectives:[182]

[179] We estimate, on average, between 2018 and 2021, 45% of HAL's revenue arose from non-aeronautical related activities such as commercial sales. By contrast, during the same period only 13% of NERL's revenue came from non-regulated sources (from analysis of HAL Annual Reports 2018-2021; NATS En Route plc Annual Accounts, 2017 – 2021).

[180] The Civil Aviation Authority (Air Navigation) Directions

[181] Airspace Modernisation Strategy 2018 – CAP1711

[182] Draft Airspace Modernisation Strategy 2022-2040 - Civil Aviation Authority - Citizen Space (caa.co.uk)

- safety;
- integration of diverse users – including the accommodation of existing users (for example, commercial air transport, general aviation, military, taking into account interests of national security) and new users (for example, remotely piloted aircraft systems, advanced air mobility (aerial taxis, spacecraft));
- simplification – reduce complexity and improve efficiency. Consistent with the safe operation of aircraft, airspace modernisation should secure the most efficient use of airspace, accommodate new demand and improve system resilience; and
- environmental sustainability.

7.41 We expect to publish a consultation response document in November 2022, with the refreshed AMS published at the end of this year.

7.42 Key elements of airspace modernisation have direct implications for the NR23 review:

- ensuring adequate resources for ACOG;
- delivery of NERL airspace and technology initiatives; and
- consideration of the impact of new types of airspace user on NERL's licensed activities.

7.43 This section focuses on the arrangements for ACOG. A separate section below, considers the funding of services to new users to support innovation in an uncertain emerging environment. Delivery of airspace and technology initiatives are covered by our assessment of NERL's efficient operating costs and capex in chapter 4.

Stakeholder views

NERL

7.44 NERL's business plan highlights the importance of the UK airspace masterplan being developed by ACOG.

7.45 The business plan includes around £3 million per annum of opex for the continued operation of ACOG, consistent with RP3. It notes that the combination of adequate resourcing for NERL's airspace programme and ACOG activities within NR23, combined with the potential to actively adapt to meet changing priorities, should provide a reasonable financial platform to deliver those aspects of the AMS for which NERL and ACOG are responsible.

7.46 NERL's business plan sought confirmation as to whether the CAA AMS Support Fund will continue for the NR23 period, and whether it could be a possible

source of additional financial resources for scenarios where the scope and accountabilities of ACOG are enhanced.

Other stakeholders

7.47 Through NERL's customer consultation process, and in submissions to the CAA in respect of NERL's business plan, airlines supported airspace modernisation. Some airlines considered ACOG to be key in the delivery of modernisation and that it was reasonable to include its costs in NERL's cost base.

7.48 Airports and Trade Union submissions on the NERL business plan also supported airspace modernisation, with the latter highlighting the importance of ensuring adequate resources for NERL (including ACOG) to ensure delivery.

Our views and Initial Proposals

7.49 The ACOG function remains a key part in delivery of the AMS. We consider it will be important to maintain oversight of the ACOG and its impartiality, and that this can be achieved through ensuring transparency and good governance. For NR23, we intend to broadly maintain the current arrangements established for RP3, while formalising and clarifying the reporting requirements.

7.50 The consultation on the refreshed AMS received comments relating to the governance and delivery of the AMS's initiatives, including in relation to the ACOG. The CAA's airspace modernisation team is reviewing these comments to ensure that the scope and scale of ACOG's role, and its positioning within the AMS governance structure, is clearly understood by all and remains fit-for-purpose.

7.51 We propose to maintain the ACOG function and funding as part of NERL's operating costs, in line with NERL's business plan, but propose some minor modifications to Condition 10a of NERL's licence to formalise delivery and expenditure reporting arrangements, as set out in appendix J. The purpose of these amendments is to introduce new reporting requirements associated with programme management and delivery, including progress tracking, identification of risks and opportunities, stakeholder engagement, benefits delivery and cost reporting.

7.52 NERL should also consider how best its Regulatory Accounting Guidelines can be updated to reflect the new reporting requirements and make proposals accordingly.

7.53 We do not consider it appropriate that ACOG should be able to make funding applications to the CAA AMS Support Fund. While ACOG is required to act as an impartial unit within NERL, it is funded through NERL's Determined Costs and NERL is not permitted to make applications to the fund. Our proposals also allow the full proposed costs of ACOG in line with NERL's business plan.

Table 7.1: Initial Proposals for ACOG costs for NR23

Cost heading	Commentary	£m average, 2020 prices	
		RP3, 2020-22	NR23, 2023-27
Headcount	Programme paused 2020 and 2021, resource not fully mobilised, 18FTE, including incremental 3 resource to support the environmental agenda.	1.4	1.7
Secondment	Inflation[183] and bonuses assumed NR23	0.1	0.2
Consultancy	Sustainable environment assessment (SEA) implementation and monitoring activity	0.7	0.9
IT Software & Hardware		0.1	0.1
TR&E & Agile premises	Assumption travel will return to normal levels. Req. for agile office space	0.1	0.2
Total		**2.4**	**3.3**

Source: NERL

7.54 These proposals are consistent with our primary duty to maintain a high standard of safety in the provision of ATS, and our duties to further the interests of consumers, airspace users and airports, as they will allow the continuation of ACOG and its delivery of a coordinated UK airspace masterplan.

7.55 Consistent with our duties towards consumers, we expect that any significant underspend of ACOG funding would be returned to users in the next NR28 price control.

New users

Context

7.56 There is a degree of uncertainty about the services and infrastructure that new users, which include drones, advance air mobility platforms, spacecraft and high-altitude platforms, will need in the coming years. It is reasonable to assume that there will be additional issues for NERL to deal with, particularly where new users need to interface or interact with conventional users and NERL's current licensed activities.

7.57 The present uncertainties include:

- what services NERL will need to provide to new users;

[183] NERL's table refers to inflation, while also stating prices are real.

- when during the NR23 period those services will be required;
- what levels of investment and staffing will be needed to provide those services; and
- the user base for such services.

7.58 It is important that the approach to economic regulation of NERL does not create undue obstacles to innovation and the development of new sectors. In this context, we have said that our RP3 guidance in respect of new technologies remained appropriate.[184] In addition to core requirements for safety and efficiency, NERL should:

- develop and assess the choice of technology and operating models and incremental costs and benefits, where there is uncertainty as to whether a technology should be adopted as part of its licensed monopoly business;
- identify those activities it is assuming should be part of its monopoly business and those activities that are not, and set out its rationale;
- set out the potential charging models for safety related services that are outside the scope of the existing licence and should not be charged to existing users; and
- address innovative ways of operating that do not constrain the ability of the development of new technologies to deliver positive consumer outcomes.

Stakeholder views

NERL

7.59 NERL's business plan identified around £34 million of investment to support the safe integration and operation of new users in the air traffic management network during NR23 as set out in Table 7.2.[185] However, NERL has not included these costs in its estimates of NR23 Determined Costs citing customer concerns about inconsistencies with the user pays principle.

[184] CAP 1625 – Guidance for NERL in preparing its business plan for Reference Period 3. Paragraphs 3.47 to 3.49 refer.

[185] The inclusion of new services and functions by NERL in its business plan, reproduced here, does not imply any endorsement or approval by the CAA that NERL should provide such services and functions. Where it is determined that such services and functions are to be provided, particularly on a centralised or monopoly basis, they shall be considered on a case by case basis in line with legal and regulatory frameworks and consistent with UK strategy, policy and objectives.

Table 7.2: NERL estimated costs to integrate new users

Item	Description	Capex	Opex	Total
Initial uncrewed traffic mgt services	Automated tools to process the growing volume of airspace access requests in restricted areas or around airports, thus reducing demand for additional staff	1	2	3
Integration of UTM functions	Evolution of existing core infrastructure systems to enable integration of larger drones into controlled airspace (eg dynamic airspace configuration)	4	0	4
Electronic conspicuity	Low-level ADS-B for targeted blocks of airspace to manage the growing safety risk from infringements and enable integration of un-crewed platforms	10	0	10
Digital flight information service	Automation and digitisation of existing Information Services that would support airspace integration in accordance with CAA Airspace Modernisation Strategy	6	0	6
Common information service provision	Provide a set of centralised real time information services to be made available to third parties. This would generate additional sources of revenue for NATS as well as facilitate a more competitive downstream market for drone services	1	2	3
Very high altitude airspace management	Adaptions to existing systems and airspace structure to accommodate new vehicles in controlled airspace between FL500 and FL600	4	0	4
Space flight ACPs	Implementation of necessary system adaptations and changes to operational procedures to accommodate new spaceflight Airspace Change Proposals	3.5	0.4	3.9
Total		**29.5**	**4.5**	**34**

Source: NERL business plan

7.60 NERL said that it is essential that a suitable source of funding is established to mitigate new risks created by additional users, and that work to absorb new user growth will not be viable without clear understanding on funding. Pending further guidance from us, NERL's business plan proposed the following mechanisms to address costs associated with new user activities:

- recovery of new user costs through specific bilateral commercial charges;
- where activities draw on resources funded primarily to deliver the UKATS service, new user commercial charges revenue to be returned to existing customers as soon as practicable via an adjustment to charges in year n+2; and

- where NERL is unable to recover new user costs, they would be logged up, to be assessed and then approved by us and then recovered by any new charging mechanism established and/or approved by us.

7.61 While not specifically related to new users, NERL's business plan also sets out its intention to work with users and us to conduct a feasibility study on a new charging mechanism, with a view to encouraging lower carbon flying.

Other stakeholders

7.62 Airlines and Trade Unions were clear that the user pays principle is an essential consideration. Where there is investment in, and the provision of, services for new users, they should not be funded from existing airspace user charges. All stakeholders considered a new charging model was necessary.

Our views and Initial Proposals

7.63 As the monopoly provider of en route and certain approach ATS in the UK, NERL must be able to provide licensed services to users in the airspace they are responsible for managing, regardless of whether they are conventional or new users. It must also be able to safely and efficiently manage interfaces with any users that may interact with its licensed activities.

7.64 While the development of requirements and associated services for new users remain uncertain, they are expected to evolve in the coming years and NERL will need to play its part and support innovation. NERL will therefore need to incur and recover its efficient costs. The current mechanism for NERL to recover its costs is focussed on the airlines to which it provides services and does not readily cater for new users. For airlines to directly meet the costs associated with new users would not be consistent with the user pays principle, nor consistent with our statutory duties in respect of existing users and passengers.

7.65 The volume of new users requiring services and the nature of those services are currently uncertain. During the period of uncertainty, while needs and markets evolve, we consider it would be pragmatic to take an approach that considers the impact on NERL's operations, rather than taking an individual approach to each type of new user.

NR23 Initial Proposals

7.66 Our Initial Proposals do not make any cost allowance for new users for the NR23 period and instead set out a two-stage approach to develop a new charging mechanism:

- in the short term, we propose that NERL meets the necessary costs associated with providing services to new users and develops a recording mechanism so they can be tracked for future recovery; and

- in the medium term, we propose that NERL makes a proposal for a 'new user charging mechanism' that will enable both the recovery of appropriately incurred costs and set out clearly the costs to future users.

7.67 These are explained in further detail below and we intend to underpin these expectations through licence obligations.

New user costs recording

7.68 NERL should provide services to new users where it is consistent with its licence obligations and the TA00. NERL will bear the cost of providing these services in the short term, so it will be important that it only incurs those costs that are necessary and efficient. From the start of NR23, NERL should put in a place a new users cost recording mechanism and make information available to us that:

- creates an evidence base that is transparent and proportionate;
- demonstrates the efficiency of the costs it incurs;
- shows it has engaged properly with stakeholders in the design and cost of the services it develops;
- reviews the 'baseline' it provided with its business plan (as set out in table 7.2 above) in light of latest available information; and
- maintains a rolling 12-month forward look of expected activities and costs.

7.69 Consistent with our duties to further the interests of consumers and promote efficiency on the part of NERL, we may conduct an *ex post* assessment of recorded costs, either specifically in relation to this activity or as part of a wider assessment of NERL efficiency.

7.70 NERL should also consider and make proposals for how best its Regulatory Accounting Guidelines can be updated to reflect the new user cost recording requirement.

New user charging mechanism

7.71 In order to recover costs NERL has incurred associated with the provision of services to new users, a new user charging mechanism will be required. The new user costs recording mechanism will provide a valuable input to inform the development of a new charging mechanism, but it will not necessarily set out all the costs that could be recovered through charges and will focus only on efficiently incurred *incremental* costs.

7.72 We consider NERL to be best placed to gather the necessary data and understand user requirements to develop a new charging mechanism.

7.73 The development of a new charging mechanism should reflect the full costs and other factors that may need to be taken account of in a new user charge. For

example, whether new users should pay a share of common costs and if so, on what basis.

7.74 NERL is best placed to understand and set out the key drivers for new user costs, the services it needs to provide and the stakeholders it should consult, and is therefore best placed to consult on and propose a new user charging mechanism.

7.75 We propose that by no later than the end of June 2025, NERL should submit a new user charging mechanism proposal to us. Before submitting to us, NERL should have engaged broadly on the new proposal, including:

- ensuring there is a well-developed, transparent and robust evidence base; and
- demonstrating that it has consulted on its proposals with all relevant stakeholders and responded to their feedback.

7.76 Our proposal is that NERL will be unable to recover the efficient costs it has incurred in relation to new users until the CAA has considered, consulted on and implemented any new charging mechanism. Nevertheless, where NERL can set out a compelling case, we will consider supporting the use of commercial bilateral arrangements between NERL and new users on an interim basis.

7.77 Draft licence amendments are set out in appendix J. These would amend:

- Condition 6 (Regulatory accounting requirements) to establish the requirement to identify new user costs separately; and
- Condition 24 (Information to be provided to the CAA in connection with the Charge Control Conditions) to establish the new requirements and deadlines for new user cost recording and development of a new user charging mechanism.

7.78 These Initial Proposals are consistent with our primary duty to maintain a high standard of safety in the provision of ATS, as they will enable NERL to develop systems and procedures for the safe integration of new types of user with existing airspace users. They should further the interests of customers and consumers as they are based on the user pays principle, while promoting efficiency and economy on the part of NERL by providing a basis for NERL to provide and charge for services to new users.

7.79 The costs estimated in NERL's business plan (around £34 million over NR23) are relatively small as a proportion of Determined Costs as a whole. We would not expect this level of costs to make it unduly difficult for NERL to finance its licensed activities in the short-term and we set out above the expectation that NERL will develop a new user charging mechanism to recover efficient costs in

the first half of NR23. In due course we expect NERL to be able to recover these costs plus additional reasonable financing costs.

Capex incentives and governance

Context

7.80 NERL's capex programme is essential to its operation, both in terms of sustaining its current systems to deliver its day-to-day services, as well as preparing for the future. Stakeholders want to make sure that NERL's capital investments are managed properly and deliver the benefits intended. To underpin this importance, as part of our RP3 decisions we introduced new capex incentives and governance requirements, including:

- enhanced SIP reporting and engagement requirements;
- an enhanced role for the Independent Reviewer;
- a clearly specified approach to implementing the longstanding ex post capex incentive through adoption of the Demonstrably Inefficient and/or Wasteful Expenditure (DIWE) test; and
- a capex engagement incentive.

7.81 In our December 2020 regulatory policy statement on *ex post* efficiency assessment of NERL's capex we said that we recognise that not all capex projects are completed in the period they are started, and that any assessment of efficiency may not take place until a subsequent period.[186] Given the shortened duration of RP3 and the impact of the covid-19 pandemic on NERL's capex programmes, we will delay consideration of any DIWE assessment of RP3 capex until after our final performance plan decision.

7.82 The efficacy and impact of the enhanced arrangements for SIP reporting and the Independent Reviewer are integrated with the approach we adopt to the capex engagement incentive. This is explored in detail in appendix G, along with our Initial Proposals for NR23. A high-level summary, is set out below and covers:

- the scoring of capex engagement for RP3; and
- our review of the capex engagement incentive for NR23.

RP3 capex engagement

7.83 High-quality engagement between NERL and its customers is an important part of our approach to the economic regulation of NERL. It is key to ensuring that

[186] CAP2011 Appendix D: Regulatory policy statement – ex post efficiency assessment of NERL's capital expenditure.

NERL's investment in capital programmes is both economical and efficient, and furthers the interests of customers and consumers.

7.84 Following the CMA determination, we introduced a 'penalty only' capex engagement incentive designed to score the quality of NERL's engagement with its customers in relation to its capex. Where NERL's engagement is scored below 3, it would incur a penalty linked to its level of capex.

7.85 Egis, acting as the Independent Reviewer, scored NERL's capex engagement against the iSIP21 to create a baseline for NERL and other stakeholders, and then again against iSIP22 to assess whether a penalty should be incurred. Egis' assessment of iSIP22 concluded that NERL had further built on earlier improvements and had taken account of feedback on the way the material was presented and was understandable by non-expert readers, while noting there remained areas for improvement. Egis' final report scored NERL's overall performance within the range of between "Average" (3) and "Good" (4) under the incentive's scoring criteria.

7.86 Having considered the iSIP22 and Egis' reports, including the trajectory of NERL's performance in relation to engagement on its capex programme during RP3, we propose to adopt its findings in relation to NERL's score and do not propose to impose any penalty on NERL for its RP3 performance under this incentive.

Review of the capex engagement incentive

7.87 The quality of capex engagement will continue to be vital for NR23 as NERL seeks to deliver a complex capex programme in support of technology and airspace improvements through the period. While we do not consider it necessary to make fundamental changes to the incentive for NR23, there is merit in seeking to refine our approach and drive continuous improvement by NERL.

7.88 We commissioned Egis to review the working of the current incentive with a view to identifying potential improvements and consider issues previously raised by stakeholders. A summary of Egis' recommendations are set out in appendix G

7.89 For NR23, our Initial Proposals retain the capex engagement incentive and make the following suggestions to strengthen and clarify its operation:

- the score that NERL should be expected to reach in order to avoid a penalty should be increased to a higher baseline expectation, broadly drafted along the lines of the current "good";
- to simplify and better target the assessment, the number of assessment criteria should be reduced from six to four, with two each for quality of engagement and NERL's response to it;

- we propose to clarify the scoring criteria, including what we expect from NERL in engaging on changes to the capex plan. We propose to clarify the criteria to ensure that they capture timeliness of mitigating/corrective actions, are more explicit about the importance of the traceability of information (especially milestones and financial information) and ensure that the consideration of optioneering includes the benefits of options and the opex impact of capex changes;
- we propose to keep under review during NR23 the need for further consultation with stakeholders on the weighting of projects; and
- we propose that stakeholders should have an opportunity to express their views on the quality of NERL's engagement to the Independent Reviewer.