

Reference: CAA-H7-259

# Heathrow's response to CAP1758 and CAP1762

Date: 16<sup>th</sup> April 2019

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Status: Final

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## Executive summary

1. Heathrow Expansion is a once in a generation opportunity. The DfT estimates that expanding Heathrow will generate £68 billion in benefit for consumers through lower fares and new flights driven by increased competition and choice from airlines operating at Heathrow.
2. The future development of the UK's airspace is an integral part of ensuring that Heathrow can expand successfully and provide these benefits for consumers and the UK economy. It is therefore vital that NERL's price control determination ensures it can deliver these changes as well as safe and reliable airspace operations.
3. This document sets out Heathrow's response to the documents published by the CAA in connection with its draft proposals for NERL in RP3 and updates to estimates of Heathrow's H7 WACC excluding the impacts of expansion and regulatory change. The documents being responded to are:
  - a. Update on cost of capital for RP3 and H7 (CAP1762)
  - b. Draft UK Reference Period 3 Performance Plan proposals (CAP1758)
  - c. Components of the Cost of Capital for NERL by Europe Economics
  - d. H7 Initial WACC response document by PwC
4. A key aspect of the NERL consultation, is the update on the CAA's thinking in respect of the WACC for Heathrow. Expansion at Heathrow presents a significant financing challenge. Our investors are able and willing in principle to fund this national project, and believe with the right framework we can deliver expansion without public funding.
5. However, the very low levels of cost of equity set out in the CAA's determination for NERL and PwC's update of the 2R WACC for Heathrow are unlikely to be consistent with financing expansion of the airport. The need to maintain a comfortable investment grade credit rating to obtain debt finance and therefore achieve appropriate rating agency cashflow metrics means that as the WACC is reduced, the proportion of expansion that needs to be financed by equity increases enormously. This is not compatible with the lower returns on offer.
6. Money for investment is not free. Equity invested in Heathrow must come from someone's savings or pension or other money put aside. All those savers will want to know they have a good chance of getting their savings back, with a reasonable compensation for the risk they take with their money. The return they receive is, by and large, determined based on opportunities across the world. The evidence for international airports<sup>1</sup> we provided in 2018 shows typical real costs of equity above 8% on an RPI basis, and NERA show regulated utility companies in the US are awarded real costs of equity around 7% on an RPI basis despite their lower risk<sup>2</sup>. PwC's estimate of a range for the 2R cost of equity for Heathrow between 4.4% and 6.6% is a long way below returns available elsewhere. The significant underestimate of Heathrow's actual debt costs by PwC adds to this concern.
7. We observe that the CAA and other regulators have taken advice from a narrow range of self-reinforcing advisors (PwC, CEPA and Europe Economics) that are not market participants. As a result, we fear they have landed on cost of capital estimates that are well away from the market while taking false comfort because all the regulators are in the same place. From a market perspective, this looks like complacency and a case of regulatory 'groupthink'.

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<sup>1</sup> NERA, International precedent on the cost of equity, February 2018, Figure 4.1

<sup>2</sup> NERA show real costs of equity for airports of over 9% on a CPI basis, and nominal returns for US utilities of over 10%. These have been converted to RPI returns assuming an RPI-CPI wedge of 1% and RPI of 3%.

8. Moreover, we are surprised at the lack of engagement by PwC and the CAA on the serious issues and evidence on WACC topics. It is important that the CAA engages in this area in a more robust and transparent manner. Simply dismissing evidence because it does not fit with a pre-conceived answer, or being silent on key points, is not good regulatory practice and will not lead to robust decision making.
9. More widely in respect of NERL, RP3 is a defining period for NERL and the UK's aviation industry. The airspace modernisation programme will, amongst other things, enable the operability of an expanded Heathrow. It is therefore vital for Heathrow and the industry that NERL is setup to be a strong and efficient provider in this period and the periods to come.
10. In the interests of aviation consumers, the CAA need to take a leadership role in the airspace modernisation programme and be very sure that it makes the appropriate operational and capital expenditure allowances for NERL for the programme to be delivered on time. Equally, we urge the CAA to provide the required costs allowances for NERL to enable it to operate an expanded Heathrow.
11. Heathrow's response is intended to put forward Heathrow's views where there is significant read across to Heathrow's own regulatory framework or to airspace issues which impact our current and/or future operations.
12. We are also concerned about the CAA's general approach to assessing NERL's efficiency in RP3:
  - a. The CAA's detailed, bottom-up analysis leads to a focus on spurious precision which is not helpful or informative;
  - b. The CAA's reliance on consultants focusing each on a separate and specific area could jeopardise the production of a successful joined up and holistic price control;
  - c. The draft proposals exclude proposed operating costs relating to airspace modernisation, which is essential to Heathrow expansion; and
  - d. The CAA does not carry out an impact assessment of these proposed efficiencies to understand the potential impact on NERL's ability to carry out required investments or provide adequate levels of service. This is not consistent with best practice.
13. In the document, the CAA sets out the importance of NERL's role in airspace modernisation; *"In this context, a key strategic driver for NERL in RP3 is to support the implementation of the UK's Airspace Modernisation Strategy, which is intended to deliver a once in a generation upgrade to modernise critical national infrastructure – UK airspace"*. It is therefore surprising to us that the CAA has chosen not to recognise the operating costs required to implement this vital infrastructure modernisation and we would urge the CAA to reconsider this position.
14. Heathrow considers that the CAA should ensure it takes a longer-term view when carrying out its price control determinations to ensure that it is not missing opportunities to provide long-term certainty and increased efficiency for consumers due to a focus on short-term affordability. This includes providing appropriate certainty on issues such as pensions, as well as when making efficiency assessments.
15. Heathrow is encouraged by the CAA's proposals to strengthen NERL's governance arrangements surrounding capital investment by implementing a framework similar to that in place at Heathrow. This acknowledges the merits of Heathrow's governance framework, especially at a time of increased investment and uncertainty for NERL.

## Introduction

16. This response sets out our views on:

- The update on cost of capital for RP3 and H7 (CAP1762);
- Our views on Heathrow WACC; and
- Draft performance plan for NERL (CAP1758).

## Update on cost of capital for RP3 and H7 (CAP1762)

17. Regulatory certainty and predictability is paramount for delivering Heathrow's expansion. We have requested this in all of our responses to the CAA since beginning the H7 regulatory review. Certainty and predictability can only be provided by the CAA. The time has arrived for thorough thinking, analysis and decisions (including "minded-to" decisions) by the CAA.

18. Expanding Heathrow is not business as usual for any stakeholder involved, therefore it cannot be simply assumed that rolling the Q6 regulatory framework conditions will meet affordability and financeability objectives, enabling expansion to take place. As discussed in previous responses to the CAA, regulatory conditions need to reflect the underlying economics of the expansion investment. These are:

- a. Unprecedented up-front capital investment requirements and decisions, implying significant equity contributions from investors and the need to access global debt markets throughout the investment process.
- b. Exposure to: enhanced levels of current operational risks; additional political, delivery and financial risks; and untested operational conditions.
- c. Investors are committing to investments that will take place well beyond the 5-year time horizon and there are significantly longer lead times for investment recovery than previous investment decisions. This significantly increases the importance of a long-term approach.

19. We have consistently argued that the CAA needs to make progress on the general architecture and the key areas of H7 regulatory framework. We argued that the CAA's work on the H7 framework needs to be capable of delivering affordability and financeability objectives for expansion.

20. We believe that the CAA, following its primary and secondary duties, should assess and quantify the risks associated with delivering expansion. Building on this, it should consider what is the most suitable regulatory framework for dealing with those risks, providing a fair risk and reward balance. To be clear, developing expansion will change Heathrow's risk profile, putting pressure on affordability and financeability. The CAA has the ability to define how best to deal with this enhanced level of risk. Finally, the CAA should assess whether its framework and the different decisions that underpin it meet the affordability and financeability objectives by developing thorough crosscheck analysis.

21. We are encouraged that CAP1762 describes an approach that resembles the outline description provided above. Nevertheless, we have the following observations:

- a. 2019 is a busy year for the economic regulatory function of the CAA given the decisions it needs to make for NERL, the progress it needs to achieve regarding the H7's regulatory framework, the different representations that it needs to make to the DfT and PINS and the work related to Gatwick's' Licence backed commitments review.

We encourage the CAA to allocate the required resources to maximise its opportunity progressing meaningful work on the development of H7's regulatory framework.

- b. The unprecedented up-front capital requirements of expansion mean that the transparency of the longevity of returns is more important than ever. Therefore, as part of the regulatory framework development, a key element will be the framework for longevity of returns over a longer period. Final decisions on WACC cannot come before the longevity framework is in place and regulatory risks assessed.
- c. Heathrow is due to deliver its Initial Business Plan (IBP) in December 2019. It appears not to be best regulatory practice to direct Heathrow to develop its business plan without a solidified and properly consulted upon regulatory framework. This appears inconsistent with the approach taken by other regulators like Ofwat or Ofgem. It is somewhat disappointing that the CAA is doing "initial work" in developing the regulatory framework for H7 (as described by Figure 3.1 of CAP1762) only 9 months ahead of Heathrow's IBP.
- d. The areas of work that the CAA is proposing to develop over 2019 are complex and require careful and detailed thinking, third party specialist support and appropriate internal and external engagement and consideration. Heathrow politely requests that the CAA does not underestimate the work required, that it engages third party specialists of the right calibre and experience and allows itself to properly engage with stakeholders. It is important to note that the CAA's findings on these areas would drive subsequent decisions from stakeholders. Heathrow is open to engaging at any time with the CAA in these most important topics.

22. We provide a number of detailed comments regarding Figure 3.1 of CAP1762 below:

- a. We note that the CAA had planned to publish a working paper on financial resilience in February 2019, this has not been the case. We have not heard from the CAA on this area at the time of writing this response.
- b. We note that the CAA plans to publish a working paper on debt indexation in October 2019. This was due to be published in 2018. We encourage the CAA to bring this consultation forward.
- c. We note that the CAA has allocated 6 months for "initial work in developing the regulatory framework..." and "work on specific parameters of the WACC..." this is a challenging timeline, we reiterate our request of allocating more resources to these areas and our offer to engage at any point over these months.

23. We provide detailed observations on paragraph 3.3. in CAP1762:

- a. The framework to assess the WACC and related factors in the context of capacity expansion.
  - i. Heathrow remains open minded regarding the best way to recognise additional risks associated with capacity expansion. We think that an appropriate starting point is the analysis and materials development by KPMG on behalf of Heathrow submitted to the CAA in December 2017, where an expansion risk premium was identified as a premium to H7's WACC.

- ii. Heathrow nevertheless considers that a number of principles for developing this work would prove helpful:
  - 1. The analysis should be based on robust economic logic, aiming to lay out a clear methodology and modelling based assessment, taking into account market precedent.
  - 2. The analysis should aim to identify and quantify all additional risks associated with capacity expansion, irrespective of the timeframe in which risks are materialising. This is quite relevant given the one-off decision facing Heathrow's investors.
  - 3. The impact of the regulatory framework definition needs to be fully reflected (and accounted for) in the assessment of the WACC premium. In particular, a move to ex-ante incentives could have a significant impact on Heathrow's risk profile. The WACC premium for expansion should reflect the final regulatory framework.
  - 4. The results should be easily traceable to the analysis performed.
  - 5. Financeability tests need to be satisfied following initial risk premium findings
  
- b. How best to estimate HAL's asset, equity and debt betas
  - i. Comments on this area are provided in the WACC section of this report.

## Heathrow 2R WACC

### Overview

24. Heathrow is concerned about the current position of the CAA on cost of capital for Heathrow. In particular, the TMR assumed for NERL is a long way from market views and historical precedent on required equity returns, and PwC's views on the cost of debt for Heathrow are not consistent with our current or future debt costs.
25. Expansion at Heathrow will deliver huge benefits to consumers. However, setting the right level of WACC is vital for ensuring that expansion of the airport can be financed and delivered. Over the next ten to fifteen years £20-£30bn of new finance will be required. The way that rating agencies assess credit risks and the need to maintain credit ratings to obtain debt finance means that lower WACCs vastly increase the proportion of this financing that needs to be supplied by equity, whilst at the same time reducing the returns available to it. For the avoidance of doubt, the 2R WACC range suggested for Heathrow in the PwC report would make expansion unfinanceable. Moreover, the potential difficulty in financing expansion based on the CAA's current draft position could impact on investment ahead of the CAA finalising its position. Given the significant amounts of expenditure required ahead of DCO approval, any such impact on investment could jeopardise timely expansion of the airport.
26. To accompany this response, we provide two reports by NERA; one<sup>3</sup> relating to the cost of equity issues raised by the CAA determination for NERL and the associated papers by PwC and Europe Economics. The second<sup>4</sup> addresses issues in relation to the Heathrow cost of debt raised by the PwC report. The conclusions and analysis from the reports are brought in to support the narrative below.
27. The PwC report indicates a 2R cost of equity for Heathrow of between 4.4% to 6.4%. Internationally, regulated airports have been allowed real costs of equity over 9% (equivalent to over 8% on an RPI basis)<sup>5</sup>. Likewise, regulated utility companies in North America are allowed nominal costs of equity of around 10% (over 7% on an RPI basis) despite being much lower risk than airports<sup>6</sup>. The scale of equity investment required to finance expansion cannot be achieved by offering returns that are lower than available to that equity elsewhere in the world.
28. Although the approach that the CAA is adopting towards the cost of equity is neither consistent with recent precedent from the CMA nor consistent with international benchmarks, it is in line with that currently being adopted by other UK regulators. We are concerned that the CAA has taken false confidence from this alignment with other UK regulators. These UK regulatory views are all based on self-referencing findings from a small number of advisors (PwC, Europe Economics and CEPA) that have no market experience, and on dismissing authoritative evidence, such as that from the Bank of England on dividend growth estimates of TMR, that contradicts their view. As such, we consider there is clear evidence of regulatory groupthink.

<sup>3</sup> NERA, Cost of Equity for HAL in H7, April 2019

<sup>4</sup> NERA, Cost of Debt for HAL in H7, April 2019

<sup>5</sup> NERA, International Precedent on the cost of Equity, February 2018, Figure 4.1, A return of over 9% on a CPI basis has been adjusted to an RPI basis by applying an RPI-CPI wedge of 1%

<sup>6</sup> NERA, Cost of Equity for HAL in H7, April 2019, Figure 4.4. A nominal return of over 10% has been converted to 7% on an RPI basis by applying an RPI assumption of 3%

29. In respect of the cost of debt for Heathrow, PwC's estimate is 1.2%. This is 0.4% lower than the cost of debt estimated by Ofwat for Water Companies, even though there is clear evidence that Heathrow debt is higher cost than water debt. In addition, Moody's have stated that Ofwat's allowance is below the cost of debt for all but three water companies<sup>7</sup>. As such PwC's estimate clearly lacks credibility. This reflects the overall poor quality of PwC's work. We are concerned that the CAA do not appear to be undertaking simple high level cross checks to make sure the work undertaken on their behalf is robust.
30. In our response we focus on the following three areas:
- The total market return allowed for NERL by the CAA;
  - The asset beta for Heathrow (PwC and EE reports for the CAA); and
  - The cost of debt for Heathrow (PwC report)
31. In respect of TMR we set out that errors in approach and analysis have led to underestimates of both historical and forward-looking estimates of TMR. NERA show<sup>8</sup> that a robust approach would result in an estimate of the historical range for TMR of between 6.2% and 6.8%, and that forward looking evidence using dividend discount models would suggest an estimate towards the top end of this range.
32. In respect of the estimate of beta, NERA show that it is not correct to include estimates of beta for Fraport and AdP based on the Dax and CAC40 indices as neither are these airports members of these indices, nor do they represent an appropriate market portfolio for the typical marginal investor in the airports<sup>9</sup>. In addition, NERA show that there are theoretical and calculational errors in the approach by PwC and EE to debt beta that result in them overestimating this parameter<sup>10</sup>.
33. In respect of cost of debt for Heathrow, we show that PwC has significantly underestimated the cost of debt both as a result of its averaging approach and because of its assumptions about the cost at which Heathrow can raise debt relative to the iBoxx indices used for the averaging. We show that averaging the iBoxx over a longer period is consistent with good treasury practice, and results in a more appropriate estimate for the cost of embedded debt. NERA also set out robust evidence showing the cost of debt to Heathrow relative to the average of the iBoxx indices<sup>11</sup>.

### Total Market Return

34. The CAA estimate of the TMR in the NERL decision is 5.4% based on its view of the evidence from the historic levels of market returns in the UK and evidence of market expectations of future returns.
35. We show below that the evidence the CAA has relied on in making this judgement is erroneous and flawed. In particular:
- The assessment of the historic range is incorrect firstly because it does not have an appropriate adjustment of returns for historic inflation. Secondly, the adjustment for long holding periods is not consistent with finance theory, nor market evidence. Thirdly, the approach to holding period is not consistent with the use of a regulatory WACC which

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<sup>7</sup> Moody's, UK Water Sector: Ofwat signals challenging price review, July 2017

<sup>8</sup> NERA, Cost of Equity for HAL in H7, April 2019, Section 4

<sup>9</sup> NERA, Cost of Equity for HAL in H7, April 2019, Section 2

<sup>10</sup> NERA, Cost of Equity for HAL in H7, April 2019, Section 3

<sup>11</sup> NERA, Cost of Debt for HAL in H7, April 2019, Section 2

is to set a series of annual returns which means that the arithmetic average returns should be the basis for setting a regulatory WACC;

- The assessment of the forward-looking range is flawed as it is based on evidence from DDM models that do not take account of market analysts' estimates of dividends in the short run, and are based on UK only GDP growth in the long run; and
- In respect of forward-looking estimates of returns we are surprised that the CAA has dismissed the Bank of England estimates of TMR as this is the UK Government's best view of this parameter. The Bank's approach is methodologically robust, and its view is that it is a reasonable estimate.

### **General Approach to TMR**

36. The CAA's approach to market parameters for equity returns is to estimate the TMR and risk-free rate separately and infer the enterprise risk premium as the difference of these.
37. The CAA notes that TMR has been subject to a wide-ranging debate during 2018, and that new information has been published. The CAA presents some of this evidence in its paper. However, the CAA appears to fail to recognise that the extent of new information is in practice very narrow, deriving only from three economics consultants (PwC, Europe Economics and CEPA) acting multiple times for different UK regulators. We consider that this has led to regulatory groupthink where different regulators use the same consultants and then falsely take comfort that their results are similar.

### **Historical Estimate of TMR**

38. In the NERL paper, the CAA sets out its view that historical estimates of the TMR line in a range of 5-6% in RPI deflated terms<sup>12</sup>, based on work undertaken on its behalf by PwC and the UKRN cost of equity report. In addition, the CAA has taken comfort from a range of estimates from PwC, CEPA and Europe Economics undertaken for UK regulators since November 2017<sup>13</sup>. However, it has ignored recent decisions by the CMA for NIE and Bristol Water that used a point estimate of 6.5%, and robust evidence from NERA that show the bottom of the range is over 6%.
39. As the CAA note, most of the different sources draw on the DMS series of nominal returns, but use different approaches to treating inflation, and adjusting for the balance between arithmetic and geometric averages.

### **Treatment of Inflation**

40. The nominal returns identified by DMS need to be adjusted by an appropriate inflation estimate to obtain a real estimate of returns. Different approaches are possible for different historic periods depending upon the availability of different inflation approaches over time.
41. A key issue in selecting an approach is that:
- The index chosen should be robustly estimated and appropriate for the purpose;
  - Appropriate account needs to be made of the likely difference between this index and the future path of RPI; and
  - A clear approach needs to be made to the discontinuity in RPI pre and post 2010.

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<sup>12</sup> CAP 1758A, Para D33

<sup>13</sup> CAP 1758A, Figure D3

42. The UKRN report is not consistent in respect to the first two of these issues. In effect it takes a series of historical data for CPI and assumes that the relationship between these and future RPI is always 1% with no supporting evidence.
43. As NERA showed in their response to the UKRN report<sup>14</sup>, and in the update provided with this submission, there are a number of severe shortcomings with the approach taken by UKRN and PWC meaning that they cannot be regarded as robust. In particular:
- The use of the ONS CPI backcast between 1950 and 1988 cannot be supported. Firstly, the series is not robust and the ONS themselves state caution should be exercised when using them. The RPI series available at the same time was a contemporary national statistic, and therefore should be regarded as being far more robust. Secondly, it is not clear that the relationship between the ONS CPI backcast for CPI and future RPI will be the same as the current relationship between CPI and RPI. As a result, it is not clear what adjustment should be applied to the RPI-CPI wedge for this data and there is no way of robustly deriving such an estimate;
  - For the period 1915 to 1949 the CPI and RPI data in the BoE dataset is identical. PWC and UKRN have treated this data as though it is CPI and will have an identical wedge to RPI as the current CPI-RPI wedge. There is no evidence to support this view on the wedge for this period. Moreover, NERA show that this index is closer in nature to RPI than CPI as it was intended to replicate the approach to RPI calculations after 1947, and includes expenditure by UK citizens abroad.<sup>15</sup> Given this, it is more appropriate to treat it as an RPI estimate from a forward-looking perspective than a CPI estimate.
44. NERA show<sup>16</sup> that the CAA fail to address the fundamental point that the BOE “CPI” data does not represent a historical series of CPI, but instead is a hybrid. By treating it as a CPI series, the CAA’s estimate of historical returns is underestimated.
45. In its approach, NERA have adopted a robust manner for treating the historical RPI series by taking account of the historical CPI-RPI wedge and future CPI-RPI wedge appropriately<sup>17</sup>. In this they use the historical RPI to deflate returns adjusted by the historical wedge for CPI, and then estimate the future RPI return from this historical series by using the future wedge for CPI.
46. This approach by NERA is much more robust than that taken by UKRN in that:
- It uses the most robust historical series for inflation;
  - It takes account of the range of historical differences in CPI and RPI; and
  - Addresses the CAA concern around the structural change in RPI in 2010 by using the future RPI-CPI wedge to obtain a forward looking estimate.
47. Using this approach NERA calculate a range for RPI adjusted TMR of 6.2% to 6.8%<sup>18</sup>.

### Appropriate Average

48. The average arithmetic return obtained from historical data results in a higher estimate of TMR than the geometric estimate that would result from holding stocks for longer periods. As a result, there is a debate about the appropriate approach to determining the market TMR.

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<sup>14</sup> NERA, Review of UKRN recommendations on the Real TMR, June 2018

<sup>15</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 4.3

<sup>16</sup> NERA, Cost of Equity for HAL in H7, April 2019, Section 4.3.1

<sup>17</sup> NERA, Cost of Equity for HAL in H7, April 2019, Section 4.3.1

<sup>18</sup> NERA, Cost of Equity for HAL in H7, April 2019, Table 4.2

49. The UKRN report included a downward adjustment of 100 bps from the arithmetic mean to adjust for alleged predictability at long horizons. NERA show<sup>19</sup> that this adjustment is excessive as:
- There is no evidence that there is predictability of returns at longer horizons, and the most recent academic evidence does not support this;
  - The UKRN does not specifically calculate the 100 bps reduction, and ignores more established methods developed by Blume or JKM that deal with this adjustment in a robust statistical manner;
  - In any case, market evidence shows that typical investor holding periods are less than five years. NERA present evidence showing that retail investors typically hold shares for 3 years and pension investors typically have an average holding period of 4.7 years<sup>20</sup>.
50. NERA argue that the most appropriate approach in this matter is to use the established methods developed by Blume and JKM for estimating unbiased estimates of the TMR for long investment horizons that also consider serial dependence. They show that such an approach is consistent with CMA practice and results in a much smaller adjustment than that applied by UKRN<sup>21</sup>.
51. We note that the CAA does not explicitly address the appropriate process for adjusting for investment horizon in its RP3 proposals. We are concerned not only by this gap in the CAA's analysis, but also because they have not justified why they have departed from the best practice approach adopted by the CMA on this issue in the Bristol Water and NIE and previous appeals.
52. One aspect often lost in the discussion of the appropriate use of geometric or average returns in estimating TMR is the use to which the estimate is being put. In the case of setting the WACC for a regulated company, the estimate is being used to set a series of annual returns. Given this use, it is rational that the arithmetic average is the appropriate value to use. Moreover, given that actual returns will vary from year to year, the outturn geometric return achieved by the regulated company will be lower than the arithmetic average actually applied<sup>22</sup>. For a company with an equity beta of 1, this means that over an extended period the achieved geometric return will be in line with the market geometric return **only if** the WACC to be applied each year is based on the arithmetic average. In contrast if a WACC based on a longer period is used, then the achieved geometric return of the company will be lower again than the longer period assumption. This would clearly be an inconsistent approach.

### Conclusion on Historical Estimate

53. NERA estimate a range for TMR from historical evidence of 6.2% to 6.8%<sup>23</sup>. This is based on:
- Using the historical RPI index and RPI-CPI wedge to calculate historical CPI deflated returns and convert them to a forward-looking RPI deflated return by applying a forward looking RPI-CPI wedge; and

<sup>19</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 4.3.2

<sup>20</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 4.3.3

<sup>21</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 4.3.2

<sup>22</sup> This is because variations in return around a mean always result in a lower geometric mean. This can be seen simply by considering two years where the returns are (r+d) and (r-d). The arithmetic return is r, but the geometric return is  $\sqrt{r^2 - d^2}$  which is always less than r.

<sup>23</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 4.3

- Applying established methods such as Blume and JKM to estimate returns for long investment horizons/holding periods in line with the CMA approach.

54. In contrast, the UKRN and PWC historical estimates of market returns are not robust as they are:

- inconsistent in their treatment of historical inflation and historic and future wedge between RPI and CPI;
- do not adjust correctly for serial correlation; and
- use an approach that is not correct for the use of determining a WACC for setting a series of annual returns for a regulated company.

### Forward-Looking Estimate of returns

55. Dividend discount models can be used to produce a forward-looking estimate of the total market return to use as a cross check against historically derived estimates.

56. In the NERL paper, the CAA sets out its view that forward looking estimates of TMR lie in a range of 5-6% in RPI deflated terms, based on work it commissioned by PWC and by reference to a range of published sources since November 2017.<sup>24</sup>

57. In coming to this view, the CAA has relied heavily on a range of estimates from a narrow set of economics consultants (PwC, Europe Economics and CEPA) that have been producing estimates for UK regulators. However, it has ignored estimates for ERP/TMR published by the Bank of England and Bloomberg that are widely used by market participants. NERA show that these sources indicate a forward looking TMR in the range 7.2% to 9.7%<sup>25</sup>. A comparison of the rates produced by these estimates is set out in Table 1 below.

Table 1 - Forward looking estimates of TMR

Source	Low	High
CAA	5.0%	6.0%
PwC for CAA	5.1%	5.6%
Bank of England	7.2%	8.1%
Bloomberg	8.0%	9.7%

Source: CAA/NERA

58. Table 1 shows that the broader market estimates of TMR estimated by the Bank of England and Bloomberg are at least 2% higher than the CAA's range. The Bank of England have stated that they regard their series produces accurate ERP estimates<sup>26</sup>, and therefore it is surprising that the CAA have ignored this evidence, especially as it is the official UK Government view of this parameter. In addition, the higher Bloomberg estimates show that the Bank of England estimate is conservative compared to other market participants.

59. This difference arises because each of the dividend discount approaches used by PwC, CEPA, and Europe Economics for Regulators suffers from key errors in approach that result in their estimates producing an estimate of forward returns that is not consistent with market reality. The key issues are:

<sup>24</sup> CAP 1758A, Para D38 and Figure D.4

<sup>25</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 4.4.3

<sup>26</sup> Bank of England (2017), Quarterly Bulletin 2017 Q2 – An improved model for understanding equity prices, p93

- They use GDP growth estimates in the short term rather than analysts' expectations of dividends. A key aspect of forward looking approaches is that they should capture market expectations. There is no evidence that short run GDP growth rates are related to market expectations. However, such expectations are captured by analyst forecasts, and therefore their estimates are the most appropriate to use in estimating dividends in the short term;
- The GDP growth used for estimating longer term dividend growth is that of the UK only. Over 70% of UK listed earnings come from overseas. Investors will therefore consider that global growth rates are relevant for dividend growth in the UK. Consequently, an estimate of the expected dividend growth rate of the UK market must take account of global growth as well as UK growth.

60. PwC argue that it is appropriate to use only UK GDP growth as they are producing estimates for UK companies. Whilst using UK GDP growth might be appropriate in the event of undertaking a DGM calculation for a specific single UK company with little international exposure, it is not correct to use it for estimating the dividend growth of the UK market overall, which does have significant international exposure. It is irrational to assume that investors in the UK stock market will not take account of potential global growth in their return expectations. Similarly, it is not rational to assume that investors in Heathrow will consider that it is not affected by global growth as well as UK growth.

61. The Bank of England approach avoids making these errors and therefore produces more robust forward estimates of expected market returns.

62. In summary, there is robust published forward-looking evidence widely used by the market that suggests an appropriate range for a forward-looking estimate of the TMR is 7.2% to 9.7%. In its proposals the CAA has not taken account of this evidence, but instead has taken account only of estimates from a narrow range of economic consultants acting on behalf of regulators rather than the market. We are especially concerned that the CAA, as a branch of the UK Government, has not taken account of the Bank of England's estimates that are the Government's best estimate.

### **Overall Position on TMR**

63. NERA provides evidence that the appropriate range of historical evidence supports an RPI based TMR of 6.2% to 6.8%. Forward looking estimates from the Bank of England support an estimate towards the top end of this range. We note that the CMA relied on the BoE estimates in its 2014 NIE and 2015 Bristol Water determinations.

64. The range identified by NERA is significantly higher than the range identified by the CAA of 5 to 6.25%. We consider that the CAA has drawn the wrong conclusions as a result of relying on a narrow range of evidence from advisors with limited market experience, and ignoring evidence, such as that from the Bank of England, which paints a contrary view. This current regulatory consensus around low returns has arisen from a very small range of flawed analysis that has been used to reinforce itself. We consider that this has led to regulatory groupthink.

### **Asset Beta**

65. In its February 2019 report PwC set out a range for Heathrow asset beta of 0.42 to 0.52. In their December 2018 report for CAA EE present estimates of asset beta of 0.55 for AdP and 0.48 for Fraport based on the average of estimates determined against local indexes and a Europe wide index.

66. PwC's update on asset beta is inconsistent in that they have changed their estimate of debt beta, but not changed their corresponding estimate of the associated asset beta. This is fundamentally inconsistent with finance theory and practice. In addition, there appears to be major flaws in their approach as they obtain different estimates to those produced by NERA and Europe Economics (EE).
67. EE and NERA estimate similar values for asset beta over the same index and period. However, we consider that EE are incorrect to use estimates based on the DAX and CAC40, in particular as the airports are not members of these indices and therefore these indices do not represent the diversified portfolio of the owners of the airports. The use of asset beta's estimated from these local market indexes results in EE underestimating the appropriate range of asset beta for Heathrow. NERA show that the beta for these companies should be determined by reference to the Stoxx Europe 600 index that includes both stocks<sup>27</sup>.
68. In addition, NERA show that EE's estimate of debt beta includes calculational and theoretical errors that has led them to over-estimate the debt beta of Heathrow<sup>28</sup>.
69. In this Section we:
- provide evidence on debt beta that sets out the error in Europe Economics analysis, and shows that an estimate of 0.05 continues to be the most appropriate estimate; and
  - provide evidence showing it is not appropriate to use the CAC40 and DAX for estimating the asset beta's of Fraport and AdP.

### **Evidence on Debt Beta**

70. In their initial work, PwC have used a debt beta of 0.05. Based on their own econometrical estimates and the review of recent regulatory precedent, PwC have increased their estimate to 0.1 in their February 19 Report.
71. NERA note that, contrarily to equity beta, empirical estimates of debt beta are not straightforward and that they greatly vary based on the chosen model specifications and methodology. Empirical analyses produced a wide range of estimates, with many pointing towards a debt beta close to 0. Professor Ania Zalewska in her paper on debt beta commissioned by NERL<sup>29</sup>, provides evidence that the debt beta from the NATS-bond and Heathrow bonds is significantly smaller than 0.1 and not statistically different from zero. Similar conclusions were provided by Schaefer<sup>30</sup> and Myers<sup>31</sup> in their analysis commissioned during the Q5 review.
72. NERA also note that all the regulatory decisions from 2010 to 2018 have presented a debt beta ranging from 0 to 0.1 with the only exception being Ofgem.
73. European Economics used a theoretical approach to estimate debt beta which consists in decomposing the observed cost of debt into smaller components and back out an estimate of

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<sup>27</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 2

<sup>28</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 3

<sup>29</sup> Zalewska, A. (April 2019), Estimation of the debt beta of the bond issued by Nats (En-Route) plc.

<sup>30</sup> Schaefer, S. (December 2007), BAA Quinquennial Review: The Cost of Capital for Gatwick and Heathrow, pp.13-15.

<sup>31</sup> Myers, S. (January 2008), CAA price control proposals Heathrow and Gatwick Airports, Appendix B.

the premium for systemic risk. Using this “indirect method”, EE have calculated a debt beta of 0.24.

74. NERA show that EE have made significant mistakes in their methodology<sup>32</sup>. Firstly, EE assumes an incorrect ERP estimate in their debt beta formula by taking the mid-point of PwC’s TMR range rather than ERP range. Secondly, NERA show that EE’s approach is theoretically incorrect as it ignores the impact of liquidity premia. By omitting one of the component of debt-premium, EE overstates the systematic component of the debt premium i.e. debt beta. The CMA have previously adopted an “indirect method” of estimating debt beta which considered liquidity premia<sup>33</sup>. Finally, NERA raise concerns around a number of assumptions used to decompose debt spread, including debt premium, ERP and default premium. By using CMA’s formula and correcting for the issues identified above, NERA have estimated a debt beta range of 0.05 to 0.1.

75. In summary NERA show:

- Direct recent estimates of the debt beta of Heathrow from market data is that the debt beta is significantly less than 0.1, and not significantly different from zero;
- Historical analysis of Heathrow debt suggests debt beta for Heathrow is less than 0.05; and
- A theoretical approach as used by the CMA that takes into account illiquidity results in an estimate of debt beta of between 0.05 and 0.1.

76. NERA conclude that a debt beta of 0.05 remains appropriate<sup>34</sup>. NERA’s conclusion is consistent with recent proposals by Ofwat and Ofcom, relevant empirical analysis, as well as recent CMA decisions.

### Evidence on Airport Asset Beta

77. Table 2 below sets out the beta estimates by PwC, Europe Economics and NERA for Fraport and AdP based on a European Index<sup>35</sup>. Note that for this estimate NERA used the same time-period as Europe Economics.

Table 2 - Estimates of 2-year asset betas

Comparator Airport	Estimator		
	PwC	Europe Economics	NERA
AdP	0.51	0.56	0.56
Fraport	0.37	0.52	0.53

Source: NERA

78. Table 2 shows that NERA and EE produce similar estimates for asset beta over the same time period. PwC’s estimate is significantly lower, reflecting shortfalls in the robustness and accuracy of PwC’s approach more widely.

<sup>32</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 3 and Appendix A

<sup>33</sup> Competition Commission (28 September 2007), BAA Ltd, A report on the economic regulation of the London airport companies (Heathrow Airport Ltd and Gatwick Airport Ltd), Appendix F, p.F-24.

<sup>34</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 3

<sup>35</sup> NERA, Cost of Equity for HAL at H7, Table 2.1

79. The estimate of beta set out above for EE and NERA are based on a cut-off date of 07/08/18. NERA show that a more up-to-date estimate (March 2019) shows 2-year asset betas for AdP and Fraport are 0.60 and 0.59 respectively<sup>36</sup>.
80. However, EE base their range for asset beta for AdP and Fraport on the average of the betas obtained by reference to local indices (CAC40 for France and DAX for Germany) and the betas obtained by reference to a Europe wide index (the Stoxx Europe 600). NERA show that inclusion of estimates from the local indices is not appropriate<sup>37</sup>:
- AdP and Fraport are not constituents of the local indices used, and therefore it is not appropriate to use these indices to calculate asset betas; and
  - The local indices are not representative of the investment portfolios of the marginal investors in AdP or Fraport, and therefore it is not appropriate to use them to estimate beta.
81. We note that excluding the inclusion of asset betas based on the local index, EE and NERA produce similar estimates for asset beta. NERA conclude<sup>38</sup> that the appropriate range for the asset beta of Heathrow is 0.55 to 0.6 (based on a debt beta of 0.05).

## Cost of Debt

82. PwC estimate an embedded cost of debt for Heathrow of 1.2%. This is 0.4% lower than the embedded cost of debt estimated by Ofwat for Water Companies. We consider that this is not a credible estimate:
- It is well below Heathrow's actual embedded cost of debt;
  - There is clear evidence that the spread of Heathrow debt is wider than that of water companies, and therefore the embedded debt cost would be expected to be higher than that of water companies, not lower; and
  - Ofwat's estimate is itself below the cost of debt for all but three water companies<sup>39</sup>.
83. There are three key reasons why PwC have significantly underestimated the cost of debt for Heathrow:
- The averaging period and process used by PwC does not reflect reasonable or actual treasury practice in terms of debt tenors and maturities;
  - PwC do not take account of the higher cost of issuance for Heathrow compared to the iBoxx index; and
  - PwC do not take account of the full costs of issuance or maintaining a liquidity platform.
84. Each of these is addressed in turn below.

## Averaging Period for Embedded Debt

85. In determining an embedded cost of debt for a regulated company, there are essentially two approaches that can be used:
- Take account of actual embedded debt costs; or
  - Use a trailing average of an appropriate benchmark with appropriate weightings over a specific period. This can be done by either simply averaging the index over a

<sup>36</sup> NERA, Cost of Equity for HAL at H7, April 2019, Table 2.2

<sup>37</sup> NERA, Cost of Equity for HAL at H7, April 2019, Section 2

<sup>38</sup> NERA, Cost of Equity for HAL at H7, April, 2019, Section 2.4

<sup>39</sup> Moody's, UK Water Sector: Ofwat signals challenging price review, July 2017

particular period; or using a range of weighted averages over different periods to reflect a more realistic debt structure.

86. PwC has adopted the latter of these approaches in its simplest form, but it has not done this in a robust manner. Specifically:
- It has used only a fifteen-year averaging period; and
  - Incorrectly rolled this forward to account for debt replaced during the period.
87. Heathrow considers that these approaches are both incorrect:
- The fifteen-year average does not reflect the typical tenor at issue for Heathrow, nor the typical life of the assets. A more robust approach would be to use a weighted range of trailing averages for different tenors. Failing this, using a 20-year trailing average would be a reasonable approach;
  - The adjustment to account for debt retired during the process is not consistent with the reality of Heathrow's debt structure that means a 20-year trailing average is an approximation of the starting point, but does not work if rolled forward. In addition, the approach is not consistent with good regulatory practice as determined by the CMA.

#### *Appropriate Averaging Period*

88. It is important that a benchmark based approach should reflect the treasury practice that would be expected from a well-run company. This means, in particular, that the approach should reflect the range of debt tenors appropriate for the business, which in turn will reflect the typical life of the assets it owns.
89. In practice Heathrow issues debt over a range of tenors from 10 to 30 years, with an average tenor at issue of around 20 years. This matches the range of typical lives of its assets, and allows management of interest rate, refinancing and concentration risk. We consider that Treasury processes at Heathrow follow good practice, and that the CAA has no evidence that the approach taken by Heathrow is inappropriate.
90. Given the range of tenors used by Heathrow, the most robust approach to take in estimating a notional cost of embedded debt would be to use different weights for a 30-year trailing average; a 20-year trailing average; a 15-year trailing average and a 10-year trailing average. Such a notional approach would distribute the weights appropriately so that the average tenor at issue was around 20 years in line with Heathrow's practice. Unfortunately, such an approach is not possible as the iBoxx index does not have sufficient history for a thirty-year average to be calculated.
91. Given that such a robust approach cannot be used, it may be appropriate to use a simpler approach. Considering a likely mix of issuance at the different tenors for a notional company, it is likely that at around a quarter of the debt will be older than 15 years, and the average age of the debt would be just over 10 years<sup>40</sup>. Given this, a 20-year period is a reasonable approximate approach for averaging the embedded debt.

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<sup>40</sup> For example, a potential structure is debt issuance at 65% 30-years, 15% 20-years, 10% 15-years, and 10% 10-years, with the amounts of debt increasing by 6% per annum in nominal terms. This results in steady state a weighted time to maturity of 16.1 years (slightly less than Heathrow) and an average age of debt extant of 10.4 years.

92. In addition, using 20-years would be consistent with the other assumptions made by PwC in respect of their assumptions about the amount of new debt in a 2R scenario. At present, the two assumptions by PwC are inconsistent.
93. NERA show that the 20-year average of the iBoxx A/BBB at the end of 2018 is 2.4% (based on breakeven inflation)<sup>41</sup>.

*Adjustment for Debt retired during the period*

94. PwC make an adjustment for debt retired during the period by calculating the average of the 15-year and 10-year trailing iBoxx averages. This approach would be appropriate if Heathrow were raising only 15-year debt, however it is not correct to take this approach for a company that issues debt at a range of tenors. This is because:
- Some older debt (e.g. of 30-year tenor) will remain in place during the period – the approach adopted by PwC ignores this debt;
  - In addition, much of the debt of shorter tenor will be retired by the company during the period (e.g. 50% of 10-year debt, 33% of 15-year debt). This will reduce the relative weighting of the younger (and cheaper) debt during the period. The approach taken by PwC does not reflect this aspect of a real company debt portfolio; and
  - The approach does not reflect that the weight of embedded debt later in the period should be lower because of the proportion of the debt portfolio that will be new debt (and that is taken into account as a result of the inclusion of new debt in the calculation of debt costs).
95. NERA show that the approach adopted by PwC results in a significant proportion of Heathrow's older debt being excluded from the estimate of the embedded debt cost, and that by 2026, the debt not captured is around 40% of the outstanding debt at the start of the period<sup>42</sup>.
96. We note above that a reasonable mix of issuance at the different tenors for a notional company would result in an average tenor at issue of 20 years and an average age of the debt of around 10 years, with around a quarter of the debt will be older than 15 years. If such a portfolio is rolled forward for 5-years with no new additions, but taking account of the debt that is retired, then the average age of the debt outstanding will fall by only a year to around 9 years<sup>43</sup>. Note that this small change in average age of debt is not particularly sensitive to the specific mix of debt at different tenors, instead it is a feature of a debt portfolio with a range of different tenors and that will have debt of all ages retiring in any one period.
97. NERA also conclude that it is not appropriate to roll forward the starting point of the calculation of embedded debt costs, because the outstanding debt is a portfolio of different ages and maturities, and therefore simply rolling forward does not reflect the underlying reality of the debt<sup>44</sup>.
98. This shows that in practice it is correct and appropriate in estimating the cost of embedded to make no adjustments for debt retirement during the period, as debts of all ages will be retired not just the oldest, and the average age of the debt at the end of the five years will be similar

<sup>41</sup> NERA, Cost of debt for HAL in H7, April 2019, Table 3.3

<sup>42</sup> NERA, Cost of debt for HAL in H7, April 2019, Figure 3.1

<sup>43</sup> In the example above, the average age of the debt after 5-years with no new additions would be 9.2 years.

<sup>44</sup> NERA, Cost of debt for HAL in H7, April 2019, p16

to the average age at the start of the period. Note that the weight of embedded debt in the cost of debt calculation will decline during the period as a result of new debt being brought in as is taken account of in the overall cost of debt calculation. Clearly, if the CAA wanted to take account of the impact of debt retirements during the period, then a potential approach, based on the notional split used above, would be to use a 21-year trailing average for the opening position, and an 18-year trailing average for the closing position. However, this would give a similar answer to just using a simple 20-year average, and a simple approach would be more transparent and require less detailed assumptions.

99. Such a simplified approach is also consistent with regulatory precedence by the CMA. In the Bristol Water appeal, Bristol proposed an approach towards estimating the cost of debt that took specific account of debt retiring during the period. The CMA rejected this approach in favour of a simpler approach where the cost of embedded debt was estimated for the start of the period and then not adjusted<sup>45</sup>.
100. Given this CMA regulatory precedence, we consider that the most appropriate starting point for estimating Heathrow's embedded cost of debt is to use a 20-year trailing iBoxx index average. This results in a starting point for Heathrow's current embedded of 2.4%.<sup>46</sup> To this needs to be added adjustments for the cost of Heathrow issuance relative to the index, an allowance for the higher cost of the proportion of debt that is index-linked, and an allowance for issuance and liquidity costs.

#### **Cost of Heathrow Debt relative to Iboxx indices**

101. In their report, PwC conclude that Heathrow can issue debt at a cost equal to the average of the iBoxx 10+ A/BBB indices. This appears to be based on inspection of a graph, with no numerical analysis supplied.
102. We asked NERA to assess the market evidence on the cost of raising debt for Heathrow compared to the average yield of the iBoxx 10+ A/BBB indices. This analysis is set out in the accompanying report<sup>47</sup>.
103. NERA considered a wide range of market evidence: they compared the spread on yields of traded bonds for Heathrow compared to energy and water bonds; they compared Heathrow's yield at issue directly with the iBoxx index; they compared water and energy bond yield at issued with the iBoxx index; and they compared Heathrow's yield at issue compared to the yield at issue of energy and water bonds.
104. NERA show that:
- The evidence on traded yield spreads for Heathrow's A rated bonds has a spread of 5-20 bps relative to comparable energy and water bonds;
  - That Heathrow's yield at issue spread relative to the iBoxx benchmark suggests a debt premium of 40 bps;

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<sup>45</sup> Specifically, Bristol Water proposed an approach that calculated the average cost of debt in each year based on the forecast cost and amounts of new debt in the year and the cost of embedded debt taking account of repayments during the period. Note in Bristol's case the estimated cost of embedded debt was expected to increase as lower cost shorter-term debt was being retired. See paragraphs 10.125 – 10.136 of the 2015 Bristol Water CMA determination.

<sup>46</sup> NERA, Cost of Debt for HAL in H7, April 2019, Table 3.3

<sup>47</sup> NERA, The cost of debt for HAL in H7, April 2019, Section 2

- Comparative analysis shows no evidence of a debt premium for energy or water bonds relative to iBoxx benchmark indices, whereas there is evidence that Heathrow's yield at issue is around 30 bps higher than energy and water bonds at issue.
105. The key evidence above relates to the yield at issue as this is the actual cost at which Heathrow issues debt. From this evidence, NERA concludes that the latest market evidence supports a premium of 10-20 bps for Heathrow's debt costs relative to the iBoxx benchmark indices<sup>48</sup>.
106. Overall, we consider that a reasonable estimate of the cost of issuance of new debt for HAL is 10-20 bp above the iBoxx A/BBB 15+ average, with the Heathrow specific evidence suggesting that an estimate towards the top of the range is appropriate.
107. In previous determinations, the CAA has assumed that 30% of Heathrow debt is index-linked when undertaking financeability assessments. This assumption resulted in an improved financeability position, and was critical in giving the CAA assurance their determinations were financeable. In practice, the proportion of debt covered by index-linked swaps is higher at around two-thirds. The spread on index-linked debt is around 30 bps higher than the fixed debt used to construct the iBoxx index. This results in an additional premium to the cost of debt of 9 bps (30% \* 30 bps). Given its previous assumption, it would be inconsistent for the CAA to not include an adjustment for embedded debt to reflect the higher cost of the index-linked debt it previously assumed.
108. Overall, this evidence supports an appropriate adjustment for Heathrow debt relative to the iBoxx index average of 20-30 bps. Using the mid-point of this range (0.25%) together with the 20-year trailing average of the iBoxx indices (2.4%), results in an estimate for the current embedded debt costs for Heathrow of 2.65%.

### Issuance and Liquidity Costs

109. In their December 2017 report PwC stated that Heathrow issuance costs would be around 0.1%. In response we set out that PwC had not taken account of liquidity costs, and we provided evidence that these would amount to around 0.1% in the 2R scenario. In their follow up report in February 2019, PwC have concluded, without providing any additional evidence, that the total of issuance and liquidity costs would be 0.1%. We do not consider that such an approach by PwC is credible.
110. Issuance costs include legal fees, fees to banks, and other costs associated with raising new debt. Typically, these costs amount to between 1% and 2% of the debt issued at the time of issuance. Amortised over the life of the debt (typically between 10 and 30 years) the cost of these initial fees amounts to between 0.07% and 0.1% on top of the direct interest cost for the loan.
111. However, companies incur additional costs from time to time in relation to their debt portfolio that are treated as interest costs from an accounting perspective. Examples of such costs include needing to secure agreement to changes in scheme documentation in response to changes in legal or accounting standards. As a result, the overall cost associated with issuing debt over the whole life of the loan tends to be greater than the original issuance cost

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<sup>48</sup> NERA, The cost of debt for HAL in H7, April 2019, p12

alone, and this difference tends to be higher for longer dated debt. As such, we consider that 0.1% is a reasonable allowance for issuance costs over a portfolio of debts of different tenors.

112. Heathrow needs to maintain significant liquidity facilities to ensure financial resilience, retain an appropriate credit rating, and meet the covenants of its debts. For a notional balance sheet, the cost of maintaining a £1.5bn facility (a minimum 2R scenario) is estimated to be 0.1%<sup>49</sup>. We note that liquidity facilities will need to be significantly greater in an expansion scenario.

113. Overall, we consider that an appropriate allowance for issuance and liquidity costs is around 0.2%.

114. The CMA allowed Bristol Water 10 bps for issuance costs and 10-20 bps for the cost of holding cash balances and maintaining liquidity. In addition, it allowed Northern Ireland Electricity Networks (NIE) 20 bps for the combined cost of issuance and maintaining liquidity. Given this, 20 bps for the combined cost of issuance and liquidity for Heathrow is consistent with regulatory precedent.

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<sup>49</sup> Based on: arrangement fees of 1% of the facility amortised over 4 years; undrawn facility costs of 0.35%; £15bn RAB at 60% gearing giving £9bn debt.

## Draft Performance Plan for NERL for the RP3 (CAP1758)

### Context

115. Heathrow provides commentary on the CAA's initial proposals for NERL for the RP3 period. It aims to outline Heathrow's views on those areas where there is a clear read across for Heathrow's H7 price control or expansion planning and operation. Heathrow is not an expert on NERL's business nor it is close enough to the ins and outs of NERL's business plan, therefore we don't provide any views on the efficiency or otherwise of NERL's business plan nor on the CAA's initial proposals.
116. RP3 is a defining period for NERL and the UK's aviation industry. Britain's airspace modernisation programme will, amongst other things, enable the operability of an expanded Heathrow. Without a successful modernisation programme, the consumer benefit delivered by capacity expansion is at risk. It is therefore vital for Heathrow (and the industry) that NERL is setup to be a strong and efficient provider in this period and the periods to come.
117. We are fully supportive of the airspace modernisation programme. The airspace modernisation programme is of vital importance for Heathrow since it provides a once in a generation opportunity to improve the way the airspace is used for the airport. It will benefit consumers by saving time and helping to avoid delays and cancellations; cutting aviation emissions per flight and saving fuel; reducing the noise impacts from aircraft overflying population centres, and further enhancing aviation safety.
118. Heathrow welcomes the CAA's acknowledgment that planning for growth over RP3 is an overriding priority for NERL and that RP3 will include significant change and uncertainty<sup>50</sup>. Through its regulatory decision making, the CAA needs to ensure that it strikes the right balance of incentives for NERL to continue delivering for its customers and investors and investing in the future. This includes ensuring that its decision on NERL is deliverable, and financeable, which would enable NERL to provide a safe, efficient and good quality service provision during RP3 itself and ensure appropriate investment as a foundation beyond RP3.
119. The CAA must show leadership on the airspace modernisation programme. The process to deliver airspace change is technical and complicated, especially where an airport is undertaking a number of airspace changes simultaneously. In addition, the voice of opposition is strong and, in some instances, has deliberately set out to communicate mis-information. The CAA's airspace modernisation strategy outlined the clear need for change and the types of programmes required to deliver it. We would therefore expect the CAA taking on more of a leadership role in championing the need for, and benefits of, modernisation and to encourage open and honest dialogue between interested stakeholders.

### Regulatory framework and approach to efficiency assessment

120. The CAA has adopted a RAB based, single till approach consistent to previous price control decisions like RP2 or Q6. This is consistent with Heathrow's view that the CAA should prioritise regulatory stability and consistency of decision making in the regulatory process. Equally the CAA appears to build in the price control proposals best practice from other industries like increased engagement with consumers and mechanisms to deal with uncertainty. In a period of significant change, as is the case for both NERL and Heathrow, regulatory stability is key to ensuring a financeable outcome.

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<sup>50</sup> Paragraph 8

121. In reviewing NERL's business plans, the CAA employed a bottom-up approach to assessing NERL's costs and revenues. Heathrow is concerned that such a detailed approach to reviewing forecasts for a period which is, at the CAA's admission, more uncertain than previous periods, could lead to spurious accuracy which is ultimately unhelpful. We would encourage the CAA to consider whether a higher-level process would be more appropriate.
122. The CAA also appears to have relied heavily on consultants to provide to support its decision making. Although we agree that there is benefit in garnering an independent and often specialist view to support decision making, we consider that care needs to be taken in treating their findings and a risk assessment undertaken to ensure that unrealistic challenges are not being set.
123. In setting out its efficiency proposals for NERL, it is notable that the CAA does not appear to have carried out an impact assessment. This is concerning as, without a full view of the potential impacts of its decision, the CAA could inadvertently take decisions which impact on NERL's service quality, its ability to invest in required future improvements or even its ability to provide a safe service. Assessing the impact of the CAA's proposals is of particular concern for current and future consumers in the case of airspace modernisation.
124. As discussed above, it is important that NERL is set up to deliver the required changes to UK airspace in the coming years. We therefore welcome the CAA's decision to accept the capital expenditure proposed by NERL to deliver the airspace modernisation programme. We are, however, concerned that the CAA does not appear to accept the proposed operating expenditure associated with airspace modernisation.
125. It is imperative that NERL has the capability to carry out airspace modernisation and operate airspace which can accommodate an expanded Heathrow. The CAA's decision not to allow operational headcount associated with training and development for operating the airspace changes arising from an expanded Heathrow could jeopardise the future operation of the airport and lead to unacceptable outcomes for consumers. This is an outcome that the CAA should aim to avoid. We request that the CAA carries out an assessment of the likely costs and benefits of this proposal for consumers. Absent this analysis it is not clear for us that the CAA is acting in the best interests of consumers in this instance.
126. In 2018, the ORR's Prior Role Review<sup>51</sup> following the national timetable issues highlighted that the ORR did not carry out an impact assessment assessing what efficiencies could realistically be achieved when demands on them were set to increase. Although Network Rail raised issues with the ORR's efficiency assessment, the ORR did not make any changes. It was noted that a different approach to better understanding Network Rail's approach to make proposed efficiencies, could have allowed ORR to understand whether proposed efficiencies were achievable and/or likely to have any adverse effects on Network Rail's capabilities.
127. This example provides good read across for NERL in its current position, facing a regulatory period which requires increased investment in new technologies. It is important the CAA carefully considers the impact of its decisions when making its determination.
128. We understand that NERL is requesting longer term regulatory certainty regarding the CAA's treatment of costs related to its pension scheme. We understand that this request for longer term certainty was supported by the pension scheme Trustees. Heathrow is not commenting on the specifics of this request or making comment on how pension costs should

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<sup>51</sup> [https://orr.gov.uk/\\_data/assets/pdf\\_file/0004/39046/orr-prior-role-review-september-2018.pdf](https://orr.gov.uk/_data/assets/pdf_file/0004/39046/orr-prior-role-review-september-2018.pdf)

be treated, however the notion of providing increased regulatory certainty in order to reduce costs for consumers over the long term is one which has significant read across for Heathrow's regulatory framework.

129. We agree with the CAA that any decision to provide longer term regulatory certainty should provide clear benefits for consumers and that these benefits should be clearly evidenced. In making a decision on consumer benefit, Heathrow considers that it is also important that the CAA takes account of the long-term benefits of providing certainty for investors, or in this case trustees, in order to ensure the most efficient outcomes for consumers.
130. While we understand that the CAA cannot bind its successors, it is important that the CAA takes account of all of its duties and obligations in the round and does not miss opportunities to provide long term certainty and increased efficiency for consumers.

### **Service quality and capital investment governance**

131. We note that the European framework contains provisions regarding service quality incentives. However, we also note that the decision on the structure of incentives ultimately sits with the CAA and the development of the UK performance plan.
132. For RP3, the CAA has proposed changes to the incentive framework, within the bounds of the European framework, which removes the previous symmetry between bonuses and rebates. We would be interested to receive more insight from the CAA into its rationale for introducing these changes and whether this is grounded in consumer insight.
133. The CAA's proposal for the governance arrangement of capital investment for NERL, appear to be heavily influenced by the governance arrangements currently in place at Heathrow, including increased consultation with users and independent review of NERL's capital programme. This implies that the CAA sees benefit in this type of framework.
134. The CAA need to consider this carefully in the context of introducing ex-ante incentives for the H8 price control. Such incentives will inevitably reduce the role of airlines in capital expenditure governance contrary to their direction for NERL. Given the direction the CAA is taking with NERL, it is therefore surprising to us that in the context of H7, against a similar backdrop of increased capital investment requirements, the CAA is investigating a move away from Heathrow's current framework, where engagement with users and independent oversight is at its most important