# Reference to the CMA of NERL RP3 price controls: CAA response to provisional findings

CAP 1910

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# Overview

## Introduction

1. In this submission we set out our response to the CMA's provisional findings (PFs) report into the NATS (En Route) Plc/CAA Regulatory Appeal, published on 24 March 2020.[1] Appendix A, setting out more detail on our views on how the CMA should take account of the impact that Covid-19 in its final report, will be published separately (as CAP 1910A) by 30 April 2020.

## Main issues addressed in this response

2. The Covid-19 pandemic has reduced air traffic movements in UK airspace by around 90%. This has created very large challenges for the aviation sector, including in respect of the liquidity and financeability of the businesses of many sector participants, including NERL. In these circumstances NERL's price control does not provide levers that can deal with issues such as liquidity – as at present there is simply insufficient air traffic to reasonably support NERL's business activities. In this extraordinary situation we consider it is for NERL's management, its providers of finance and Government to determine how best to address short-term issues associated with liquidity and financeability.

3. The present circumstances are unprecedented in terms of both the immediate impact on the sector but also in relation to uncertainty about the recovery of air traffic in the future. Previous incidents (such as the 9/11 terrorist attacks or the 2008 financial crisis) have caused significant dips in traffic but not a complete collapse in traffic volumes with little indication of the timing or shape of any recovery. In these circumstances our view is that the best the CMA can do in terms of establishing price control arrangements is come to a final decision in this referral procedure, which can form interim backstop arrangements, to cover at least the period 2020 and 2021. We would then re-open these price control arrangements in 2021, when the timing and shape of the recovery in air traffic should at least be starting to become clear. As noted above we will set out more detail on our proposed approach to these matters in appendix A, which will be published separately.

4. In terms of the interim backstop arrangements our view is that these could be based on the CMA's PF's, with the CMA retaining the level of allowed price per service unit as in its PFs. In the extraordinary circumstances of a collapse in demand and the inability of the residual level of air traffic to support substantively

1 NATS (En Route) Plc/CAA Regulatory Appeal Provisional findings report – 24 March 2020

higher levels of charges, and bearing in mind our proposal to re-open NERL's price controls in 2021, the CMA may take the view that little purpose would be served by further fine tuning of its PFs.

5. Nonetheless, there were three issues that the CMA discussed in its PFs that we respectfully suggest merit further consideration – the overall balance of the CMA's approach, the treatment of non-regulated revenue and costs, and its approach to estimating asset beta. As we have noted above, the circumstances of the interim price control arrangements may mean that there is relatively little to be gained by adjusting the level of the PFs, but we would urge that the CMA responds at least in principle to the points we make, as the CMA's approach to these matters may set an important precedent for the future.

6. We have also responded to the CMA's request and provided a draft policy statement in respect of *ex post* capex efficiency assessment and have set out a draft capex engagement incentive. Arrangements for capex governance will be important irrespective of the outcome of the process for re-opening the price controls in 2021 and we propose that the CMA works to develop final arrangements with respect to these matters. Subject to the CMA's final report, we will consult with stakeholders on both, prior to implementation.

7. The substance of our response is provided in this main overview section, with appendices providing additional detail. The remainder of this response is structured as follows:

- The impact of Covid-19 on air traffic
- General views on the overall balance of the provisional findings
- More detailed comments and observations, on the following:
  - Opex, capex and pension allowances
  - Pension regulatory policy statement
  - Safety, service targets and incentives
  - Traffic forecast
  - Capex governance and incentives
  - Non-regulatory income
  - Cost of capital
  - Oceanic ADS-B
- Appendices: capex incentives, non-regulatory income and the cost of capital

# Covid-19

## Context

8. The CMA has noted that most of its analysis and conclusions leading up to the publication of its PFs were based on evidence and data, and the operational and strategic context, that pre-dates the Covid-19 pandemic and its impact on the aviation sector.

9. The immediate impact of Covid-19 has been a very significant drop in air traffic volumes through March and into April 2020. While the detailed picture remains subject to daily variation, in broad terms actual traffic is presently about 90% below forecast levels. The immediate consequences of this are that NERL's revenues (which derive from the allowed unit charge per service unit for 2020 multiplied by the actual number of service units) have fallen very significantly. Moreover, given the severity of the impact on airline liquidity, Eurocontrol States have agreed measures[2] allowing airlines to defer the payment of air navigation charges for February to May 2020, until late in 2020 and well into 2021. This will further impact NERL's revenues, liquidity and financeability in the short to medium term.

## Way forward

10. The collapse in air traffic volumes is unprecedented and creates an extremely challenging context for the aviation sector. In these extraordinary circumstances price control levers have little impact on NERL's short-term liquidity and financeability – as air traffic volumes have collapsed and airlines would be unable and/or unwilling to pay higher air navigation charges. Therefore, it is for NERL's management, its providers of debt and equity finance and Government to decide how best to mitigate and deal with the immediate crisis. Our priority is to ensure that its price control arrangements are fit for purpose when the recovery in air traffic volumes start to emerge. Given it is likely to be many months until it is possible to determine the path to recovery or sensibly begin to understand the lasting impact on the sector we, intend to re-open NERL's price controls in 2021 to address these matters. In the between time, our view is that the CMA should finalise its PFs based broadly on the level of allowed revenue per service unit it has already identified. To the extent it carries out further substantive work this should focus on the areas that are likely to be relevant and important precedent for the regulatory framework in the medium term. As noted above our view of these areas is that they should at least cover the overall balance of its approach, the treatment of non-regulated revenue and costs, its approach to estimating asset beta and the arrangements for capex governance.

2 https://www.eurocontrol.int/press-release/eurocontrol-states-assist-airlines-11bln-deferral

11. We will provide more detail on the approach we intend to adopt to re-opening NERL's price control arrangements in appendix A, which will be published separately.

### EU process

12. Recognising that the main NERL price control forms part of the broader UK Reference Period 3 (RP3) performance plan under the EU performance scheme, we note that the European Commission is also considering how best to take account of Covid-19 in assessing Member States performance plans against the EU targets. It has proposed to delay its formal decisions on the (in)consistency of Member States plans with EU targets, to allow Member States to submit updated plans by October 2020 to address Covid-19. We will maintain a watching brief on the EU process and keep the CMA informed of related developments.

## General views on the provisional findings

13. Bearing the above context in mind we summarise below our comments on the CMA's PFs.

### Overall balance

14. We note that the CMA's overall approach appears to involve the critical assessment of the adjustments that we proposed to NERL's business plan. While we regard this as an essential component of a robust inquiry process we question whether this approach alone is sufficient for the CMA to properly and appropriately discharge its functions with respect to our reference to the CMA of NERL's RP3 price controls. In particular, to properly protect the users of NERL's services the CMA should not be simply adjudicating on the differences between us and NERL, but also actively probing and analysing whether we have been sufficiently stringent in the assumptions we made, with a view to ensuring the CMA's final report properly protects the interests of users.

15. We find relatively little evidence of such an assessment and analysis in the PFs. Bearing in mind the highly unusual position that the CMA now finds itself in, with respect to the developments associated with Covid-19 and the advantages of re-opening NERL's price controls in 2021, we propose that the CMA adopts a pragmatic approach to these matters and clearly signals that a normal part of the process for finalising its decisions would be to test whether its findings properly protect the interests of users over the period of the price control, even if more limited changes are appropriate in the circumstances of a transitional arrangement before a further review of the price controls in 2021.

## Operating costs, capital expenditure and defined benefit pension cost allowances

16. We welcome the broad support in the PF's for the adjustments we made to NERL's business plan in terms of operating costs (opex) capital expenditure (capex) and defined benefit (DB) pension cost allowances. These revised allowances were designed to fully support the Airspace Modernisation Strategy (AMS) that remains important in terms of delivering longer-term benefits for users and the wider environment.

17. Nonetheless, we made our final decisions in summer 2019, and even before Covid-19 there were significant changes to the operational and strategic context that have affected NERL's plans. Particular examples include the delay and then mothballing of runway capacity expansion at Heathrow airport and the TC Foursight component of NERL's DSESAR programme. In light of these and other changes to NERL's planned programmes, it is reasonable to consider whether there should be further reductions in NERL's opex and capex allowances in order to properly protect the interests of the users of NERL's services. However, we recognise that in the context Covid-19 a more in-depth review of NERL's planned programmes and costs will be necessary when there is a better understanding of the longer-term impact of the pandemic on air traffic and the aviation sector more generally. As noted above we plan to undertake this work in 2021.

## Pensions regulatory policy statement

18. As noted above, the PFs support our approach to setting the allowance for defined benefit pension costs and recommend that we clarify the pension cost pass-through. The PFs state that we could provide such additional clarification through a regulatory policy statement (RPS) for pensions, as discussed in our final decisions.

19. We agree it would be helpful to publish these clarifications as part of an RPS and expect to consult stakeholders on the RPS before it is finalised.

20. In light of Covid-19, we recognise that an in-depth review of NERL's pensions costs may be necessary when there is a better understanding of the longer-term impact. We intend to address these matters as part of the re-opening of NERL's price control arrangements in 2021.

## Safety, service targets and incentives

21. The PFs also support our decisions in respect of safety, capacity and environmental targets, and associated incentives. Similar to opex allowances, it is recognised that the capacity targets and incentives allow considerable flexibility for NERL. Such flexibility remains appropriate to support the AMS.

22. We note that the European Commission has recently raised some comments on the UK RP3 performance plan, in particular on the level of the NERL C2 capacity target and incentives.[3] As noted in paragraph 12 above, it is considering its timeline and processes in response to the significant impact of Covid-19 on global air traffic. We will engage with this process as appropriate, including in respect of UK capacity targets and incentives.

23. Given the potential impact of Covid-19, we also consider there is merit in reviewing the environmental and capacity target levels, and associated incentives, as part of the review we plan to undertake in 2021.

## Traffic forecast

24. The PFs support our final decisions in the use of the STATFOR forecast for the setting of the main RP3 price control.

25. Covid-19 has had a significant impact on the plausibility of available forecasts, and it will be a considerable period of time before the existing level of uncertainty reduces significantly and for plausible forecasts of future air traffic volumes to start to emerge. These matters are best considered in the review we plan to undertake in 2021.

## Capex governance and incentives

26. While the PFs make some significant changes to our proposals for capex governance and efficiency incentives we are content to accept the CMA's broad approach as the basis for future arrangements. We make some detailed suggestions for taking forward aspects of these proposals consistent with the CMA's suggestions in its PFs. Before these arrangements are finalised we recommend further consultation with the users of NERL's services. Nonetheless, our present view is that these new arrangements should endure throughout the RP3 period and should not be the focus of our review to re-open NERL's price controls in 2021.

27. The PFs agree with our decisions in respect of the proposed enhanced role of the Independent Reviewer (IR) in the capex governance process. We consider the IR has an important role to play in terms of:

- enhancing airspace users' understanding of NERL's complex programmes leading to more meaningful engagement;

3 For completeness, the European Commission has additionally raised comments on the scope of ANSPs covered by the UK safety target and the mandated, but not financially incentivised, horizonal flight efficiency target. Neither is related to the matters raised in our reference to the CMA on NERL's RP3 price controls.

- providing NERL with insights on areas to improve the quality of its engagement; and
- helping the CAA, and all stakeholders, understand whether NERL is progressing its programme in an efficient manner.

28. The PFs questioned the level of detail set out in our decisions and made recommendations that we develop further detail around how we would conduct an *ex post* capex efficiency assessment and suggest the development of an engagement incentive (in place of our proposals for delivery and information incentives). These matters are addressed further below and in appendices B and C.

### *Ex post* efficiency assessment

29. The PFs agreed with the principle of an *ex post* efficiency assessment, but considered that we had not explained in sufficient detail how it would work. The CMA proposed that there should either be a licence condition or regulatory policy statement (RPS) setting out how we would conduct our efficiency assessment.

30. We consider that an RPS is the most appropriate way to provide further detail as the purpose of NERL's licence is to set out obligations on NERL rather than the CAA. At appendix B we set out a draft RPS, addressing the matters raised by the CMA in its PFs. Subject to the CMA's final report, we would expect to consult stakeholders on the RPS, prior to formalising it in due course.

### Engagement incentive

31. We are pleased that the CMA has recognised the importance of incentivising NERL to engage properly with stakeholders. At appendix C we set out a draft engagement incentive, building on the principles set out in the PFs. Subject to the CMA's final report, we would expect to consult stakeholders on the engagement incentive, prior to implementing it.

## Non-regulatory income

32. The PFs do not support the £24 million opex efficiency challenge related to non-regulated income in our final decisions. The CMA considered that our approach could represent double counting, was excessive compared to the opex reduction for regulated revenue, was relatively arbitrary and that NERL had subsequently provided more supporting evidence for its position on how the changes in costs of providing non-regulated services had been reflected in its business plan.

33. We remain of the view that it is important to reassure users and create appropriate incentives for NERL with respect to providing robust forecasts in its business plan of non-regulated revenues and costs. Further, that the level of price control revenue that users of monopoly services are expected to fund should not inflated by conservative estimates of non-regulated revenues and/or

by failing to make making appropriate allowances for the impact of the costs of non-regulated services. We consider that the CMA has not placed sufficient weight on these matters and evidence of our advisers (and stakeholders) that NERL had not demonstrated sufficient ambition in its non-regulated revenue forecasts.

34. We also note that our efficiency adjustment represents only 5% of NERL's non-regulated revenue forecast for RP3. While we consider that our assessment was a judgment based on the evidence made available at the time, and we recognise NERL has since provided some more evidence to the CMA, we do not accept that it is reasonable to characterise the adjustment that we made as creating a significant danger of double counting or that it was excessive. Nor do we accept that the additional information that NERL has provided fully justifies its business plan assumptions on non-regulated costs and revenues. We explain our views further on these matters in appendix D.

## Cost of capital

35. The PFs support our decisions on a number of the parameters of the allowed cost of capital (WACC), though takes a different approach to our decisions in some areas, most notably on the asset beta and gearing.

36. We accept the PF ranges and point estimates for the following specific parameters, including where the CMA has updated parameters for more recent market information:

- total market return (TMR). We broadly support the CMA's approach and while we consider that forward-looking evidence may be useful as a cross-check, we note this supports the TMR range in the PFs; and
- inflation and risk-free rate. We agree with the approach in the PFs and the estimates reflect more recent market information than used for our final decisions.

37. On the asset beta, we consider that the CMA should place more weight on the ENAV beta (as ENAV reflects the closest comparator to NERL) and we have identified a number of methodological issues and statistical anomalies in the PFs. Correcting for these leads to upward and downward adjustments, but overall suggests the asset beta range should be lower than in the PFs. We explain our views further in appendix E.

38. We support the CMA's overall approach to cost of debt but have identified two specific areas where we consider the CMA has over-estimated the cost of debt. We explain our views further in appendix E.

39. In light of the Covid-19 pandemic, we would expect to build on the CMA's work on the allowed WACC in re-opening NERL's price controls in 2021, while also taking account of new information that may emerge.

## Oceanic ADS-B

40. The PFs supported our decision to implement a mid-period review of the costs and benefits of the introduction of the use of ADS-B surveillance for NERL's Oceanic services – and the associated data charge.

41. We welcome the support for the mid-period review and will continue to engage with stakeholders on appropriate metrics and the approach ahead of commissioning the review. However, we consider there should be some flexibility in the timing of the review, to reflect the impact of Covid-19 on traffic volumes.

42. Notwithstanding, the significant downturn in global air traffic, including transatlantic routes, will impact the capacity and flight-efficiency case for the use of Oceanic ADS-B. We consider that it would be appropriate for NERL to explicitly set out whether it intends to continue to utilise space-based ADS-B during the downturn in traffic, and on what basis.

**APPENDIX A**

# Responding to Covid-19

To be published separately as CAP 1910A.

**APPENDIX B**

# *Ex post* capex efficiency assessment

## Context

B1 In its PFs, the CMA invited the CAA to develop a policy statement that better explained how we would judge any disallowance of capital expenditure (capex), following an *ex post* efficiency review.

B2 The draft regulatory policy statement (RPS) below takes into account the PFs, along with other regulatory precedent, to set out the principles and procedure we would expect to follow in determining whether any of NERL's capex should not be included in the regulatory asset base (RAB) at the next price control review. We will take account the CMA's final report and consult NERL and other stakeholders before finalising this RPS.

B3 In developing this draft RPS we have considered the following:

- our statutory duties, which include a duty to have regard to NERL's financeability;
- precedent from *ex post* reviews we have carried out as the economic regulator for Heathrow airport;
- the 'Demonstrably Inefficient and/or Wasteful Expenditure' (DIWE) model used in the economic regulation of the energy sector;
- user support for capex projects and the evidence base for our decisions on capex efficiency in RP3 which will be enhanced by the strengthened role of the Independent Reviewer (IR); and
- the timing of the *ex post* reviews, noting that some capex projects may span more than one regulatory period.

B4 We note that over the last 20 years we have only made two disallowances from a RAB, neither of which related to NERL. We disallowed some of Heathrow airport's Terminal 3 Integrated Baggage capex as it was demonstrably inefficient; and disallowed the Personal Rapid Transit system capex as it did not have the approval of users, involved a degree of technological and commercial risk that would be shared with users without sharing the potential commercial benefit, and did not have a proper business case. By way of background, we explain further the context to these decisions in the final section of this appendix.

B5 Further, we consider the DIWE test highlighted in the PFs to be a useful precedent based on sensible principles and have used it as the basis for the draft RPS below.

B6 We do not consider that user support should be a pre-requisite for NERL's capex. However, if NERL were to invest in projects that do not have user support and do not have net benefits to users, then such projects could be demonstrably wasteful. Nonetheless, in considering the costs and benefits of projects we will also consider the impact on NERL's own operational efficiency (which should benefit users in the longer term) and the importance of NERL efficiently and effectively complying with its statutory and regulatory obligations.

B7 The evidence base for our assessments of NERL's capex efficiency will include the information NERL provides in its Service and Investment Plans (SIPs), business plans (including options proposals), and other information on its capital programmes. The enhanced requirements in RP3 for NERL to provide quarterly capex updates and to consult users on projects (with an estimated spend of over £10 million) while they are in the process of inception and options appraisal, should ensure that NERL provides better and more timely information on its capex than it has done in RP2.

B8 The strengthened role of the IR, which includes regular reports to us and airspace users on how well NERL has explained and justified its capital programme in its SIPs, as well as NERL's cost efficiency, will provide an important part of our evidence base. This process should also provide NERL with early warnings of difficulties with its programme and so provide NERL with the opportunity to develop correcting and mitigating actions.

## Draft regulatory policy statement

### Introduction

1. In its provisional findings report[4] on the regulatory appeal into the NATS (En Route) Plc – NERL – 2020 to 2024 price controls, the CMA invited the CAA to develop a policy statement that described the approach that we would expect to apply any disallowance of NERL's capital expenditure (capex) from its regulatory asset base (RAB), following an *ex post* efficiency review.

2. The purpose of this draft RPS is to provide guidance to NERL and other stakeholders on the principles and approach we intend to apply in deciding whether to disallow capex from NERL's RAB.

[4] NATS (En Route) Plc/CAA Regulatory Appeal – Provisional findings report – 24 March 2020

## Definition

3. In order to assess the relative efficiency of given expenditure, it is important to establish a definition of the what is considered to be inefficient. The definition used by Northern Ireland's Utility Regulator for its Demonstrably Inefficient and/or Wasteful Expenditure (DIWE) test is:

> *'[DIWE] means expenditure which the Authority has (in a published decision giving reasons) determined to be demonstrably inefficient and/or wasteful, given the information reasonably available to the Licensee at the time that the Licensee made the relevant decision about that expenditure. For the avoidance of doubt, no expenditure is Demonstrably Inefficient or Wasteful Expenditure simply by virtue of a statistical or quantitative analysis that compares very aggregated measures of the Licensee's costs with the costs of other companies.'* [5]

4. We consider this to be a useful basis and for the purposes of this draft RPS have made minor changes to reflect its application to NERL:

> *'DIWE means [capital] expenditure which the CAA has (in a published decision giving reasons) determined to be demonstrably inefficient and/or wasteful, given the information reasonably available to NERL at the time that it made the relevant decision about that expenditure. For the avoidance of doubt, no expenditure is Demonstrably Inefficient or Wasteful Expenditure simply by virtue of a statistical or quantitative analysis that compares very aggregated measures of the NERL's costs with the costs of other companies.'*

## Interpretation of DIWE

5. The use of the word 'Demonstrably' serves to reverse the normal burden of proof and places the onus on the CAA to demonstrate that NERL has been inefficient in its expenditure.

6. Where NERL is requesting allowances – whether before the start of the price control period, or by way of approvals for expenditure incurred in period – it is usually for NERL to show that the allowances that it seeks represent efficient expenditure. However, where we decide that expenditure which has already been incurred is to be disallowed as DIWE, we should be able to reasonably demonstrate that the expenditure which was incurred was inefficient or wasteful.

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5 DIWE is defined in the licence of the SONI Transmission Systems Operator (paragraph 1.1 of Annex 1) and both NIE Networks Ltd's transmission and distribution licences (paragraph 1.1 of Annex 2). The Utility Regulator has also published '[Guidance on the interpretation and application of the Demonstrably Inefficient or Wasteful Expenditure (DIWE) Provision]'.

7. The starting point is, therefore, that expenditure which is potentially subject to DIWE is presumed efficient,unless and until we establish that it is not. This approach provides some mitigation to the risk that we might unduly penalise NERL for decisions made at the time, but with the benefit of hindsight turn out not to be efficient.

8. The words 'inefficient' and 'wasteful' are to be given their natural meaning.

## Factors to be taken into account in the application of DIWE

9. Where we choose to consider whether certain NERL expenditure may be DIWE, we will take into account all the relevant circumstances. This will include, but may not be limited to, consideration of the following factors, to the extent that they are relevant:

a) The extent to which NERL identified and utilised appropriate resources.

b) The process by which any third-party contract was procured.

c) The extent to which NERL was, or ought to have been, able to control the relevant expenditure, including:

   i. whether NERL had in place appropriate processes to oversee and control its internal costs;

   ii. whether NERL had in place appropriate contract management processes to oversee and control third-party costs; and

   iii. to what extent these processes were applied effectively.

d) The information that was reasonably available to NERL and/or its third-party contractors, at the time that it and/or they made any relevant decisions in relation to expenditure or the control of expenditure. This includes information relating to stakeholder views in relation to that expenditure.

e) The extent to which any expenditure involved an unnecessary duplication of activity on the part of NERL and/or its third-party contractors.

f) The extent to which any expenditure was increased by any material error or mistake on the part of NERL and/or its third-party contractors.

g) The extent to which any expenditure was increased by any avoidable delay on the part of NERL and/or its third-party contractors.

h) The extent to which any expenditure was proportionate to the outputs which that expenditure was intended to, and/or did, deliver.

i) The extent to which those outputs were appropriate outputs to be delivered in the context of creating (direct and indirect) benefits for the users of its services or in facilitating NERL's efficient compliance with regulatory or statutory obligations.

10. In accordance with the definition of DIWE, we will not determine any expenditure to be DIWE solely because of a comparative financial analysis of the costs of NERL as against those of other companies. However, such an analysis may be one factor which we take into account.

11. Our ability to demonstrate inefficiency or wastefulness may be dependent on information from NERL that could, potentially, be withheld. To ensure that our ability to reach a view on whether NERL is investing efficiently, is not frustrated by information asymmetries between us and NERL, we consider the capex engagement incentive and the role of the IR will be important in helping us make properly informed decisions on any potential capex disallowances.

## The Procedure

12. We will retain discretion to decide whether or not to undertake an assessment of whether specified expenditure is DIWE. We may (but shall not be required to) do so where information has come to our attention that expenditure incurred by NERL might be DIWE. We may do so from time to time, by way of occasional audit, in relation to a sample of expenditure, without any specific information that expenditure might be DIWE.

13. We will usually seek to notify NERL as soon as reasonably practicable if we decide to assess whether any expenditure is DIWE. However, we reserve the right to carry out an assessment at any time without such notice having been given.

14. We will follow such procedures as we consider appropriate in each case for the purpose of determining whether expenditure is DIWE. These may (without limitation) include the use of any audit, assessment or consultation in respect of the expenditure and the conduct of NERL and/or its third-party contractors in relation to it.

15. In considering whether expenditure is DIWE, we will have regard to all relevant information submitted by NERL, and may request further information as part of our review. We will also have regard to all relevant information available to us, including through our broader regulatory oversight of NERL, and the advice of the IR.

16. Where we identify expenditure that we consider may be DIWE, we will invite NERL and other stakeholders to make representations on these matters, and will take those representations into account before making our final determination.

17. Where we determine that any expenditure is DIWE, we will, in accordance with the definition of that term, provide NERL with reasons for our decision.

18. Where, having determined any expenditure is DIWE, we will ensure any decision to disallow the capex from NERL's RAB is consistent with our duty,[6] under the Transport Act 2000, to ensure that NERL does not find it unduly difficult to finance its regulated activities.

### Timing of assessment and application of any disallowance

19. We recognise that in practice not all of NERL's capex projects planned for RP2 were completed in RP2, or planned to be completed until RP3. In these cases, the review of their efficiency may not take place until late in RP3 or in RP4. Similarly, some RP3 projects will only be delivered towards the end of RP3, or during RP4, which will mean that their efficiency review may not be completed in time to affect NERL's starting RAB in RP4.

## Previous capital expenditure disallowances

B9 In our economic regulation of airports and NERL we have disallowed capex on only two previous occasions. Both times the disallowance was for expenditure incurred by Heathrow Airport Limited (HAL). These disallowances and our reasons for making them are summarised below.

### Terminal 3 Integrated Baggage (T3IB)

B10 T3IB was a project at Heathrow designed to provide a modern, highly automated baggage system. The project spanned two regulatory periods, Q5 & Q6. The project had significant issues with:

- management of project scope, schedule and cost;
- cost overrun due to delays; and
- design changes and programme uncertainty.[7]

B11 During Q5, we commissioned consultants (ASA) to assess HAL's capex efficiency on a number of key projects. ASA's main finding was that most projects generally progressed well in terms of budget and schedule. However, ASA did conclude that T3IB experienced problems that HAL should have reasonably foreseen and mitigated. The consultants estimated that inefficiencies resulted in about £30 million in excess costs during Q5.[8]

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6 Section 2 of the Transport Act 2000, sets out the CAA's duties.

7 https://publicapps.caa.co.uk/docs/33/1563e_H7_Capex_Governance_report_by_CEPA.pdf

8 http://publicapps.caa.co.uk/docs/33/CAP%201027%20Economic%20regulation%20at%20Heathrow%20from%20April%202014%20initial%20proposals.pdf

B12 Based on the ASA assessment and after consideration of stakeholder consultations, we decided to disallow £30 million from HAL's RAB due to capital inefficiency. The test we used was whether the expenditure would have been incurred by an efficient operator, and for the reasons stated in the ASA report, we considered that this expenditure was inefficiently incurred.

At the time, we noted that:

> *"…airlines have argued that some of the T3IB costs falling in Q6 should be disallowed. However, the CAA does not consider that it is necessary to disallow more than £30 million from the RAB. The CAA considers that disallowing a significant amount of expenditure on a project that began with airline support and included in the RAB is inadvisable unless "exceptional circumstances" can be demonstrated. This is consistent with the Competition Commission's decision on the Phoenix Natural Gas reference in 2012. No party has demonstrated such circumstances in this case. In addition:*
>
> - *a significant proportion of the increase in budget was due to changes in specification rather than inefficiency; and*
> - *as HAL has argued, in a diverse capex portfolio such as HAL's, it is likely that at least one project will exceed its budgeted costs significantly."*[9]

## Personal rapid transport system (PRT)

B13 The PRT system is a pod monorail that connects Heathrow Terminal 5 to its business car park.[10] Construction started in 2007/8 during the Q4 regulatory period with spend of around £22.5 million. At the time, HAL (then BAA) argued that the project could bring significant benefits to passengers by providing a quick and comfortable service, as well as contributing to improved environmental performance. However, as part of an *ex post* review at Q5, we decided to disallow the entire spend from the RAB for the following reasons:

9 https://publicapps.caa.co.uk/docs/33/CAP%201103.pdf

10 https://webarchive.nationalarchives.gov.uk/20140605050545/http://www.caa.co.uk/docs/5/ergdocs/heathrowgatwickdecision_mar08.pdf

- It was a novel project with a degree of technological and commercial development risk, which BAA chose to develop outside the RAB through a joint venture with a third party. Including the spend in the RAB at Q5 would have provided underwriting from users for this risk, but without necessarily an appropriate share in the potential commercial benefit, which could be significantly wider than just Heathrow;
- BAA had not obtained airline user support via consultation for this project, either for the pilot stage or for the potentially much more significant investment in airport-wide deployment of such technology. We understood at the time of the review that during constructive engagement, this concept was considered as one of the potential strategic investment options for the future development of the airport, but did not rank highly against other more pressing investment priorities.
- We noted at the Q5 review that if BAA were to obtain user support during Q5 for the further development of the PRT project, and were able to deliver it efficiently, then we would have been open to considering (as part of the Q6 price control review) the inclusion of both the Q4 and Q5 capex on this project within the Q6 opening RAB.

B14 At Q6,[11] HAL planned further spending on the PRT system. However, it had still not seen support from airlines, and the business case of the project was negative. For this reason, we decided to exclude all capex (past capex during Q4 and Q5 and capex planned for Q6) from the RAB, and we also disallowed the associated opex and revenues.

[11] https://publicapps.caa.co.uk/docs/33/CAP%201103.pdf

**APPENDIX C**

# Engagement incentive

## Introduction

C1 In its provisional findings (PFs) the CMA invited both parties to submit a proposed design for a capex engagement incentive building on the CMA's initial specification, including

- how performance should be defined; and
- how financial penalties would be calculated.

C2 Below we explore how the capex engagement incentive could be designed, building upon the CMA's suggested framework. In particular, we propose to score NERL against a set of performance criteria for the quality of its engagement on capex projects. We propose to do this in two rounds, allowing NERL scope to adjust and improve the quality of its engagement between rounds. If the quality of NERL's engagement is consistently below baseline expectation, we would calculate a penalty on the basis of the performance scores.

C3 These are initial views and we suggest developing them further in consultation with NERL and airspace users. Additionally, as this would be a new incentive mechanism, we envisage that if any issues are identified in the first years of implementation, adjustments may be made within period, subject to further consultation with stakeholders.

C4 We address the following issues.

- **Measuring performance**: building upon the CMA's list of proposed criteria, we propose more details on how NERL's capex engagement should be assessed.
- **Process and timings**: we discuss the processes and timings involved in the assessment of NERL's capex engagement.
- **Calculating financial penalties**: building upon the CMA's suggestions, we propose more details on how financial penalties should be calculated.

# Measuring Performance

## Criteria for assessment

C5 In its PFs, the CMA proposed the following criteria for assessing the quality of NERL's engagement on its capex plans:

1. **Timeliness**: NERL should provide information (to users, the Independent Reviewer (IR) and the CAA) in a timely manner. This should include providing early warning and explanation of factors that may put planned delivery timelines at risk.
2. **User-focus**: NERL should provide information in forms, and through mechanisms, that reflect user priorities and resource constraints, such that it is clear and accessible.
3. **Proportionality**: the level of substantiation NERL provides should reflect the materiality of the change under consideration.
4. **Optioneering**: NERL should seek to identify a range of different responses that might be adopted where practicable, and to provide opportunities for user and IR engagement and scrutiny of those options.
5. **Responsiveness**: NERL should respond constructively to user and IR submissions, and explain clearly how it has considered and taken account of those submissions.
6. **Mitigating/corrective actions**: NERL should take appropriate mitigating and/or corrective actions in the light of user and IR submissions.

C6 We agree that these criteria can form a reasonable basis for assessing the quality of NERL's engagement on its capex plan. We note that in broad terms criteria 1 to 4 address the quality of NERL's submissions, while criteria 5 and 6 address the quality of NERL's response to stakeholders.

C7 The CMA also states in its PFs that *"NERL's engagement with users on risks associated with its capex plan should include explicit attention being given by NERL to identifying the opex effects that may be associated with different changes to that plan, and different options with respect to how NERL might respond"*. The context here is that if NERL were to change its approach to capital projects and expenditure then this may have implications for the level of operating expenditure it incurs.

C8 NERL should be transparent about the expected impact on opex of its capital projects and engage with stakeholders on these matters. We would expect to assess NERL's approach to these matters under the 'Optioneering' criterion.

C9 We note that there is currently no opex pass-through mechanism which would see any changes in opex brought about by changes to the capex programme passed through to airspace users. We will consider how to take better account of the interplay between opex and capex at our RP4 review.

## A scoring system for assessment

C10 In its PFs, the CMA highlighted the importance of providing sufficient clarity on how the level of any penalty would be determined while also allowing sufficient flexibility to reflect the range of circumstances that may need to be addressed. The CMA said that it considers it important that the penalty assessment process also takes account of where NERL is found to have performed well.

C11 The CMA noted that it is common for points-based methodologies to be developed in circumstances where the assessment of the appropriate level of a penalty needs to take account of performance across a number of areas. As an example the CMA references Ofgem's Electricity System Operator (ESO) incentive arrangements.[12] We explore these arrangements further below and suggest how they might be best adapted to suit the circumstances of NERL's capex programme.

**ESO reporting and Incentive Arrangements**

The Electricity System Operator (ESO), which is currently part of National Grid Electricity Transmission plc, is regulated by Ofgem. The ESO's regulatory framework includes a set of incentive arrangements that aim to create transparency around the ESO's performance and make it clearly accountable to its stakeholders.

Each year at an end of year review, the ESO's performance is scored against seven 'Principles' (overarching behavioural standards). For each of the seven Principles, the ESO is scored on a scale of 1 to 5, where a score of 3 corresponds to 'baseline expectations'.

Each year, the ESO receives a reward/penalty of up to ±£30 million, split equally among each of the Principles. For each Principle the reward/penalty is linearly increasing in the score achieved. A score of 3 merits no reward or penalty payment. In some circumstances the final reward/penalty may be adjusted by the regulator within a range around the default incentive payment for the achieved score. This may be done to ensure the reward/penalty is proportionate to consumer benefit/harm or if there is a particularly close call between two scores in the scoring decision.

C12 We agree that a points-based system would be an appropriate means to assess the quality of NERL's capex engagement across the different criteria listed

12 https://www.ofgem.gov.uk/system/files/docs/2018/03/esori_arrangements_guidance_document.pdf

above. Specifically, we propose that a points-based scoring system is used as follows.

C13 For each capex project,[13] we would score NERL for each of the performance criteria above (Timeliness, User-focus, etc.) on a scale of 1 to 5, where:

1. = Weak
2. = Poor
3. = Average (‘baseline expectations’)
4. = Good
5. = Excellent

C14 This scoring system is directly based on the ESO arrangements. It is based around the concept of ‘baseline expectations’, which for the purpose of the incentive mechanism means a reasonable level of performance (as described further in Figure C.1 below).

C15 It is important that NERL has a clear understanding of what comprises baseline expectations and we would aim to clarify this though consultation and guidance on scoring. We also propose to score the quality of NERL’s capex engagement in two rounds, with only the scores from the final round being used for the calculation of any penalty payments. This would allow NERL early indication as to where we deem that they are exceeding/falling below baseline expectations. NERL would then have scope to adjust and improve the quality of its engagement before the final round of assessment.

C16 While we would take account of the findings of the IR and representations from stakeholders (including NERL) in forming our assessment, the CAA would make the final decision on scoring NERL’s performance. Nonetheless, the final penalty (if any) would be calculated and applied at the RP4 price control review, which would provide NERL with an opportunity to appeal (in addition to its procedural rights to judicial review). Wider issues on timing of the various elements of these incentive arrangements are discussed further below.

C17 Initial guidance on how scoring could be applied in practice is provided in Figure C.1.

13 Below, we discuss whether we would assess NERL’s performance for each individual capex project, whether we would assess its performance at the level of capex programmes (i.e. with multiple projects per programme), or whether we would agree with airspace users and NERL to consider only a shortlist of projects which are identified as high priority for airspace users.

### Figure C.1 Guidance on scoring

| | Underperformance | | Baseline | Outperformance | |
|---|---|---|---|---|---|
| | Weak (1) | Poor (2) | Average (3) | Good (4) | Excellent (5) |
| **1. Timeliness** | Substantial delay in providing information, very little early warning of factors that may affect delivery. | Some delay in providing information, limited early warning of factors that may affect delivery. | Information provided in a timely manner, reasonable early warning (where possible) of factors that may affect delivery. | Information provided proactively and promptly, good quality early warning and explanation of factors that may affect delivery. | Information provided proactively and promptly, excellent quality early warning and explanation of factors that may affect delivery. |
| **2. User-focus** | Very unclear and inaccessible information provided in format not reflecting user priorities or resource constraints. | Unclear, inaccessible or perfunctory provision of information with limited regard for user priorities and resource constraints. | Reasonably clear and accessible information provided with reasonable regard for user priorities and resource constraints. | Very clear and accessible information with good regard for user priorities and resource constraints. | Extremely clear and accessible information with excellent consideration of user priorities and resource constraints. |
| **3. Proportionality** | Very little additional information provided for very material changes in capex plan. | Limited additional information provided for material changes in capex plan. | The level of substantiation provided reasonably reflects the materiality of the change under consideration. | Good substantiation for all material changes in capex plan under consideration. | Excellent substantiation for all material changes in capex plan under consideration. |
| **4. Optioneering** | Very little information on alternative options presented (including no discussion of opex interactions), no real opportunity for users and IR to scrutinise relative merits of different options. | Limited information on alternative options presented (including limited discussion of opex interactions), limited opportunity for meaningful scrutiny of relative merits of different options by users and IR. | A range of different options identified where possible (including explicit consideration of opex interactions), reasonable opportunities for meaningful user and IR engagement and scrutiny. | Good information provided on alternative options where possible (including explicit consideration of opex interactions), good opportunities for meaningful scrutiny. | Excellent information provided on alternative options where possible (including explicit consideration of opex interactions), extensive opportunities for meaningful scrutiny. |
| **5. Responsiveness** | Very limited response to user and IR submissions, does not appear that submissions have been accounted for. | Perfunctory response to user and IR submissions, insufficiently clear how these submissions have been accounted for. | Constructive response to user and IR submissions, reasonably clear explanation of how these submissions have been accounted for. | Engaged and constructive response to user and IR submissions, clear explanation of how these submissions have been meaningfully accounted for. | Engaged and highly constructive response to user and IR submissions, very clear evidence that submissions have been meaningfully accounted for after substantial consideration. |
| **6. Mitigating / corrective actions** | Very little evidence of mitigating and/or corrective actions, where appropriate, following user and IR submissions. | Limited evidence of mitigating and/or corrective actions, where appropriate, following user and IR submissions. | In most cases reasonable mitigating and/or corrective actions taken, where appropriate, following user and IR submissions. Actions communicated to stakeholders. | In almost all cases mitigating and/or corrective actions taken promptly, where appropriate, following user and IR submissions. Actions clearly explained to stakeholders. | In all cases mitigating and/or corrective actions taken promptly and proactively, where appropriate, following user and IR submissions. Actions very clearly explained to stakeholders. |

## Calculating an overall capex engagement score

C18 To assess the overall level of performance across criteria and across projects we propose to calculate an overall capex engagement score. To do this we would first calculate an average final score for each project by taking the simple average across the scores for each performance criterion. We would then calculate an overall capex engagement score as the weighted average of project scores, where the weights used are each project's capex value as a proportion of total capex.[14] Figure C.2 provides a stylised example for how the overall capex engagement score would be calculated.

**Figure C.2 Overall Capex Engagement Score Example**

| Project | Value (£m) | Weight | Timeliness score | User-focus score | Proportion-ality score | Optioneer-ing score | Respons-iveness score | Mitigating actions score | Average project score |
|---|---|---|---|---|---|---|---|---|---|
| 1 | £10 | 0.07 | 2 | 3 | 3 | 2 | 2 | 3 | 2.5 |
| 2 | £20 | 0.13 | 2 | 3 | 3 | 2 | 3 | 2 | 2.5 |
| 3 | £5 | 0.03 | 2 | 2 | 3 | 2 | 4 | 3 | 2.7 |
| 4 | £15 | 0.10 | 3 | 5 | 3 | 1 | 4 | 4 | 3.3 |
| 5 | £10 | 0.07 | 2 | 4 | 4 | 2 | 4 | 4 | 3.3 |
| 6 | £10 | 0.07 | 4 | 4 | 2 | 4 | 3 | 4 | 3.5 |
| 7 | £20 | 0.13 | 3 | 4 | 2 | 1 | 4 | 3 | 2.8 |
| 8 | £25 | 0.17 | 2 | 4 | 2 | 4 | 2 | 2 | 2.7 |
| 9 | £25 | 0.17 | 4 | 2 | 3 | 3 | 4 | 2 | 3.0 |
| 10 | £10 | 0.07 | 2 | 4 | 4 | 3 | 2 | 3 | 3.0 |
| Total | £150 | | | | | | | | |
| | | | | | | | Weighted Average Overall Capex Engagement Score | | 2.90 |

## Projects included in the capex engagement assessment

C19 There is a question as to which projects are included in the assessment. This could be every individual capex project, a smaller number of programmes (with multiple projects per programme), or a shortlist of projects/programmes which are identified as high priority by airspace users.

C20 There are pros and cons to the different approaches. Assessing the quality of NERL's engagement on every individual project could involve a significant regulatory burden. However, including only a shortlist of projects would mean that NERL would not be assessed or held to account for the quality of its engagement on all projects.

C21 Our initial view is that we will consult with NERL and airspace users to agree on the projects to include, and we would have a preference to condense individual projects into a smaller number of larger programmes to be reviewed together.

[14] We note that over the course of RP3, the value of projects may change – e.g. projects may be dropped or rescoped into a larger projects. We discuss this in the next section on process

We envisage having a relatively small number of projects/programmes (for example, 10) which collectively represent a large share of NERL's overall total capex.

## Process and timings

C22 In this section we propose more details on the process and timings that would be involved in the assessment of NERL's capex engagement.

### Proposed steps

C23 The assessment would occur across the whole of the regulatory period. We note that NERL's consultations with airspace users on its capex plan should be continuous and engagement is not restricted to the SIP. The SIP should be viewed as a summary of NERL's consultations. While the SIP would be a natural basis for our assessment, we will consider the quality of NERL's engagement more broadly.

C24 Our initial view, which we propose to consult on, is that assessment would proceed in the following steps.

**Step 1) Initial updates**

- NERL will provide continuous updates on its capex projects/programmes and engage with users and the IR. The regular SIPs, supplemented by quarterly updates, will represent a record of NERL's consultations.

**Step 2) Initial capex engagement assessment**

- At an early stage for each project/programme, we will give initial scores for the quality of NERL's engagement, where appropriate taking account of the views of the IR and stakeholders. We will work with NERL to make it clear why we have scored its performance as we have and help NERL understand where and how improvements should be made.
- We propose that for each project/programme we would agree with NERL in advance when the initial assessment would take place, noting that projects will be spread out over the course of RP3, and some may continue on into RP4 (which we discuss in more detail below).

**Step 3) Further updates**

- Taking into account feedback from the IR, airspace users and our initial assessment, NERL will continue to provide updates on each project/programme and engage with users and the IR.

**Step 4) Final capex engagement assessment**

- We propose that for each project/programme we would agree with NERL in advance when the final assessment would take place, noting that projects will be spread out over the course of RP3. (We discuss in more detail below how we would approach projects/programmes that will continue on into RP4).

**Step 5) Weighted average overall capex engagement score**

- Once we have produced a final score for each project/programme we will then calculate the weighted average score across all projects/programmes in line with the approach described above in Figure C.2. We presently envisage that steps (5) and (6) would take place at the RP4 price controls review.

**Step 6) Calculation of penalty (if relevant)**

- Based on the final overall capex engagement score a financial penalty may be applied, as described in the next section. This penalty will be increasing with the level of underperformance. We may also apply an uplift to the penalty where NERL has performed below expectation consistently for the same performance criterion (described further in the next section). In line with the CMA's PFs, the maximum penalty will be capped at £36 million.

- We propose that the incentive is penalty-only, which we discuss in more detail in the next section.

## Changes to the capex plan within the period

C25 We propose to assess the quality of NERL's engagement on its capex plan across a number of projects/programmes. This is important to ensure a sufficiently broad yet proportional appraisal of NERL's capex engagement and in order to identify areas of consistent underperformance. However, we recognise that NERL's capex plan may change over the regulatory period. In fact, this is part of why high-quality engagement is so important. If during the period the value of projects is changed, new projects are added, or projects are discontinued or deferred, it may be appropriate to adjust the weighting of projects in the overall score.

C26 We propose the following guiding principles for making adjustments to the weighting of projects where the capex plan changes during the period:

- If the budget of a project is reduced or the project is cancelled or deferred, then it is important that NERL is held to account for engaging well with stakeholder on why the decision was made. Therefore, we propose to not reduce the weighting of such projects or to remove them from the assessment, but to keep the initial weights as they were. This would ensure that NERL is still held to account.

- If the budget of a project is increased, then it is important that NERL's accountability is also increased. Therefore, in these instances, we may update the value of the project in the weightings. We would then adjust all weightings such that the overall sum of weightings does not exceed 1.

### Projects that continue into RP4

C27 We recognise that not all of NERL's capex projects planned for RP3 will be delivered during RP3 as some will continue on into RP4. However, we still believe it is appropriate that NERL continues to engage on these projects during RP3 and that it is held to account on the quality of its engagement.

## Calculating financial penalties

C28 In this section we propose more details on how NERL's capex engagement scores would be used to calculate the level of any penalties.

C29 First, we propose that the incentive is penalty-only, meaning that NERL would incur financial penalties if it underperforms, but it would not receive a financial reward if it outperforms. This is in line with the CMA's view in its PFs. Nonetheless, we also note that the CMA "*…recommend[s] that the CAA considers ways in which more symmetric incentive arrangements might be applied as part of its RP4 review.*"

C30 We remain of the view that the penalty should be penalty-only, particularly in the light of the proposal above to provide NERL with initial scores so that it has the opportunity to improve within the period and correct mistakes.

### Criteria for calculating penalties

C31 The CMA's provisional view is that the level of penalty should be guided by the following four factors:

1. The severity of the identified failing, and/or of the effects of that failing.
2. Evidence on NERL's track record: for example, to what extent has the identified failing (and/or similar types of failing) recurred or persisted over time?
3. Evidence of actions NERL has taken to address the underlying causes of the failing and to guard against their reoccurrence. This would include the extent to which NERL has adequately responded to past concerns and proposals presented by users and by the IR.
4. Evidence of actions NERL took to mitigate the effects of the failing.

C32 We agree that the CMA's four factors should be taken into account in calculating any financial penalty. We note that the scoring system we have described above captures these factors:

- by weighting projects/programmes through value this should go some way to ensure failings on the biggest projects receive most weight (addressing at least in part factor 1);
- by providing initial scores and retaining a penalty only incentive the incentive will target persistent failures (addressing at least in part factors 2, 3 and 4); and
- assessment of performance criteria 5 and 6, that capture 'responsiveness' and 'mitigating/corrective actions' (that also go towards factors 3 and 4).

## Method for calculating penalties

C33 We note the CMA's provisional view that the maximum penalty should be capped at £36 million. We agree that the maximum penalty should be capped at £36 million, for the reasons set out in our final decisions.

C34 As described above, NERL would receive an initial score and a final score for each of the individual performance criteria for each of the capex projects/ programmes included in the assessment. We propose that only the final scores would be used to calculate penalties. Specifically, we propose to use the Overall Capex Engagement Score, calculated as the weighted average final score across projects, as described above.

C35 We propose that the total penalty would be made up of:

1. a standard penalty, which as noted above will be weighted by project value so going someway to addressing factor 1 above; and
2. a penalty 'uplift', capturing persistent/reoccurring failings (relevant to factors 2 and 3 above).

C36 We describe these in turn below.

### Standard penalty

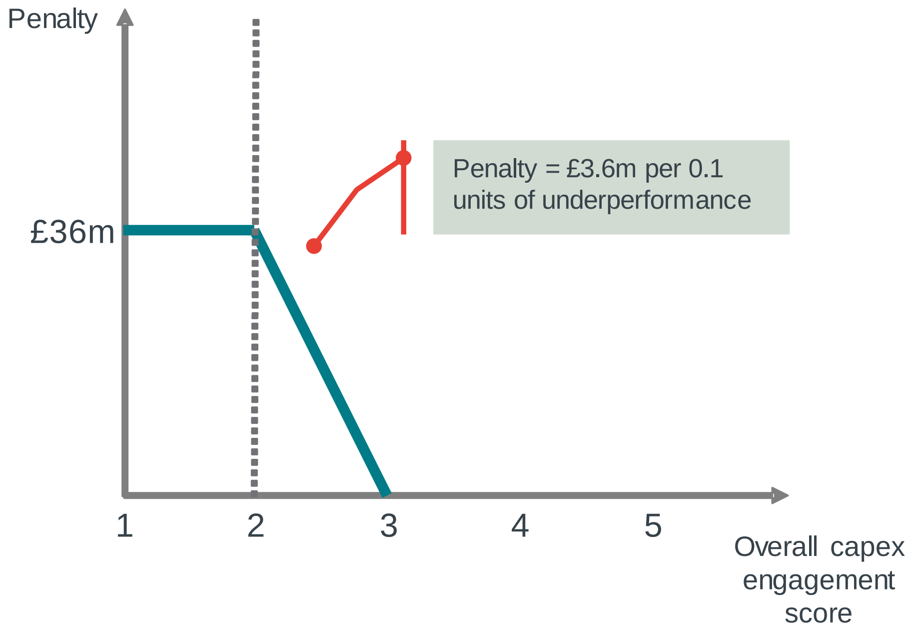
C37 We propose to calculate the standard penalty (before any uplifts) as follows:

- No penalty would be applied for a weighted average Overall Capex Engagement Score of 3 or above.
- Penalties would be applied if performance falls below 3. We propose that the maximum penalty would be applied if NERL's Overall Capex Engagement Score is 2 or below.

- The level of the penalty increases linearly with the level of underperformance at a rate of £3.6 million per 0.1 units of underperformance, up to the penalty cap.

C38 This is illustrated below.

**Figure C.3 Calculation of the standard penalty**




C39 There is an element of judgement about this calibration. For instance, a credible alternative approach would be to have a more gradual phasing of the penalty. This could involve the maximum value being triggered at 1.5 and the penalty only avoided once performance exceeded 3.5. This would incentivise NERL's performance over a greater range of outcomes.

**Penalty uplift**

C40 In order that the final penalty also reflects NERL's track record and whether there have been any areas of consistent or reoccurring failure, we should have the discretion to make the following adjustment, if appropriate.

- For a given criterion (e.g. timeliness) if NERL performs below the baseline expectation (a score of 3) on at least half of all projects/programmes included in the final assessment then the penalty should be increased.
- In these circumstances we propose that the penalty uplift is calculated as,

$$PU = (N_U \div 6) * P$$

where:

  - $PU$ is the penalty uplift;

  - $N_U$ is the number of criteria for which NERL receives a score of less than 3 on at least 50%[15] of the projects/programmes included in the assessment; and
  - $P$ is the standard penalty.
- The total penalty is then the sum of the standard penalty plus the penalty uplift, up to the maximum cap of £36 million.

C41 An illustration of the proposed penalty calculation is given below.

**Figure C.4 Penalty Calculation Example**

| | |
|---|---|
| **Overall capex engagement score** | **2.90** |
| **Standard penalty** | |
| Number of units of underperformance | 0.1 |
| Penalty rate per 0.1 units of underperformance (£m) | £3.60 |
| Standard Penalty (£m) | **£3.60** |
| **Uplift calculation** | |
| Total number of projects /programmes included in the assessment | 10 |

| Criterion | Timeliness | User-focus | Proportion-ality | Optioneer-ing | Respons-iveness | Mitigating actions |
|---|---|---|---|---|---|---|
| Number of projects with a score < 3 | 6 | 2 | 3 | 6 | 3 | 3 |
| % of projects | 60% | 20% | 30% | 60% | 30% | 30% |
| Extra penalty? | Yes | No | No | Yes | No | No |

| | |
|---|---|
| Penalty uplift factor | 2 / 6 = 0.33 |
| Penalty uplift (£m) | **£1.20** |

15 The exact threshold for what percentage of projects amounts to ‘persistent’ underperformance on a given criterion would be an important point for consultation with NERL and airspace users.

| | |
|---|---|
| **Overall capex engagement score** | **2.90** |
| **Total penalty (£m)** | **£4.80** |

## Conclusions

C42 The design set out above should help assess and incentivise the quality of NERL's engagement on its capex plan and ensure that airspace users are well-informed and listened to. The approach of initial and final assessments, project weightings, the range of criteria, the calculation of penalties and uplifts should make the approach reasonable and proportional. It would hold NERL to account for the quality of engagement on its capex plan, while also allowing NERL scope to improve the quality of engagement and avoid penalties.

C43 However, it is important that there is proper consultation with all stakeholders on the details of the proposed mechanism. Areas particularly important for consultation include:

- Assessment criteria – ensuring a common understanding of baseline expectations.
- Projects to be assessed – views on the subset of capex projects/ programmes that would be included in the assessment.
- Timings – views on the timing of initial and final assessments, noting that some projects may continue on into RP4.
- Penalty calculation – penalty rate per unit of underperformance and uplift factor.

C44 Additionally, as this is a new incentive mechanism, we envisage that if any issues are identified in the first years of implementation, appropriate adjustments may be made within period, subject to further consultation with stakeholders and appropriate licence modifications.

**APPENDIX D**

# Non-regulated income and costs

## Introduction

D1 The CMA's provisional findings (PFs) do not support our decision to reduce NERL's opex by £24 million over RP3 in response to NERL's forecast reduction in non-regulated income. The CMA's reasoning for this are:

- this reduction represents double counting; as it is already covered by the general efficiency challenge set to regulated opex;
- the reduction is excessive compared to a reduction of £43 million for all other opex;
- the CMA considers our decision to be insufficiently robust and arbitrary; and
- NERL has subsequently provided more supporting evidence for its position on related costs.

## Double counting

D2 We do not consider the challenge we set NERL to be double counting. We set NERL a top-down efficiency challenge based on a range of evidence. The CMA appears to consider the process we followed with regard to regulated opex and the judgement we came to be reasonable in the circumstances.

D3 Our judgement on regulated opex was independent of any consideration of non-regulated income. We would have reached the same judgement had NERL been forecasting constant or increasing non-regulated income.

D4 Against that backdrop, NERL's projection of falling non-regulated income was context-specific and needed to be considered as a ring fenced and separate issue. We do not accept that there is any double counting implied in making a separate adjustment for opex in these circumstances.

## The scale of the reduction

D5 We consider the CMA has not placed enough weight on the views expressed in the CEPA report, as well the views from the joint chairs and other stakeholders, that NERL's plan for non-regulated income lacked ambition.

D6 Our decision to reduce NERL's opex by £24 million over RP3 reflected a judgement as to the scope of cost reductions that could be achieved if non-regulated income really did fall by as much as NERL forecast in its business plan, and the scope for NERL to outperform these forecasts. As such we consider the CMA's comparison of the £24 million reduction for non-regulated opex and £43 million for regulated opex is inappropriate as the former is made up of two parts (potential for costs savings and potential for more revenue).

D7 In particular, in its consideration we feel that the CMA has not placed sufficient weight on the views of our advisers that NERL's plan lacked ambition with regard to finding new sources of revenue.

D8 We also note that a £24 million reduction for non-regulated opex is proportionate as it is only 5% of NERL's total non-regulated income forecast in RP3.

## The basis of our decisions

D9 The CMA has suggested that our decision to reduce NERL's opex by £24 million over RP3 lacked evidence. We accept that an element of judgement was required in coming to this decision. This was primarily because of the lack of evidence provided by NERL in support of its argument that costs would be redeployed to regulated activities and hence costs could not be reduced.

D10 However, we placed weight on both the CEPA report and the views expressed by the joint chairs and other stakeholders that NERL's plan for non-regulated income lacked ambition. One area where we consider NERL's forecast revenues lacks ambition is its ATC college. In response to the CMA's Request For Information (RFI) 2, NERL said its college would be running at maximum capacity just to meet its own internal demand and have no capacity to support any non-regulated training for third parties. However, in response to RFI6, NERL said it would be training 12 ATCOs per year for NSL, in addition to its own internal training, for which it would receive non-regulated income. We note that NERL's response to RFI6 also did not show that its college would be operating at maximum capacity in RP3, as, even with both NERL and NSL trainees, it would be training at least 20% fewer ATCOs in 2022, 2023 and 2024 than in 2020.

## Additional evidence provided by NERL

D11 We welcome the fact that the CMA was able to obtain additional information from NERL on the redeployment of costs related to non-regulated services. However, while that this evidence provides a little more detail on the redeployment of non-regulated costs, it does not, in our view, provide an objective justification for the retention of the additional £4 million opex per annum in determined costs.

D12 NERL explains that resources will be redeployed to regulated work by its ATC college, the Analytics team and the Technical Services team. NERL explains that, for a number of reasons, these functions are at full capacity and that, as a result, the alternative to redeployment would be new hiring, which would be less efficient.

D13 We consider that redeployment of resources freed up by reduced non-regulated activity would reduce the need for NERL to take on additional operating costs in the regulated sphere, given the growth in that area. Hence, regulated opex would be lower as a result of redeployment from non-regulated activities. As our allowance for regulated opex was established on a reasonable basis and independently of the trends in non-regulated activity, we consider NERL's evidence supports the case for an additional efficiency challenge reflecting the reduction in non-regulated activity.

## Conclusions

D14 Non-regulated activities always present something of a challenge in a single-till regulatory regime. This is because there is a strong built-in bias for the regulated company to understate forecast revenues and reallocate costs relating to the unregulated business to the regulated till.

D15 We accept that there is an important role for judgement in this matter, but we ask the CMA in particular to consider further:

- the views expressed during our review of the lack of ambition in NERL's plans and the inconsistency we found in NERL's submissions to the CMA;
- the fact that our target for regulated opex was arrived at independently of any consideration on non-regulated activities; and
- the fact that redeployed resources from non-regulated activities result in additional savings to NERL, as identified in NERL's own submissions.

**APPENDIX E**

# Cost of capital

## Introduction

E1 We accept the CMA's provisional findings (PFs) ranges and point estimates for a number of the weighted average cost of capital (WACC) parameters, including where the it has updated parameters for more recent market information. However, we have identified some issues for the CMA to consider on asset beta and cost of debt.

E2 On the asset beta, we agree with the CMA's general approach of considering a wide range of evidence available on comparator betas and using judgement to choose the appropriate range. However, we consider that the CMA should:

- place more weight on ENAV's asset beta. ENAV is the closest comparator to NERL in the activities and functions it performs, so we consider it should be weighted accordingly. In addition, NERL should be expected to be lower risk than the airport comparators given the greater demand diversification, partial protection from demand risks and lower proportion of commercial activities. We set out further evidence on these commercial activities below;
- correct for the methodological issues and statistical anomalies that we have identified in the CMA's calculations. These changes lead to a mixture of impacts on the comparator betas, though the net effect is a slight reduction in the asset beta range for NERL; and
- consider further cross-checks from the French Authority's estimate for ADP's asset beta, bottom-up estimates based on ENAV's asset beta and regulatory precedent.

E3 Overall, the changes we propose support a reduction in the asset beta range. We consider that most weight should be placed on ENAV's beta, which would give an **asset beta for NERL closer to 0.45**. In the PFs, the CMA has put most weight on airport betas. Continuing this approach, but correcting for statistical anomalies and methodological issues would support **an asset beta range of 0.45-0.60**. The further cross-checks we set out support an estimate in the lower end of this range.

E4 On the cost of debt, we accept the CMA's approach and the use of more up-to-date information. However, we have identified two specific areas where we consider the CMA has over-estimated the cost of debt: the proportion of embedded debt; and issuance and liquidity costs.

E5 We note that third party responses to the CMA's PFs have raised a number of points around the CMA's allowed WACC. In a number of cases, this is simply restating existing evidence that the CAA and CMA has previously considered, but we briefly respond to some of the additional issues raised.

E6 We provide further details on each of these areas below.

## Weight on ENAV's asset beta

E7 The CMA appears to have put very little weight on ENAV as a comparator for NERL. This is illustrated by the CMA's choice of an asset beta of 0.57, above the CMA's range for ENAV of 0.45-0.55. Further to this, we note that the high end of 0.55 appears to be an outlier and based on 2-year weekly data with a relatively high standard error. We comment on this further below.

E8 In contrast, in our final decisions we considered that NERL would face similar, though slightly higher, risks to ENAV after taking account of adjustments for terminal activities and operational gearing. We chose an asset beta for NERL of 0.46, at the high end of ENAV's beta range (0.36-0.46) from our advisers, Europe Economics.

E9 We consider that the CMA should place more weight on ENAV. ENAV is the closest comparator to NERL in the activities and functions it performs, and both NERL and ENAV operate under the European framework for setting charges. While airport comparators operate in the same sector, they perform different functions under a range of different regulatory frameworks, making it more difficult to assess relative risks of the comparators. In our final decisions, we set out that we expected NERL to have a lower asset beta than the airport comparators as its demand was more diversified and subject to risk-sharing. This pattern was demonstrated by ENAV's beta being consistently lower than the relevant airport comparators.

E10 The CMA has identified that the betas presented by parties largely follow the intuitive pattern where groups of companies that take more commercial risks have higher asset betas,[16] and the CMA notes that airports are more exposed than NERL to commercial risks.[17] In Figure E.1, we present estimates for the proportion of commercial revenues between comparators. We have been conservative by assuming NERL non-regulatory income is commercial in nature and excluding international activities at ADP and Fraport, even though some of this may include higher risk commercial activities. This figure shows that the

16 CMA Provisional findings, para 12.43, page 137

17 CMA Provisional findings, para 12.75(d), page 147

airport comparators all have higher proportions of commercial revenue than NERL and that greater weight should be placed on ENAV.

E11 Placing more weight on ENAV would support an **asset beta for NERL closer to 0.45**, when correcting for the methodological issues and statistical anomalies (see next section).

**Figure E.1 – Proportion of commercial revenue for NERL comparators**

| | Estimates for commercial revenue | Total revenue | % | Composition of commercial revenues |
|---|---|---|---|---|
| **ADP** | 1,265 | 4,722 | 27% | Retail and services, real estate. Excl. international and airport developments |
| **Fraport** | 508 | 3,706 | 14% | Retail and real estate. Excl. international activities and services |
| **AENA** | 1,144 | 4,201 | 27% | As defined in statutory accounts (includes retail, parking and other commercial activities) |
| **HAL** | 995 | 3,070 | 32% | Total retail, HEX, Property and other |
| **NATS** | 94 | 734 | 13% | Total non-regulated and intercompany revenue |
| **ENAV** | 19 | 952 | 2% | Revenues from non-reg market |

*Source: CAA analysis of annual statutory and regulatory accounts from Group ADP (Financial Report 2018), Fraport (Annual Report 2019), AENA (Economic Performance 2018), HAL (Financial Results 2019), NATS (Regulatory Accounts 2018) and ENAV (Consolidated Financial Statement 2019).*

## Correcting the methodological issues and statistical anomalies in the beta estimates

E12 In our review of the CMA's calculations, we identified five methodological issues and statistical anomalies:

1. **The choice of Friday for the weekly betas consistently leads to a higher beta across the comparators than if using other weekdays**. One of the issues with weekly betas can be the sensitivity to day of the week. This effect seems to be particularly pronounced for the relevant comparators. For

example, the ADP 5-year weekly beta provides a spot value of 0.64 on Friday, but 0.54-0.56 for Monday to Thursday. We have proposed a more robust method by averaging across the five days of the week for the weekly betas. We note this moves the weekly betas more in line with the daily betas, providing further evidence that the daily betas of the comparators should not be downward biased.

2. **The source of the Fraport betas (Frankfurt Stock Exchange) appears to be less robust than the betas from the Xetra stock exchange**.[18] We calculate the Fraport betas from the Xetra stock exchange, where the Fraport shares are more highly traded. This leads to higher betas.
3. **The gearing is based on the spot values, which is not consistent with the average gearing over the 2-year or 5-year measurement periods**. We have updated the betas for the average gearing, which appears to be a more consistent and robust approach. The impacts across the comparators are mixed, but appear to slightly increase betas.
4. **Significant weight is being placed on 2-year weekly betas for ENAV and AENA, which are less robust than other estimates for their betas**. We agree with the CMA that less weight should be placed on the 2-year weekly betas as these are outliers and have high standard errors. Consistent with this, we show the analysis of beta ranges excluding these values. This leads to lower betas.
5. **Fixing the difference between the low and high ends of the comparator betas ranges to 0.1 means the ranges are not always supported by the empirical beta estimates and hence clear how they have been derived**. We consider that the rounded beta ranges should be guided by the full range of estimated betas where the CMA is putting significant weight. We agree it is reasonable to round these ranges given the uncertainty and we show the updated estimates below rounded to the nearest 0.05.

E13 We have made the corrections proposed above in a separate technical supporting spreadsheet provided with this response (SP20). The updated asset beta range is shown in Figure E.2 below, with a comparison to the CMA's PFs in Figure E.3. This shows that the ADP and Fraport ranges do not change materially, but there are reductions in the AENA and ENAV ranges by making these corrections.

18 On the Xetra-Exchange, the trading volumes appear to be consistently higher than on the Frankfurt stock exchange, which should provide a more precise determination of the beta calculation for Fraport.

E14 As set out above, we consider that there are a range of reasons for the CMA to place more weight on ENAV. This supports an **asset beta closer to 0.45** for NERL.

E15 In the PFs, the CMA placed more weight on the airport comparators to estimate an asset beta range of 0.50-0.60. We show below that continuing to place weight on airport betas only appears to support a **slightly wider and lower asset beta range (0.45-0.60)** than the PFs. The mid-point (0.525) is therefore slightly lower than in the mid-point in the PFs (0.55).

**Figure E.2 – Updated Table 12-10: Comparator ranges**

| | Based on Min-Max | | *Rounded to nearest 0.05* | |
|---|---|---|---|---|
| | Low estimate | High estimate | | |
| ADP | 0.51 | 0.59 | 0.50 | 0.60 |
| Fraport | 0.46 | 0.57 | 0.45 | 0.55 |
| AENA | 0.48 | 0.59 | 0.50 | 0.60 |
| ENAV | 0.44 | 0.45 | 0.45 | 0.45 |
| | *0.44-0.59* | | *0.45-0.60* | |

*Source: CAA analysis based on CMA calculations, shown in separate technical appendix (SP20)*

**Figure E.3 – CMA PFs Table 12-10: Comparator ranges**

**Table 12-10: Comparators' ranges**

| | *Low estimate* | *High estimate* | *Relative risk* |
|---|---|---|---|
| ADP | 0.5 | 0.6 | Comparable |
| Fraport | 0.45 | 0.55 | Comparable / marginally lower |
| AENA | 0.55 | 0.65 | Comparable / marginally higher |
| ENAV | 0.45 | 0.55 | Lower |

Source: Bloomberg and CMA analysis
Note: In each case we have used a range of 0.1. reflecting the degree of uncertainty and judgement required

*Source: CMA PFs, page 155*

## Further cross-checks on NERL's beta

E16 Given the wide range in NERL's asset beta, we consider further cross-checks below that could be useful to check that the range and point estimate are appropriate. These cross-checks are consistent with an **asset beta between 0.44-0.53, with most estimates around 0.50**.

- In February 2020, the French Transport Regulation Authority which regulates ADP, set an **asset beta range for ADP of 0.44 to 0.53, with a best estimate of 0.49**.[19] This was based on a detailed assessment of comparators by its advisers, Swiss Economics.[20] Its analysis put Fraport in the lowest risk group (asset beta of 0.39-0.49), ADP in the medium risk group (0.44-0.53) and AENA and Heathrow in the high risk category (0.49-0.58). The CMA's estimate for NERL's beta is therefore at the higher end of the high risk category. We note that Swiss Economics has used national indexes (such as CAC All for ADP), on the basis that national indices allow for risks which have a common impact on all national companies and for the existence of investor's home bias. It cites recent empirical evidence that supports the persistent existence of a home bias effect.[21]
- The CMA has estimated NERL's beta using comparators without making adjustments for NERL's relative risks. We consider other bottom up approaches could be used as a cross-check. A simple bottom-up approach would be to take ENAV's beta and adjust for NERL's higher operational gearing, which has been accepted by both parties. In this case, if an operational gearing adjustment of 9-11% (from Europe Economics and Economic Insight) is applied to the ENAV asset beta (0.45), then this would support **an asset beta for NERL of 0.50**.
- The allowed WACC for NERL at RP2 and for HAL at Q6 was based on **asset betas of 0.50-0.505, with high points around 0.52.** While the CMA has not placed weight on regulatory precedent, this could be used as a useful cross-check.

## Cost of debt

E17 We consider the CMA has taken a reasonable approach to estimating the cost of debt and agree with the use of more recent market information. In the detailed implementation of the approach, we have identified two assumptions that we consider the CMA should adjust:

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19 Transport Regulatory Authority, Opinion no.2020-017, 17 February 2020, para 127, https://translate.google.com/translate?depth=1&hl=en&prev=search&pto=nl&rurl=translate.google.com&sl=fr&sp=nmt4&u=https://www.autorite-transports.fr/wp-content/uploads/2020/02/version-publique_avis-n-2020-017_adp-cre-4.pdf

20 Swiss Economics, Betas for French airports based on empirical and regulatory evidence, February 2020, https://www.autorite-transports.fr/wp-content/uploads/2020/03/betas-for-french-airports-v1-0.pdf

21 Geranio, M., Lazzari, V. (2019). Stress testing the equity home bias: A turnover analysis of Eurozone markets. Journal of International Money and Finance, 97: 70-85.

1. **Proportion of embedded debt of 54%.** The regulatory asset base (RAB) assumption used by the CMA seems to be the calendar year average RAB for UKATS only and based on year-average RPI. This is on a different basis to the net debt figure, which is the debt for NERL as a whole and is stated in year-end prices. In a separate technical supporting spreadsheet provided with this response (SP21) we set out an updated calculation that includes the Oceanic RAB and stated in year-end prices. This results in a proportion of embedded debt of 50%, slightly lower than the assumption of 54% in the PFs.
2. **Issuance and liquidity costs of 15bps.** We consider it is appropriate to use a lower assumption of 10bps on the basis that:
   - The cost of new debt is based on a notional approach, rather than NERL's actual cost of debt. We consider it is appropriate to also apply this notional approach to the estimation of issuance and liquidity costs.
   - As a notional benchmark, we considered analysis from Europe Economics on issuance costs for water companies. Europe Economics' analysis showed that smaller water companies that had a relatively small number of issuances incurred average issuance costs of only 1.5-3.3bps since 2000.[22]
   - While there are reasons why NERL may face higher issuance costs than the water company comparators, such as its small size with few interactions, there may also be reasons why NERL's costs could be lower, such as its relatively strong credit rating. Therefore, we do not consider there to be sufficient evidence to support a higher-than-average issuance cost.

## Other points on WACC parameters

E18 We note that third party responses to the CMA's PFs have raised a number of points around the allowed WACC. In most cases, this is restating existing evidence that the CAA and CMA has previously considered or is covered by our comments above. We briefly respond to some of the additional points below.

### Total market return

E19 We consider the CMA has been robust in its interpretation of new information and analysis on historical returns and treatment of inflation. Some third parties have suggested this should be given limited weight or introduced gradually. We

22 Issuance costs for Affinity Water, South East Water and South Staffs Water from Europe Economics, PR19 – Initial assessment of the cost of capital, December 2017, Table 10.1 (page 72)

agree with the CMA that this new information and analysis supports a change in approach and a gradual change would not be in customers' interests.

E20 Some third parties have raised a point that returns above arithmetic returns are used for capital budgeting so should be used by CMA. We do not consider this to be relevant for setting an allowed WACC.

E21 We agree with the CMA's choice of inflation measure for deflating historical returns. Some third parties have suggested that the historical CPI data is not robust as the Office for National Statistics will be making revisions to the historical CPI series later in 2020. However, we note the impact of the change is not material (the ONS refers to "minor revisions" to rounding of weights and the absolute average revision size is 0.01 percentage points between 1989 and 1996).[23]

## Risk-free rate

E22 We support the CMA's focus on index-linked gilts (ILGs). We do not agree with some of the third party responses that there is current evidence that the current low level of ILG yields is temporary or will revert to historical levels during RP3.

E23 We note that some third parties have suggested alternative assets as proxies for the risk-free rate, such as corporate bonds. We note these are not risk-free so are not appropriate to use for this purpose.

## Betas

E24 As mentioned above, we consider that the CMA approach to using daily and weekly betas is reasonable. Some third parties raise the point that daily betas may be downward biased due to thin trading. We have not seen evidence that this is the case for NERL's comparators.

E25 Some third parties have suggested using a Vasicek adjustment, which shifts an OLS estimate of beta to a prior expectation. We do not consider this adjustment to be necessary.

## Gearing

E26 We accept the CMA's choice of 30% gearing for NERL. Some third parties have suggested that the CMA should adopt a higher gearing for NERL and/or use a much higher risk-free rate so the allowed WACC is less sensitive to gearing. We consider that the CMA's risk-free rate is appropriate and note that the effect of WACC increasing with gearing is mainly a result of the cost of debt being higher

23 ONS, Consumer Prices Index including owner occupiers' housing costs (CPIH) historical series: 1988 to 2004, last updated December 2018

than the CAPM-derived cost of debt (e.g. due to a liquidity premium and use of promised rather than expected yields).

## Choice of point estimate

E27 Some third parties have raised concerns of under-investment and that the CMA should choose a WACC at the top end of its range. We agree with the CMA in choosing the mid-point from a range of evidence. While we agree that the costs of under-investment may be high, there is the opposite effect that information asymmetry means the allowed WACC may be set too high.