Economic regulation of capacity expansion at Heathrow: policy update and consultation (CAP 1610)

Heathrow's response

Date: March 2018

Prepared by: Heathrow Airport Limited

Status: Final

Heathrow
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1. Executive summary

1. Expanding Heathrow is a once in a generation opportunity. It will create new capacity in the UK market. That can lead to new destinations, consumer choices and business models. The Department for Transport (DfT) estimates that expanding Heathrow will generate £68 billion[1] in benefit for passengers through increased frequencies, lower fares and reduced delays. The CAA – and all involved in expansion – must focus on the opportunity for consumers, the aviation industry and the UK economy.

2. We agree with the CAA's stated principle that expansion must be equally affordable and financeable. Getting a viable balance between these is the key to success. It may be possible to do that through commercial arrangements. It is crucial that the regulatory framework do this in a simple and coherent way too. That must be the test for all regulatory proposals.

3. Affordability needs to be quantified by the CAA. The regulatory framework for H7 and H8 cannot be developed properly without this work.

    a. Affordability is fundamentally about the consumer. This is consistent with the CAA's primary duty. The CAA has been clear on this in principle *"… additional runway capacity in the south east of England will benefit air passengers and cargo owners. More aviation capacity is required to prevent future consumers experiencing higher airfares, reduced choice and lower service quality"*[3]. What the CAA has not done to date is quantify or define this benefit.

    b. Without a quantified view of consumer benefit from new capacity the CAA lacks a consumer yardstick to judge regulatory decisions. For example, there is no way to test whether a delay to the expansion programme - for example while regulatory innovation is developed - can be balanced against the delay in consumer benefit. Nor can the risks posed to investment from changes to the regulatory framework be tested against potential benefits.

    c. Affordability is not the same as a certain airport charge – although Heathrow agrees that competitive airport charges are important. The Secretary of State has been clear on his desire for airport charges to be as close as possible to 2016 levels through expansion. Airline views on airport charges are clear and we take them very seriously. We are working hard to meet those aspirations – taking £2.5 billion out of construction costs already for example. But consumer affordability is a different test.

4. Financeability needs to consider the nature of risks linked to expansion. Reducing these risks where possible, allocating them effectively and quantifying them accurately will ensure that consumers benefit from private investment at the lowest long-term cost. We note the recent statement provided by the CAA's Chief Executive Officer at the Transport Select Committee that "*This is probably the largest privately financed infrastructure project anywhere ever in the*

[1] NPV of economic benefit in NPV terms 2014p, 60 years – DfT, Updated Appraisal Report Airport Capacity in the South East, October 2017
[3] As set out by CAA in paragraph 8 (the CAP1610)

world. It is of that scale in terms of being genuinely privately funded and not being backed by Government guarantee"[4].

a. The CAA must acknowledge that Heathrow's risk profile will change significantly over the next 15 years. Expansion brings new construction, demand, financing, revenue and operational and other risks. Returns must be considered together with a systematic analysis of risks. These risks must also be addressed across a timeframe linked to the underlying change in the business. This means a risk framework that covers at least H7 and H8. We provide a first breakdown of risk developed for Heathrow by KPMG with this submission.

b. Risk will not be resolved with a business as usual approach. These risks are different from Heathrow in Q6. They differ from Heathrow building Terminal 2 and Terminal 5 because of new demand and market conditions. They also bear no resemblance to investments that NATS, let alone water utilities or energy companies face in coming years. The CAA needs to work through these issues carefully from first principles rather than make rule of thumb comparisons.

c. The PwC work on WACC is a flawed starting point. Firstly, the Total Market Return (TMR) analysis is based on a radical departure from established regulatory practice and economic theory with weak evidence to support it. It also suffers from basic errors of calculation. Secondly, in the absence of a framework for thinking about risk, it is not possible to attempt to estimate returns. Without a full definition of a framework it is not possible to assess risks associated with the business and how they are allocated. Therefore, the PwC report does not provide a meaningful insight on an H7 or H8 WACC.

d. For the avoidance of doubt, the returns described in the PwC report will not allow investment under today's framework. This is not consistent with the CAA's primary duty to consumers. Investment from both debt and equity must be considered in a practical rather than theoretical way in an international business context. This is analogous to airport charges and competitiveness being considered in the competitive aviation market context.

5. We call on the CAA to focus on reducing uncertainty and fostering commercial engagement. Some change to the regulatory framework is warranted for the next 10 or more years at Heathrow. Previous CAA work has already discussed some material changes such as debt indexation and changes to capital incentives. There should not be regulatory innovation for its own sake – in line with Better Regulation principles. The CAA would also help all parties by providing clarity on timetable and investments before H7 and DCO consent. These decisions need to be done proportionately in a common-sense way.

   a. We welcome the CAA acknowledging the long-term benefits for consumers of many elements of the established regulatory framework. Clarity on the stable elements such as single till regulation and price indexation progress investment and reduce the moving parts for everyone involved. It is unhelpful if they are constantly reopened or undermined with punitive open-ended conditions such as occurred with treatment of Category B costs.

[4] Transport Committee, Oral evidence: Airports National Policy Statement, February 2018, HC 548. Q634: http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/transport-committee/airports-national-policy-statement/oral/79002.pdf

b. Heathrow is interested in commercial alternatives to regulation. Arrangements between airlines and airport may replace or support elements of existing regulation. We believe it is difficult for all parties to seriously explore such arrangements until there is more certainty on the planning process, cost estimates and a single basic masterplan. These will only come in late 2018 or 2019.

c. The CAA can and should provide more certainty in the regulatory process. This will be done through balanced and systematic decision making on the most urgent elements of the regulatory framework. Heathrow is and will continue to benefit from working closely with airlines, the Consumer Challenge Board (CCB) and others to develop its plans. We are concerned over the potential for inconsistent and overly bureaucratic processes to be added on top of one another. We also believe that the CAA should:

    i. Make a final decision on the regulatory treatment of early Category C costs in April 2018. A decision must cover all the costs that fall under the definition of early Category C costs. Airlines and airport will both then have control and certainty on spend before planning consent.

    ii. Confirm a sensible timetable for setting the H7 price control in April 2018. A decision in September is too late for practical planning if an Initial Business Plan (IBP) is to be produced for December. Heathrow now believes the best outcome for consumers is extending Q6 to 2021 (Q6+3). An H7 based on Q6+2 leaves too little time to explore commercial arrangements with sufficient information for airlines and airport. Given delays to this point it also results in Heathrow business plans that practically cannot reflect important masterplan and cost information. It misaligns with the statutory process for expansion. The decision should also confirm the timetable to make a proportionate revenue calibration, most sensibly in early 2019, and the methodology for doing the calibration.

    iii. The CAA should carefully consider the timing of future publications. For example, Heathrow considers that the CAA erred in publishing the PwC report alongside CAP1610. It was too early since the regulatory framework for H7 is not properly developed. From a quality control perspective, PwC's report is simply not mature enough to be public. We are concerned that currently the CAA is proposing further fundamental work on the regulatory framework after Heathrow is supposed to produce business plans and without proper consultation on each stage. This risks confusion, complexity and poor outcomes for consumers.

6. Heathrow looks forward to engaging with the CAA on this response and the wider framework over the coming months. We welcome a process that includes frank, open and data based discussion as well as formal written responses. We think it important that the regulator seeks to avoid surprises for all parties to the process. This response is structured following the chapters of the CAA's consultation.

2. Core elements of the regulatory framework and affordability

The RAB, single till and alternative delivery models

7. Heathrow supports the CAA's view that we should retain a RAB based single-till regulatory framework. This will support delivering an affordable and financeable expansion programme.

8. Heathrow also supports the CAA's view on unitised depreciation. In principle, we agree that depreciation can usefully be flexed. A mechanical approach like unitised depreciation would impact on financeability and ultimately produce higher costs for passengers by breaking the link between the useful life of the asset and RAB amortisation.

9. Heathrow acknowledges that the CAA does not have the power to directly or indirectly force Heathrow into particular commercial arrangements. The CAA states it expects Heathrow to abide by its commitment to engage in good faith with airlines and third parties on options for the development of new capacity.

10. Heathrow reaffirms its commitment to engage with third parties and will engage openly on all meaningful and sufficiently developed proposals presented throughout development of an expanded airport.

11. We would like to highlight to the CAA that Heathrow has been working on expansion for the last 6 years. Over this period we have already engaged with many third parties, developed, tested, adopted or adapted to proposals and also discarded many options. Throughout this period, we have also openly engaged with all relevant stakeholders. In fact, for much of the period it has been the airport chasing others to engage with it. Heathrow is of course currently consulting on different masterplan and delivery options. It is simply untrue to characterise Heathrow as refusing to engage on alternative proposals or listen to other ideas. Many aspects of expansion and the future airport are not yet decided. They will continue to benefit hugely from airline and other engagement. However, Heathrow has built up a strong body of evaluation on many options, to which many third parties struggle to respond and thus ignore.

12. We will openly engage with sufficiently well-developed proposals. We will limit our engagement on proposals that do not address issues already resolved through the process to date – for example ignoring community concerns. This is vital to prevent delay, reduce distraction and contain costs. To that end, we would like the CAA to clarify what 'sufficiently developed' might mean and what engagement it would wish to see. At a minimum, some principles that we will follow in engaging on third party proposals are:

    a. The proposal is developed to a level of detail and clarity that allows it to be tested with the masterplan options already developed; and

    b. The proposal has not been previously discarded due to its basic feasibility or that it directly contradicts any of the core principles established by the Airports Commission or National Policy Statement (NPS)

    c. The proposal does not unduly put at risk a timely delivery of expansion

    d. Engaging in detail with the proposal does not require Heathrow, or others such as our customers, to unreasonably undermine our normal commercial incentives as would any other private developer

e. Engagement proceeds at least to the point where we can reasonably demonstrate that the proposal has value for airport development or alternatively, for some reason is impracticable or not in consumer or public interest.

13. In the IBP, Heathrow will set out the initial proposals for the H7 period and beyond. We will describe how we have formed these proposals. Subject to commercial confidentiality, Heathrow will provide detail on the engagement which has taken place with airlines and third parties regarding the development options for delivering new capacity in the IBP.

New licence conditions in the context of exploring commercial and competitive opportunities

14. The CAA discusses the potential for introducing a licence condition to require Heathrow to "*operate, maintain and develop the airport in an economical and efficient and timely manner so as to satisfy the reasonable requirements of users regarding the quality and capacity of the airport"*[6].

15. Heathrow opposes the introduction of such a licence condition. It does not align to Better Regulation principles. Nor does it provide any tangible benefits in the airport sector. Heathrow is already incentivised to operate, develop and maintain its business efficiently through the course of the CAA's price setting reviews.

    a. Better Regulation principles make clear that licence conditions should be proportionate and targeted at areas where action is needed. A vague general licence condition such as the one discussed, encompassing management of all areas of the airport, would not be a targeted intervention. It would serve only to increase the regulatory burden with no demonstrable benefit for consumers.

    b. In addition, general licence conditions in other sectors have shown to be problematic. For example, this is the case with Condition 1.1 of the Network Rail Network Licence. It has proven to be difficult to interpret for the company and the regulator. It has provided limited protection to its stakeholders. It is thus seemed to have wasted regulatory time and energy.

Affordability

16. Heathrow understands the importance of expanding the airport efficiently. We are convinced that only a solution that delivers value for money and is affordable to airlines and passengers, will make expansion a success. We are committed to developing an expansion programme that responds to the DfT's guidance on airport charges.

17. Affordable airport charges is a core objective for us. They are enshrined as a key criterion that we are using to develop the preferred masterplan.

18. Heathrow still refutes the CAA's implicit acceptance of the DfT's assumption that affordability is synonymous with charges close to current levels[7]. In taking this position, the CAA is not

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[6] Paragraph 1.20, page 21, CAP1610

[7] Transport Committee, Oral evidence: Airports National Policy Statement, February 2018, HC 548. Q634: http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/transport-committee/airports-national-policy-statement/oral/79002.pdf

[7] As set out by CAA in paragraph 12 (the CAP1610)

providing an independent consumer focused analysis. This is at odds with its primary duty and the views of its Consumer Panel. The panel has requested that the CAA come to an internal position on the meaning of affordability for consumers and the value that expanding Heathrow has for consumers[8]. It is right for the CAA to do so.

19. Heathrow urges the CAA to take meaningful action by developing robust analysis on the benefit of expansion to consumers, to fully discharge its primary duty.

20. Understanding and quantifying the concept of affordability would enable the CAA to:

    a. Define the context for consumers in which the H7 price control is taking place.

    b. Articulate the costs to consumers of a delay to expansion. This provides clear evidence as to why timely regulatory decisions are in the best interest of consumers; and

    c. Provide legitimacy to its decision-making by understanding both the costs and benefits that expansion will generate.

21. Affordability should focus on the overall costs borne by consumers. Therefore, any assessment of affordability needs to consider air fares from Heathrow in their entirety to truly understand the impact of:

    a. An increase of airport capacity on air fares and therefore on genuine passenger affordability. This would also provide an estimate of the value that expansion will generate for consumers.

    b. The relationship between excess demand (scarcity rent) and changes to airport charges. For example, explaining the impact of an increase/decrease in airport charges on fares and therefore on passenger affordability in the context of different levels of actual capacity.

22. Analysis developed by the DfT, Heathrow and Frontier Economics provides the following results regarding the economic benefits of expansion, the costs of delaying expansion and the value of scarcity rents:

    a. The DfT estimates that expanding Heathrow will generate £68bn[9] of benefit for passengers. These arise from increased frequencies, lower air fares and reduced delays. The DfT analysis demonstrates that a significant proportion of the scarcity rents generated by the current lack of capacity are captured by the airlines or others operating at Heathrow - not by the airport. This is an important consideration for the CAA's policy making decision and exemplifies how airlines' interest and consumers' interest are not always aligned.

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[8] CAA Consumer Panel Minutes 12-4pm Thursday 2 November 2017, https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Our_work/About_us/Files/CP%20Minutes%202017%2011%2002%20final.pdf, p.3

[9] NPV of economic benefit in NPV terms 2014p, 60 years – DfT, Updated Appraisal Report Airport Capacity in the South East, October 2017

b. Heathrow estimates, based on the DfT's updated analysis, that a delay of one year to increasing capacity equates to a cost for consumers of c£2bn[10]. This is important evidence when assessing the impact on airport charges of different regulatory decisions. For example, a 1% increase in WACC would increase aeronautical charges by around £2 per passenger. This equates in comparison to around £150m to £200m per annum to passengers even if all of the increase in charges could actually be passed through to consumers.

c. The notion of scarcity rents or shadow costs have been discussed by the Airports Commission and the DfT. Frontier Economics estimates that "*If Heathrow were expanded today, ticket fares would decrease by 23% relative to other London airports as a result of removing the capacity constraint. On a return flight basis, this means that over the course of 2016, the congestion premium cost passengers at Heathrow roughly £2 billion*"[11]. We include the full report produced for us by Frontier Economics as an attached appendix.

23. This important evidence should be used to develop the H7 regulatory framework. The CAA urgently needs to do this analysis for itself.

24. Heathrow welcomes the interest of the CAA Consumer Panel on this topic. We support its call for the CAA to establish a clear position. Heathrow is hopeful that this will lead to the CAA taking a fuller view of affordability in the interests of consumers. We are open to engage with both the CAA and the CAA's Consumer Panel to support this work.

Cost envelope discussion

25. The CAA states that willingness to pay analysis should be used to support the current engagement process. It proposes it be used to develop an appropriate scope, design and costing of new capacity but this be within an overall envelope of costs.

26. Setting an *a priori* envelope of costs is out of line with the CAA's primary duty to consumers. This is particularly true in the context of willingness to pay analysis as well as other analyses that the CAA will perform.

27. An envelope of costs at this stage of the process implies that the CAA is back solving an airport charge that it is already targeting. This runs counter to the CAA's guidance on Heathrow's business plan. It also goes against general regulatory best practice. H7 airport charges should be the ultimate output of the plan. It will amongst other things, incorporate the views of consumers, using willingness to pay analysis.

28. The CAA's position again disregards the view of the its Consumer Panel, which clearly stated in its Annual Report that the views of airlines are not representative of consumer views[17]. As

[10] The reduction in passengers' economic benefits is measured as the difference in net present value of the original stream of benefits and the revised stream of benefits, discounted as prescribed by the HM Treasury's Green Book. The NPV value is estimated at a discount rate of 3%, which is the value prescribed by the HM Treasury's Green Book for discounting effects in the very long term (beyond 30 years)

[11] Frontier Economics, Competition and Choice, A report prepared for Heathrow, Dec 2017

[17] CAA Consumer Panel Annual Report 2016 -17, December 2017, page 8, http://publicapps.caa.co.uk/docs/33/CAA%20Consumer%20Panel%20Annual%20Report%20%20-%202016-17.PDF,

a matter of principle, the CAA must quantify the value and willingness to pay of consumers for new capacity and existing airport services.

29. This is not to say that Heathrow itself will not work to an internal cost envelope to drive efficiency in planning and development. This is a different process for a different purpose from what the CAA is engaged in.

Engagement with third parties and airlines

30. Heathrow agrees with the CAA that engagement with airlines, as well as engagement with consumers, is an important part of the capacity development process. Heathrow acknowledges that the Section 16 process has been helpful in establishing a basis for airport/ airline engagement on expansion at the beginning of this process. However, the related reporting process has proved to be resource intensive, putting a strain on the resources of both Heathrow and airlines. The process has also been bound by rigid terms of reference allowing little flexibility in scope or approach.

31. Going forward, Heathrow is looking to ensure that close collaboration with airlines can be built on, not just for expansion but for the business planning process as a whole. As such, Heathrow believes that it would be appropriate for any on-going engagement to encompass all airport activity to ensure a joined-up, cross-industry approach which delivers consistently for passengers across the airport. This should also take into account the established jointly agreed governance processes and constructive engagement, to avoid duplication.

32. For on-going engagement to be effective, Heathrow believes that it is important that we abide by certain high-level principles:

    a. Any process should be jointly designed and agreed by Heathrow and airlines, rather than imposed by the CAA or DfT. This would allow the creation of a process which works best for all parties, taking into account the topics requiring discussion and the resources available.

    b. Transparent and effective two-way communication be prioritised to ensure that the engagement facilitates the correct level of meaningful discussion and thus leads to the best possible outcome for consumers.

    c. Clear objectives for the engagement should be set out and agreed at the outset. This should provide direction for the engagement but without setting rigid terms of reference which risks constraining discussion.

Comments to responses to the CAA's June 2017 consultation

33. In their responses, airlines called for the CAA to carry out a public and transparent audit of the regulatory asset base due to concerns regarding the scope and transparency of the RAB. This request is unnecessary as:

    a. The roll forward process involves a full external audit of the RAB. Detail of this is published in the regulatory accounts.

    b. As the CAA describes in its document, the RAB relates to the unamortised portion of the existing regulated assets (which is not the same as their commercial value) and not the costs of the new assets required for capacity expansion.

34. Heathrow would like to better understand the commercial proposition that motivates this proposed audit to engage in meaningful discussion. A notional break-down of the RAB would simply provide no meaningful answer.

35. An airline response proposed splitting the current RAB to reflect what it saw as a separation in Heathrow's services into "utility" and "commercial" assets. This view is not consistent with the CAA's stated policy to maintain a single RAB based regulatory framework. In addition, the proposed split is arbitrary and would be inconsistent with competition policy and the CAA's market determination, which established that Heathrow formed a market in itself.

36. Airlines also refer to proposals for funding at Dublin airport as a route to ensure there is competition at every stage of the expansion process. The report on the need for extra capacity at Dublin has not yet been concluded and as such there is no conclusion on the need for capacity, never mind a decision on the funding structure.

37. Heathrow continues to be open to exploring commercial arrangements with airlines in order to provide long term certainty on prices and service levels for consumers. Relatedly, Heathrow is of the view that a further year's extension to the current regulatory period, in addition to the two years currently proposed by the CAA, would better facilitate this. Further detail on this is provided in section 7 of this response.

Incentives for efficiency

38. The CAA proposes updating its thinking on changes to efficiency incentives in April. Heathrow understands this is specifically focused on capital investment efficiency. We think this comes from a sense that new approaches may be needed given the changes in scale and nature of construction expected over H7 and H8 driven by capacity expansion. There is a focus on a shift towards ex-ante incentives for capital investment. Airlines have also argued forcefully for fixed cost incentives on capital investment. In its June consultation, the CAA provided principles for assessing potential incentive schemes[19].

39. An ex-ante framework would be a fundamental change to the current regulatory framework. It necessarily and materially changes the balance of risks and rewards. It must not be adopted in isolation or casually. Heathrow is concerned that such a substantive change in capital incentives could materially alter Heathrow's risk profile, impact financial stability and destabilise the current process of collaboration between Heathrow and its customers. It is also questionable if the already risky and complex period of expansion is the right time for such profound regulatory change.

40. Ex-ante incentives are not a silver bullet for efficiency. They have both positives and negatives. The effects of ex-ante incentives are well demonstrated both in Heathrow's own procurement but also in construction and major projects worldwide. They can transfer risk and provide certainty. They do drive different contractor behaviour. On very large projects however, the actual risk transfer can be an illusion – illustrated in recent issues with fixed price contracts in UK construction and the public sector. Ex-ante arrangements also add inevitably cost to compensate for risk. They reduce flexibility and responsiveness to customers. This mix of impacts is often missed in debates on incentive options. It should not be simplistically assumed that ex-ante incentives would be positive for consumers. Introducing ex-ante incentives would not be a single remedy to satisfy the principles the CAA outlined in June.

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[19] Paragraph 3.11, page 30, CAP1541

41. Nor should the current incentives framework be casually dismissed. The framework is built to ensure Heathrow carries out capital projects efficiently to meet customer needs and demonstrate value for money. Over years it has delivered better facilities to passengers. Regular external reviews have concluded it provides efficient value for money. It ensures that projects are developed in consultation with airlines. It retains flexibility to respond to changing customer, policy and operational requirements – which in practice we see happen frequently to the airport. An ex-ante framework would fundamentally change this approach by incentivising a focus on cost alone rather than customer requirements. It would also necessitate a more complex and rigid change control process. This might increase CAA involvement but would also reduce airline consultation.

42. Heathrow thus agrees with the CAA desire to take a balanced view on the regulatory framework and the application of incentives[20]. Heathrow agrees that the CAA should consider the design of the framework in its entirety if the balance of risk and reward is to create the optimum outcome for consumers. CAA guidance to NERL on the production of its business plan states that NERL should "identify a balanced set of proposals for incentives that both promote efficiency but also do not unduly increase risks and financing costs[21]". Heathrow supports this approach. We think the CAA should apply this principle to the H7 framework.

43. Heathrow's first concern with ex-ante incentives for the airport in H7 and H8 would be the increase in cost to consumers. A CAA principle is to focus on *"The impact on affordability and financeability and, in particular, any significant impacts on HAL's cost of capital that would lead to higher overall charges for airlines and consumers*[22]". The National Audit Office (NAO) has illustrated how ex-ante incentives increase the cost to consumers by:

    a. Shifting the balance of risk, consequently leading to an increase in the rate of return to compensate for this. This is evidenced in the NAO's report on Hinkley Point C, which concluded that placing all construction risk on the developer substantially increased the overall project cost for consumers[23]; and

    b. Increasing the forecast cost for projects in order to provide a buffer for risk. The NAO review of PFI contracts states that, on average, a premium of up to 20% is placed on bids for these contracts due to the uncertainty of ex-ante assumptions[24]

44. Consumers and airlines would thus be seeking complete certainty on build costs for the next decade at the cost of significantly adding to airport charges. Ex-ante incentives across the entire expansion programme are likely to increase the cost of capital by [1.5-3%] based on KPMG's preliminary estimates. This is before the impact of increased risk buffer in construction and the supply chain is considered.

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[20] Paragraph 14, page 11, CAP1610

[21] Guidance for NERL in preparing its business plan for Reference Period 3 (CAP 1625), January 2018, Paragraph 5.4, page 46, http://publicapps.caa.co.uk/docs/33/CAP1625NERLbusinessplanGuidanceRP3.pdf

[22] Paragraph 3.11, page 30, CAP1541

[23] NAO, Hinkley Point C, June 2017, page 22, paragraph 1.16, https://www.nao.org.uk/wp-content/uploads/2017/06/Hinkley-Point-C.pdf

[24] NAO, PFI and PF2, January 2018, page 18, paragraph 1.23,,https://www.nao.org.uk/wp-content/uploads/2018/01/PFI-and-PF2.pdf

45. Heathrow's second concern is around the appropriateness of ex-ante incentives to the nature of the build programme through the expansion period. Regulatory precedent[25], shows that ex-ante incentives are highly suited to:

    a. Projects which can be easily benchmarked against other similar projects;

    b. Projects which are relatively low risk and do not make up a significant portion of a company's costs; and

    c. Projects which do not require flexibility in scope, cost or delivery timeline.

46. The big projects in the H7 and H8 period linked to expansion appear to be the direct opposite in nature. Expansion is a unique and complex programme. Benchmarking many of them is complex. Expansion requires flexibility in scope and timeline to reflect the customer need and changing market conditions. There are interdependencies with other bodies such as Highways England. Expansion also carries a large amount of risk for Heathrow as it is an investment similar to the size of Heathrow's current RAB. Heathrow itself has suffered from seeking ex-ante, fixed cost procurement from its supply chain on complex projects. The results have been delays, safety and quality issues and ultimately cost increases to make remedial steps. We would urge a sophisticated approach to the framework for expansion.

47. A third concern is casting the discussion of incentives as a binary choice. Sophisticated procurement practice exists on a spectrum of options. These for example include target cost type incentives or various partnership models. The optimal mix both of models and the proportion of each model will then depend on the underlying project. The CAA should engage with the lessons from other regulated sectors, and crucially the wider construction industry in the UK and worldwide to understand the full range of options and real world trade-offs.

48. Heathrow currently believes introducing ex-ante incentives for H7 is not the right answer for consumers. We have not seen clear thinking to address the concerns above. Beyond that, decisions that so fundamentally shift the allocation of risks will require proper consultation and time. This does risk a timely delivery of expansion. Any benefits would need to justify this risk.

49. Heathrow also believes that the CAA should first engage with Heathrow and the wider construction industry on the possible impacts. This should gather the evidence on risk, financing and the investment decision making process. This is vital to ensure any future discussion on ex-ante incentives is meaningful. Heathrow is keen to work with the CAA in this way to explore the incentive framework ahead of any publication.

3. Cost of capital and debt indexation

Introduction

50. We set out below our views on Cost of Capital and debt indexation. We focus on:

    a. The context to setting the WACC;

    b. Our views on the 'as is' WACC estimated by PwC;

    c. Our views on the WACC premium required to support expansion;

[25] Frontier Economics, Ex-ante incentives for investment, February 2018

d. Our views on competitive approaches to equity; and

e. Views on approach to the cost of debt index.

51. We argue that the CAA's emerging approach to WACC is not consistent with its duty to further the interests of consumers.

52. We show that PwC's work is error prone, and in many areas cannot be considered sound evidence on which the CAA should base its views.

53. We provide evidence and supporting materials for our conclusion from the following different sources, which we have submitted alongside this document:

    a. NERA paper/s – Comment on PwC work for Ofwat[31], Cost of equity for Heathrow[32], and Returns available internationally[33].

    b. EY – Global returns analysis[34]

    c. KPMG papers – Analysis of PwC benchmark analysis[35], and assessment of appropriate risk premium for expansion[36].

    d. Frontier paper – Economic value of expansion[37]

Context

54. The CAA states that the cost of capital should be "*the minimum expected return required by financial markets to provide financial capital to HAL given the level of expected overall risk*"[38].

55. This is the first time that the CAA has used this formulation by including the use of minimum. This formulation is not consistent with the primary duty of the CAA. This duty is to further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services. It is not to target returns of investors.

56. We consider approaching the determination of WACC to obtain the minimum expected return is not consistent with the CAA duties because:

    a. The use of the word minimum suggests that there is a value for WACC above which investments to deliver the range, availability, continuity, cost and quality of airport services will all happen; and

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31 NERA, A review of PwC's approach to setting cost of equity in a "lower for longer" era, Oct 2017
32 NERA, Cost of Equity for Heathrow in H7, Feb 2018
33 NERA, International precedent on cost of equity, Feb 2018
34 EY, Setting the cost of Equity for Capacity Expansion at Heathrow Airport: A review of evidence on the total market return for Infrastructure in other Countries; Feb 2018
35 KPMG, Heathrow Airport Limited, Economic regulation of capacity expansion at Heathrow, Response to CAA consultation: estimation of required return premium, Feb 2018
36 KPMG, Risks and returns for R3, Nov 2017
37 Frontier Economics, Competition and Choice, A report prepared for Heathrow, Dec 2017
38 Paragraph 2.2, page 25, CAP1610

b. Moreover, the approach assumes that this minimum WACC can be calculated with precision.

57. In reality, the WACC cannot be determined with precision, and the response of investment to the level of WACC and perceived risk will not be a simple invest/do not invest threshold. Instead, there will be an increasing ability to fund investment as the WACC increases. Low levels of WACC will result in lower levels of investment and risk being transferred to consumers. Higher levels of WACC will see higher levels of investment, leading to risk being removed from consumers.

58. The CAA is prejudicing its assessment of this balance by adopting an approach that states the WACC should be the minimum expected return. This creates a significant risk of setting a low WACC that a) discourages marginal investment to further the interests consumers and b) puts at risk the delivery of expansion to consumers. This is contrary to its duties.

59. Instead, the CAA should openly acknowledge that setting the WACC is a balance between encouraging investment and exposing consumers to costs that are higher than they might have been otherwise. Such a balance must take account the impact of setting the WACC too low (in terms of lost investment, deteriorating service and increased risk for consumers) against setting it too high (securing investment and delivering improvements to consumers but giving them higher costs). Historically the low level of UK infrastructure investment in global comparison suggests there is a bias towards the first issue in UK infrastructure and regulation. The lack of new aviation capacity also suggests something similar.

60. In the context of H7 and expansion this balance is stark. Currently, congestion at Heathrow means that airlines operating here extract on average a significant premium compared to other London or European hub airports. The magnitude of this premium has been estimated by Frontier Economics to be around £100 for long-haul flights[39].

61. The scale of this premium reflects the value to consumers of travelling through Heathrow compared to the alternatives. This value is not affected by the airport charge at Heathrow (as long as it remains below the premium). Therefore, an increase in airport charges will not affect the ticket prices paid by passengers at Heathrow whilst the airport remains constrained (including throughout H7).

62. The ticket premium of £100 per long-haul ticket is very large compared to the impact of WACC on the airport charges paid by airlines. For example, a 1% increase in WACC would increase aeronautical charges by around £2 per passenger. This is insignificant in the context of the current scarcity premiums being extracted by airlines or others.

63. The impact of WACC is also small compared to the benefits to consumers and the economy that will arise as a result of expansion. These benefits have been estimated by Frontier Economics to have a net present value (NPV) of £187bn[40].

64. Given this background, setting the WACC too low puts investment in expansion at risk, jeopardising £187bn of benefit. Setting it too high encourages investment in expansion delivering that £187bn but will have no impact on ticket prices. This context means that the CAA should ensure that there is no doubt that the level of WACC is sufficient to enable expansion.

[39] Frontier Economics, Competition and Choice, A report prepared for Heathrow, Dec 2017
[40] Frontier Economics, Competition and Choice, A report prepared for Heathrow, Dec 2017

Key issues

65. Ahead of responding to specific elements of the WACC, there are some more general points we wish to raise.

66. We believe that the CAA needs to take a long-term view on the cost of capital. Expansion significantly changes Heathrow's risk profile over the next 15 years. Not only is there construction risk during the building of the runway and additional terminal capacity, but there is a step change in volume risk as the runway opens. Throughout the period there will be significant financing risk. It is important that the framework correctly reflects this extended step change in risk through an appropriate long-term perspective.

67. In contrast, the approach advocated by PwC is very short term. Such an approach is poor regulatory practice in any situation (for example, the appeal of Swedish energy regulatory decision discussed below[41]). In the context of expansion it is especially inappropriate.

68. We also consider that PwC has taken a very UK-centric view in respect of the TMR. Expansion will require significant additional equity and debt. Investors have a choice about where in the world they invest. Risk adjusted returns for Heathrow need to be attractive compared to those available in other parts of the world if investment is to occur.

Estimate of 'as is' WACC

69. We assess PwC's report on the cost of capital for H7 and show that its analysis is flawed in many areas. We set out our initial thoughts on our view of the cost of equity for Heathrow drawing on evidence provided by NERA.

70. In addition to the flawed analysis of PwC, we also consider it is important for the CAA to recognise that PwC has taken a very UK-centric view in respect of equity returns and the TMR. Expansion at Heathrow will require significant new equity investment and debt issuance, and such investors can choose whether to invest in UK assets or other assets around the world. If risk adjusted returns in the UK do not match those available elsewhere, then investors will not invest here.

71. This is particularly important given the wider context in the UK and the low equity returns and TMR assumed by Ofwat, 5.4% (who have also been advised by PwC). Equity investors will not be comparing an investment in Heathrow with one in water, but with those available for similar regulated assets in other jurisdictions. The WACC for Heathrow needs to be competitive on an international basis for like businesses, not just on an UK regulated business basis (we provide evidence on the returns available elsewhere in the world in section Regulatory Returns available in other jurisdictions below).

Cost of equity

72. We assess PwC's view of the cost of equity and compare with evidence provided by NERA. Consistent with PwC, we use a decomposition approach that estimates the equity risk premium (ERP) from separate estimates of the TMR and the risk-free rate (RFR).

Total Market Returns

73. We believe that PwC's approach to the TMR is fundamentally flawed. In essence this is because its view is based on:

[41] Kammarratten i Jonkoping (10 November 2014), Mal nr 61-14, p.26

a. Placing no weight on historical rates of return which is contrary to good practice;

b. Primarily bases its view on a dividend growth model (DGM) that uses assumptions that are clearly incorrect; and

c. Further justifying its approach by use of a market-to-asset ratio (MAR) analysis that contains a number of errors, and is based on dubious assumptions.

74. The approach set out by PwC is based on that provided to Ofwat in July. NERA has produced a detailed analysis of the flaws and errors in PwC's approach in this paper, and this is included with our response.[42]

75. PwC's approach is based only on a short-term view which is counter to good regulatory practice. For example, the appeals court in Sweden ruled in respect of an appeal by electricity grid companies that a long-term perspective should be applied. It stated:

"A long-term stable cost of capital will in the longer term generate an average compensation that is in line with the actual cost of capital, although it can lead to network companies to be under or overcompensated over a certain period. The risk of over or under compensation is significantly greater with a calculation rate calculated on the basis of more short-term forecasts. The reason for this is that the economy over a four-year period is affected by cyclical fluctuations and extraordinary events that are very difficult to forecast. A long-term stable cost of capital can instead be the starting point for long-term economic relationships where the need to predict temporary economic fluctuations is significantly lower."[43]

76. NERA's paper produced in February, updates this rebuttal of PwC's work and is also included in our response.[44]

77. PwC bases its approach on a DGM that uses short run and long run forecasts of UK GDP growth to produce its estimates of the TMR. This approach is flawed because:

a. In the short-run it does not reflect market expectations by using analyst forecasts (e.g. as done by the Bank of England);

b. In the long-run it uses UK GDP growth, rather than a weighted index of global growth that reflects 70% of returns in the UK market are derived abroad (e.g. as done by Bank of England);

c. In combination, these flaws mean that the resulting estimate of the TMR at 5.1 to 5.6% is significantly below that of the Bank of England estimate (7.2% to 8.1%); and

d. Moreover, no allowance is made for the likely outcome that dividends grow faster than GDP due to capital accumulation. For example, Piketty shows that if returns on assets are greater than the growth rate (r>g), then an increasing proportion of income will be derived from returns on assets.[45] A recent paper by the National Bureau of Economic

[42] NERA, A review of PwC's approach to setting cost of equity in a "lower for longer" era, October 2017
[43] Kammarratten i Jonkoping, Mal nr 61-14, p.26, 10 November 2014
[44] NERA, Cost of Equity for Heathrow in H7, February 2018
[45] Piketty, Capital in the Twenty-First Century, 2013

Research (NBER) shows that this condition (r>g) has been typically universal in the past.[46] Ignoring this factor results in DGM models underestimating likely market returns.

78. In contrast, NERA shows, based on DMS data, that historical real equity returns in the UK have been between 6.8% and 7.1%. They set out a range of 6.5% to 7.1% based on a potential adjustment of 0.3% for the RPI formula effect at the bottom end of the range. It also presents evidence from the Bank of England DGM that shows a TMR range of 7.2% to 8.1%. It argues that the higher range for the forward-looking evidence strongly supports an estimate at the upper end of the historical range.

79. More widely, a recent NBER paper analysing returns from 16 advanced companies between 1870 and 2015 shows that real equity returns globally have averaged 7.0% per annum.[47]

80. As discussed in more detail below, international evidence on TMR and cost of equity assessments in other countries show that PwC is out of step with global returns.

81. Based on this evidence, Heathrow considers that the most appropriate estimate for TMR is 7.0% as this is consistent with UK historical data; is just below the Bank of England forward looking estimate of TMR, is consistent with global long term returns on equity. It is also consistent with the international evidence of equity returns available in other countries.

Risk Free Rate

82. PwC estimates a range for RFR of between -1.4% and -1% based on an emphasis on short term market rates.

83. NERA estimates a range between -0.9% and 1.5%. The lower end of the range reflects current market evidence for the H7 period. The upper end of the range reflects recent (2014) regulatory precedent that has tended to be based on a longer-term view.

84. Current market estimates are potentially heavily distorted by short-term market effects. They are therefore unlikely to be characteristic of a long term level of returns. Moreover, a RFR below zero seems unlikely to be aligned with consumers long-term preferences for deferred consumption. Given this, we consider that estimates of the RFR below zero should be used only with great caution.

85. Heathrow considers that the most appropriate estimate for the risk free rate is currently 0%. This is because although market evidence is that the current rate is below zero, a rate below zero is not consistent with a longer-term perspective.

Asset beta

86. NERA has estimated the asset betas of a number of airports and show that they have been increasing since 2014. It focuses in particular on Fraport and Aeroports de Paris (AdP) as relevant comparator airports to Heathrow as they are large regulated hub airports. NERA shows that the hub airports in each case represent around 80% of each group, and present evidence that the asset betas of minor airports in the groups are not higher. Therefore, the asset betas of these airports are relevant to Heathrow. The table below shows Nera's estimates of the asset beta for these airports using different estimation windows.

[46] Jorda et al, The rate of return on everything 1870-2015, NBER working paper, December 2017,
[47] Jorda et al, The rate of return on everything 1870-2015, NBER working paper, December 2017

Table 1 - Asset Beta estimates for comparator airports

	1-year	2-year	5-year
AdP	0.71	0.55	0.51
Fraport	0.59	0.5	0.44

Source: NERA[48]

87. These estimates are higher than those by PwC. In its report, NERA shows that this difference has arisen because:

    a. PwC has used data up to March 2017, whereas NERA has used more up-to-date data (October 17); and

    b. PwC has incorrectly not used net debt from annual reports, particularly affecting the estimate of asset beta for Fraport.

88. NERA also undertook a relative risk analysis of the three airports, considering: demand and revenue risk; cost recovery risk; and performance incentives. In summary, it concludes that:

    a. Heathrow is higher risk compared to Frankfurt, because the Frankfurt regime allows it to propose its own cost-based charges and the regulatory regime allows it to mitigate demand and cost risk by requesting tariff re-sets. Frankfurt also does not face material risk from quality of service incentives;

    b. Heathrow is at least as risky as Charles de Gaulle (CDG), and likely higher risk. Both are subject to a five-year price cap. But CDG benefits from additional demand risk sharing, and faces smaller quality of service incentives compared to Heathrow.[49]

89. Based on this analysis, NERA estimates a range of asset beta for Heathrow of 0.56 to 0.60.

90. NERA also examines the relative risk assessment conducted by PwC, and shows that PwC's analysis and conclusions are flawed. In particular:

    a. In assessing relative risk, PwC considers demand volatility only. This ignores the impact of the regulatory regime on how demand volatility translates into volatility of revenues, profits and cash-flows at the three airports, which ultimately determines risk to investors; and

    b. PwC's analysis is selective and not robust to the choice of an alternative time-period. For example, NERA shows that if the Eurozone debt crisis is also included in the analysis, Heathrow's demand is more negatively affected than CDG in both relative and absolute terms. Therefore, using PwC's metric, Heathrow should be assessed as higher risk.[50]

91. Heathrow considers that the most appropriate estimate for equity beta is 0.60 equal to the top of the range identified by NERA.

[48] NERA, Cost of Equity in H7, February 2018, Table 3.1, p.25
[49] NERA, Cost of Equity in H7, February 2018, Section 3.2
[50] NERA, Cost of Equity in H7, February 2018, Section 3.5

Heathrow estimate of the cost of equity

92. Table 2 sets out a comparison of Heathrow's view of the cost of equity based on the mid-point estimate of 7.0% for TMR, 0% for RFR, and 0.6 for asset beta based on the asset beta for AdP. These are compared to the estimates set out in the PwC report, and the range in the NERA report.

Table 2 Comparison of PwC and HAL view of cost of equity

	PWC		NERA		Heathrow Spot
	Low	High	Low	High	
Market Parameters					
Total market return	5.10%	5.60%	6.50%	7.10%	7.0%
Risk free rate	-1.40%	-1.00%	-0.90%	1.50%	0%
Company Parameters					
Gearing	60%	60%	60%	60%	60%
Debt beta	0.05	0.05	0.05	0.05	0.05
Asset beta	0.42	0.52	0.55	0.6	0.6
Calculations					
Equity beta	0.98	1.23	1.30	1.43	1.43
Post tax cost of equity	**4.94%**	**7.09%**	**8.72%**	**9.48%**	**10.0%**

Source: PwC/Heathrow
Note that the Heathrow spot estimate is selected from the NERA range of individual parameters. The final cost of equity is above the NERA range as a result of the lower RFR than the NERA high case.

93. Table 2 shows that PwC's estimate of the cost of equity for Heathrow is between 3% to 5% lower than Heathrow's view. This is a material and significant difference.

94. Around 2% of the difference in cost of equity arises from the different estimates of TMR. We have shown above that PwC's estimate of TMR ignores evidence from historical returns and is based on a flawed dividend growth model that differs significantly from the view of the Bank of England.

95. Between 1% to 3% of the difference in the estimate of the cost of equity arises from the difference in the estimate of asset beta. We have shown above that the PwC estimate of asset beta does not use up-to date information and is flawed because it does not use correct values for net debt. PwC's analysis does not properly capture the relative differences in risk exposure due to different regulatory frameworks.

96. Not only are PwC's estimates based on a flawed and erroneous approach, they are not consistent with estimates of market parameters and the cost of equity in other countries.

Regulatory Returns available in other jurisdictions

97. NERA has conducted a review of the international cost of equity decisions for regulated companies operating in the energy and airport sectors.[51] It shows that:

    a. US rate decisions for energy companies have been stable over time, despite substantial reductions in US treasury yields. The median allowed return on equity was remarkably stable at around 10% (nominal, pre-tax, or around 8% real);

[51] NERA, International precedent on cost of equity, February 2018

b. European rate decisions have mostly maintained TMR decisions despite a falling risk-free rate. Where the TMR has been reduced, the impact on cost of equity has been more than offset by increasing asset betas to give a higher overall cost of equity allowance; and

c. Decisions on regulated airports show an average real cost of equity of 9.1%. Asset betas have been increasing over this period, and this average does not reflect the latest values.

98. EY has also examined the returns available for regulated and infrastructure companies in other parts of the world.[52] They show TMRs in the range:

a. 7.7% to 8.7% for energy companies in North America;

b. 6.3% to 7.4% for regulated European airports;

c. 6.5% to 7% for energy companies in Australia;

d. 7% to 7.5% for energy companies in Norway and Sweden;

e. 4% to 6.6% for energy companies in Denmark, Germany, Finland and France; and

f. 6.2% to 7.6% based on reports by independent experts in the context of Australian listing rules.

99. Both reports show that the proposed TMR (5.1% to 5.6%) and cost of equity (4.9% to 7.1%) in PwC's report are significantly below the returns available from investing in other airports or regulated business in many other parts of the world. Investors can choose the jurisdictions in which they wish to invest, and will not invest in places where risk adjusted returns are lower than those available elsewhere.

100. NERA's evidence has shown that PwC's analysis of the cost of equity for Heathrow is flawed. Moreover, the international evidence shows that their conclusions are out of line with the returns available elsewhere in the world. In contrast, the international evidence is consistent with the estimates of the cost of equity by NERA.

Cost of debt

Embedded Debt

101. Heathrow has a sophisticated debt structure involving different classes of debt and a portfolio of swaps to manage interest rate and inflation risk. To assess our embedded cost of debt we have considered the senior class A debt only as this is consistent with the notional balance sheet assumption of 60% gearing. On this basis:

a. The expected average nominal cost of embedded sterling debt for H7 is 5.4% (real 2.5% based on 2.8% inflation);

b. The expected average real cost of embedded sterling debt for H7 (including Index-linked bonds and swaps) is 3.4%.

[52] EY, International Review of Market Returns, February 2018

102. Rather than examine Heathrow's actual embedded debt costs, PwC has made an assessment by using a trailing average of iBoxx A/BBB 10+ for 15 years. This has resulted in an estimate of 1.8% for the cost of embedded debt. This is considerably below Heathrow's actual debt cost.

103. This difference has arisen for several reasons:

a. The simple average (assuming an even debt issuance over the period) does not reflect Heathrow's actual pattern of capital expenditure and debt issuance;

b. The index is not a reflection of any specific credit rating, but of the whole market. As we evidence later in this response, Heathrow typically has a slightly higher cost than other similar credits that form part of the same index;

c. No allowance has been made for the higher cost (typically c40 bps) of issuing a proportion of debt as index-linked; and

d. PwC has used a trailing average of 15 years, which does not reflect the long-term nature of Heathrow debt. Over half of Heathrow's debt is issued with a tenor of over 15 years. A period of at least 20 years, or ideally longer, should be used.

104. It is important that the CAA reflects Heathrow's actual cost of embedded debt in the cost of debt. To do otherwise is to effectively assume that Heathrow's debt issuance has been inefficient. However, since the cost of embedded debt is mainly affected by the timing of different issues, an assumption of inefficiency would be based on hindsight given the actual evolution of debt costs. In order to achieve the lower debt cost, Heathrow would have had to know that interest rates were reducing and therefore have issued more short-term debt to be refinanced later at lower cost. This is contrary to good treasury practice. Perfect foresight is not a reasonable test of efficiency.

New Debt

105. PwC estimates the cost of new debt based on:

a. The three-month moving average of iBoxx yields (A and BBB/10Y+); and

b. An adjustment for future debt costs based on a gilt forward curve.

106. While this approach is reasonable overall, there are three key aspects that need to be corrected:

a. Using the right iBoxx yields;

b. Making the right adjustment for the cost of Heathrow debt relative to the index; and

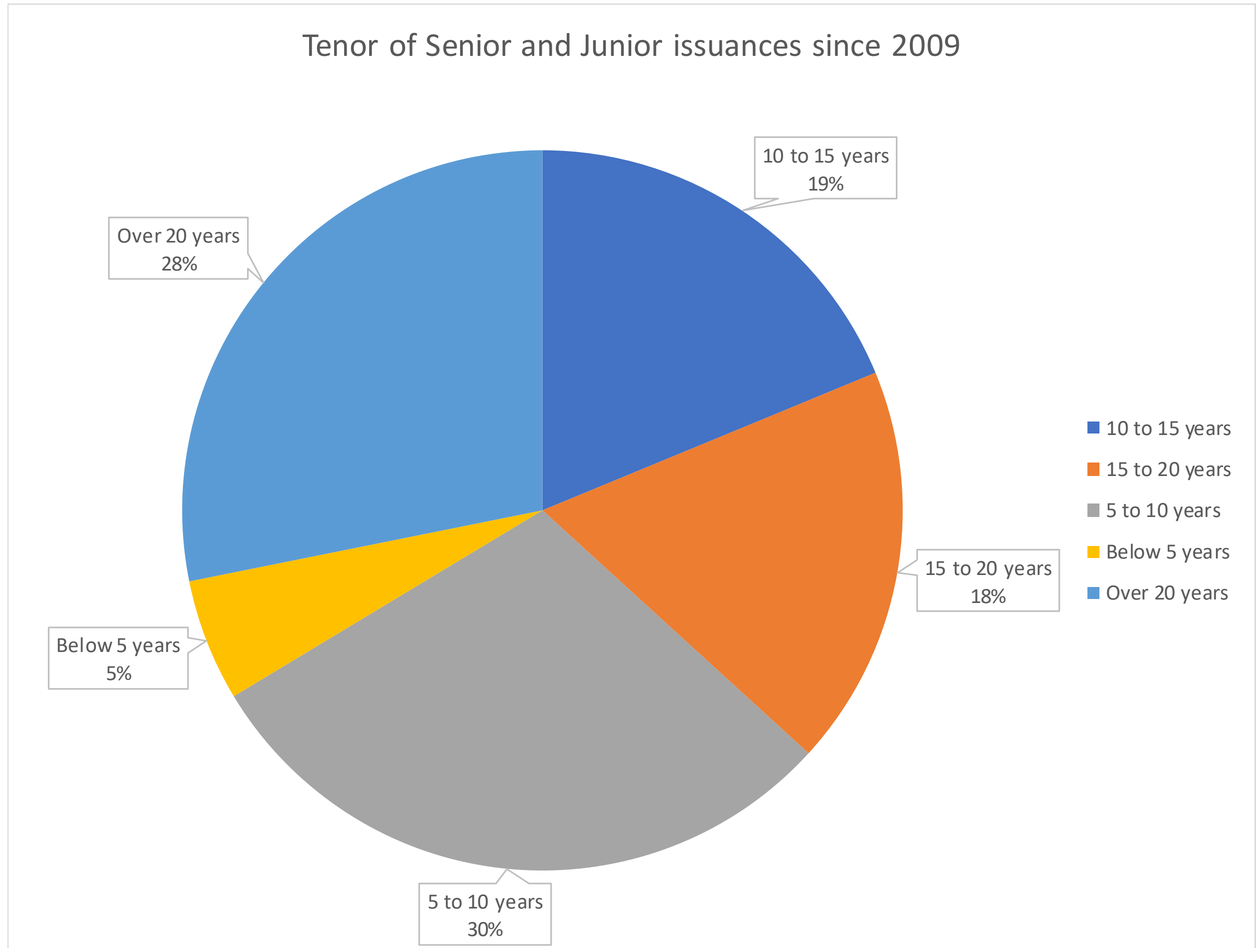
c. Making the right adjustment for future costs.

<u>Correct iBoxx index</u>

107. PwC uses a 3-month average of the 10Y+ A and BBB index. We consider that this is an appropriate tenor to use. In particular we consider that it is more appropriate than the 10-15Y

index as more than half of Heathrow's debt has a tenor over 15 years (as shown in the figure below) and the average life of the debt issued by Heathrow is over 15 years.

Figure 1. Tenor of Heathrow debt issuance



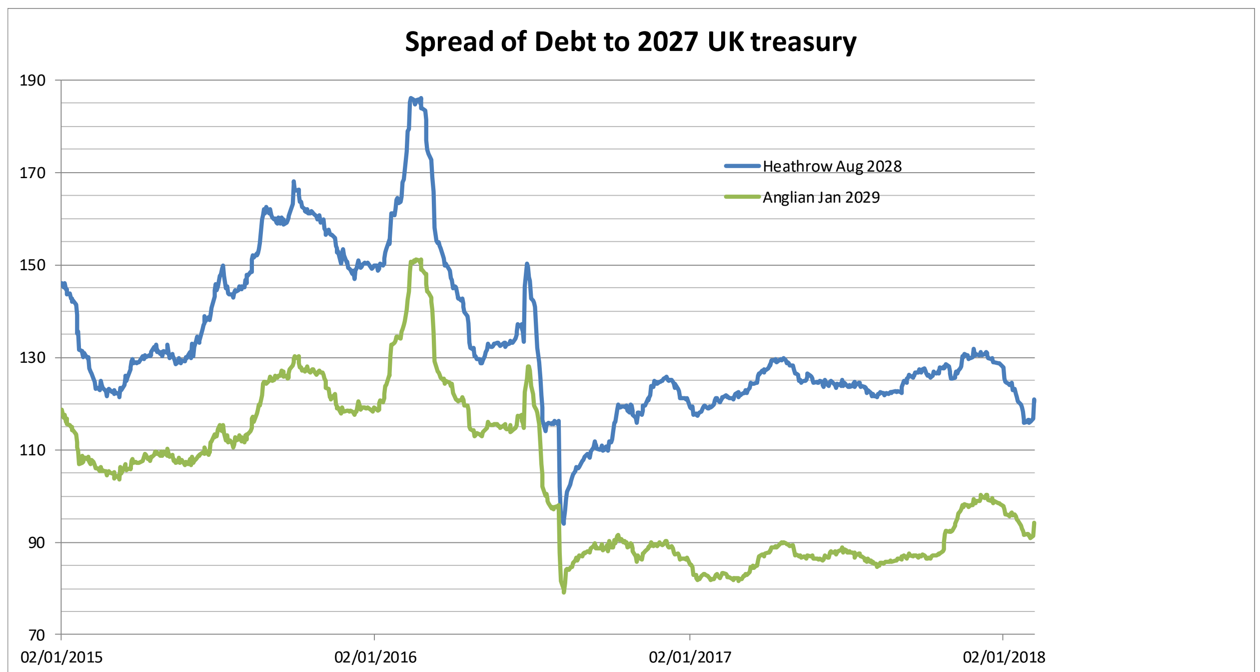
Source: Heathrow

<u>Adjustment for cost of Heathrow debt relative to the index</u>

108. PwC does not make an adjustment for the cost of new Heathrow debt relative to the index. It shows that the spread of Heathrow's bonds relative to the index has been between 1 and 9 bps, however, it does not take into account an appropriate new issue premium that would need to be added to the spread of existing bonds.

109. Ofwat has assumed that water companies will be able to issue new debt at a cost of 15 bps lower than this index. As shown below, the spread of Heathrow debt is around 30 bps higher than water company debt. This indicates that an equivalent approach would result in a premium of 15 bps above the index for Heathrow.

Figure 2 .Comparison of spread of Heathrow and Anglian Water debt



Source: Bloomberg/Heathrow analysis

110. Heathrow considers that basing the cost of new debt on the iBoxx 10+ A/BBB index with an adjustment of +15 bps for issue cost relative to the index would be an appropriate basis for assessing the immediate cost of new debt.

Adjustment for future costs

111. PwC bases its adjustment for future costs on the forward curve for index-linked gilts, rather than nominal gilts.

112. Heathrow will issue mostly nominal debt, and therefore we consider that the nominal gilt forward curve is the appropriate curve to use to adjust the forward cost of debt. This is the closest market predictor of the future debt costs that Heathrow will actually incur.

113. PwC is incorrect to use the index-linked forward curve because:

a. PwC is applying a change in index-linked costs to a nominal cost index. The spread on index-linked debt is higher than that of nominal debt, and therefore PwC is adjusting the forward curve inconsistently.

b. Heathrow largely issues nominal gilts and the nominal forward curve is the best market predictor for future nominal debt costs;

c. The index-linked forward curve is likely to under-predict future movements in nominal costs as it includes an implicit allowance for inflation risk.

114. Given the proposed approach to indexation of debt, any error in the adjustment for future costs will be corrected at the next review. Although this reduces the criticality of accurately assessing this parameter, the right estimate will minimise the scale of any future adjustment.

Liquidity and Issuance costs

115. PwC includes an allowance on the cost of debt of 10 bps to cover issuance costs. While this is reasonable in benign market conditions, it may be low in difficult market conditions or in an expansion scenario. It does not include any allowance for liquidity platform costs. These are the costs of establishing and maintaining sufficient liquidity to meet regulatory and debt structure requirements.

116. Heathrow estimates the liquidity cost would range between 4 to 40 bps depending on the liquidity requirement and its format. We provided details in our response to the June 2017 consultation (CAP1541).

117. The CMA allowed Bristol Water 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. The exact allowance will also depend on the liquidity requirements that the CAA would expect from Heathrow.

118. In addition to the above discussion other ancillary costs including rating agency fees and legal fees should be factored into the analysis.

Expansion Risk Premium

119. Heathrow expansion represents a significant change to Heathrow's existing business model and risk profile. In particular the scale of investment (of up to £4bn pa c.f. £0.6bn pa), the financing requirement, and the recoverability risk are all significantly higher. Moreover, the economic benefits from expansion significantly outweigh the costs. Given this, it is important that these characteristics are considered in detail and reflected in the analysis of risk and return for the expansion programme.

Discussion of approach

120. In paragraph 2.21 of CAP 1610, the CAA notes that the additional risks from expansion will be concentrated in the 10 years following the start of construction. Heathrow would find a 10-year premium for the risk appropriate provided:

   a. There was a clear statement that the premium so calculated would be applied in H8 as well as H7; and

   b. That the calculation of the premium took into account risks across the whole of the programme and adjusted returns appropriately for a 10-year period. This is contrary to what has been done in the PwC analysis.

121. We consider that the current Q6 remuneration framework will not be adequate for expansion because:

   a. Expansion exposes Heathrow to material downside risk that is not taken into account through the capital asset pricing model. This downside risk necessitates an adjustment to either returns or cashflows; and

   b. The increase in risk will also increase systematic risk exposure, that will need to be reflected in the cost of equity.

122. KPMG has undertaken an analysis of the risks arising from expansion and how they should be reflected in a premium to the cost of capital.[53] It shows that recognising and reflecting significant downside risks and special projects is standard market practice in UK economic and market regimes. It also provides benchmark evidence from other similar projects in the UK.

123. In addition to the premia identified by KPMG, there may be additional costs for new debt due to market depth limits, additional liquidity costs due to the need for a larger facility, and costs associated with issuance of new equity.

Errors in PwC benchmarking

124. PwC examined benchmarks to assess precedents for the expansion premia that might be required. The analysis of these benchmarks by PwC is flawed and includes significant errors that fundamentally undermine its conclusions. As such, significant additional work is required before it can be considered suitable evidence to inform the CAA.

125. In particular PwC sets out a premium for H7 only, without considering the time over which the benchmark premium is applied. For example, the premium for Hinkley Point C applies over its operational life of 35 years, but PwC have made no adjustment in applying it for a five-year period. This is a fundamental error.

126. Moreover, PwC have excluded risks that will apply after the construction phase. Investors will require additional returns for bearing these risks from the outset of the construction phase. It is not appropriate to exclude such risks solely because they are expected to crystallise in the future.

127. KPMG has undertaken an analysis of PwC's benchmark approach to correct it for these errors and from some errors in interpretation.[54] It has also included evidence from other relevant benchmarks not considered by PwC.

128. KPMG shows that the range of benchmarks identified by PwC as 0.25% to 1%, would have instead been 0.7% to 5.4% for application over a single period if PwC had undertaken its analysis correctly.[55] The premium would be lower if applied over a longer period.

129. Given this scale of error in its analysis, no weight can be given to the PwC benchmarking.

Modelling and benchmarking risk premia

130. In its report, KPMG sets out a robust approach to estimate the risk premium appropriate for expansion.[56] It uses a monte-carlo analytical framework to quantify the risks and assess the compensating cost of capital premium required.

131. Based on an interim assessment of volume risk, a German airport cost database, and assuming the current regulatory approach to capex and volume risks (with a 6% capex disallowance), KPMG calculates that an appropriate 3R premium is 1.3% to 1.4%. The premium depends strongly upon assumed construction risk. For example, based on UK

[53] KPMG, Risks and Returns for R3, November 17
[54] KPMG, Heathrow Airport Limited, Economic Regulation of capacity expansion at Heathrow, Response to CAA consultation: estimate of required return premium, February 18
[55] KPMG, Heathrow Airport Limited, Economic Regulation of capacity expansion at Heathrow, Response to CAA consultation: estimate of required return premium, February 18, Table 2
[56] KPMG, Risks and Returns for R3, November 17

Treasury Green Book risk, and a 4% disallowance, the required premium is 0.93% to 1.04%. Heathrow has not yet assessed construction risk, so it is too early to calculate the risk premium required for the specific circumstances of expansion. Work will be undertaken later this year to fully understand and quantify volume and construction risk.

132. The CMA SONI appeal is instructive in assessing risk arising from an ex-post capex incentive regime. In particular the CMA is clear that the risk of disallowance arising from an ex-post regime creates an asymmetric risk that should be remunerated.[57] This is consistent with KPMG's analytic approach.

133. The size of the required premium depends heavily upon the regulatory framework and its treatment of risk. Increasing construction risk, for example by introducing ex-ante incentives could lead to the required premium increasing significantly. This is illustrated in the table below:

Table 3 Impact of ex-ante capex incentives on required premium

Regulatory Regime	Ex-ante risk sharing % on capex		
	25%	**50%**	**75%**
Impact on WACC * (12 year premium)	+ 0.82 – 0.88	+ 2.07 - 3.10	+ 3.10 - 3.66

Source: KPMG/HAL analysis

Market Depth and weighting of new debt

Impact of weighting of new debt

134. PwC uses a weighting of 60% for new debt in its calculation of the cost of debt in the expansion case (see Table 6.10 of PwC report). While 60% is a reasonable estimate of the likely proportion of new debt at the end of the period, it is not appropriate to use this proportion in the overall cost of debt as the 60% share will only be achieved at the end of the final year of the period. Instead, the proportion of new debt used in the calculation should have been 30%, the average over the period. Using the average over the period is consistent with PwC's approach for the non-expansion cost of debt.

135. Correcting this error by PwC results in its H7 with third runway cost of debt estimate increasing by 0.3% to 0.4%, and the resulting WACC by 0.16% to 0.25%.

Market depth and cost of debt

136. PwC identifies a risk that the volume of debt required during H7 might lead to "additional costs on-top of the 'as is' cost of debt for Heathrow.[58] It does not conclude on this issue but suggests that it should be investigated further.

137. During the expansion construction phase we expect to issue bonds at a rate of three to four times the volume over recent years. We expect that the additional quantity of debt required in H7 as a result of expansion, could lead to pricing pressures. These could certainly be of sufficient magnitude to offset the reduction in the cost of debt that will arise because of the higher proportion of new debt.

[57] CMA, SONI Limited v Northern Ireland Authority for Utility Regulation Final determination, Para. 7.229
[58] PwC, Estimating the cost of capital for H7, para 6.80, p68, Nov 17

138. Heathrow will certainly incur additional costs as a result of having to maintain significantly higher amounts of forward liquidity. Our initial estimates suggest that this additional liquidity cost is likely to amount to a range of 10 to 35 bps. This is essentially due to two factors:

a. The greater forward liquidity needs in a high investment phase versus the size of the embedded RAB; and

b. The higher costs of accessing the substantially larger facilities and/or cash to provide this liquidity.

139. There are a number of other areas where the cost of debt would be expected to rise, linked not only to shifting supply-demand dynamics and the impact of creditor counterparty exposure limits, but also potentially due to perception of greater risk. These factors include:

a. Higher secondary market bond spreads due to expected increased supply of new bond issuance;

b. Higher secondary market bond spreads due to perceived increased risk of the Heathrow credit;

c. Higher new issue premia related to Heathrow's primary bond issuance not only due to higher demand, but also potentially as a result of creditor counterparty exposure limits narrowing the potential supply; and

d. Increased cost of implementing the index-linked swaps required to underpin the CAA's financeability assessment even using the notional capital structure.

140. We agree with PwC that further work is required in this area, and we intend to obtain independent advice later this year once the costs of expansion are known with more certainty. We will share this with the CAA once it is complete.

Equity Issuance

141. PwC outlines an approach to equity issuance that is consistent with regulatory precedent and appears to be appropriate. An important consideration for assessing the quantity of equity issuance is the counter-factual, in particular its underlying dividend assumption. For many investors a reduced dividend incurs costs in the same way as a direct equity injection. Funds are required to offset the different cashflow in both cases.

Competitive Equity

142. The CAA raises the possibility of using market mechanisms to help reveal the cost of equity[59].

143. We have considered this issue carefully. We think that such an approach is unlikely to be feasible in the context of expansion at Heathrow. A key consideration is that the new runway will be closely tied operationally to the existing airport, and thus separating cash-flows will be problematic. In addition addressing governance issues would be extremely challenging. In particular:

[59] Paragraph 2.14, page 27, CAP1610

a. The inability to separate cash-flows means that a competitive approach to equity would require the creation of a special purpose vehicle (SPV). There is a great deal of risk that such a structure will transfer risk inappropriately from the SPV to the current owners or vice-versa; and

b. Equity is associated with a degree of control. A process that requires repeated and uncertain issues of equity from different investors with different and uncertain claims on the final SPV cashflows would create significant governance and control issues. It would be mind-bogglingly complex. This will inevitably deter investors. Ultimately leading to cost increases.

144. Current investors have indicated an appetite to invest at the right level of return. Moving to such a complex approach would hugely increase investor caution. It will divert huge amounts of attention away from expansion to complex governance issues. It may well create an industry of its own. This appears unwarranted, and will lead to significant delays in delivering expansion.

Debt Indexation

145. The CAA's provides its preliminary views on debt indexation[60]. We set out our comments below.

Appropriate Index

146. The CAA identifies the 10-15 year iBoxx indices as the most appropriate. As shown in Figure 1 above, over half of Heathrow's issuance is for tenors longer than 15 years with an average tenor at issuance over 15 years. Consequently, we consider that the iBoxx 10+ indices are more representative of Heathrow debt costs.

147. The CAA shows (Figure D.1) the cost at issuance of Heathrow bonds compared to an iBoxx benchmark. This graph is misleading as it does not include the currency swap costs for non-sterling debt. In Figure 2 above, we show that the spread of Heathrow debt to Anglian Water debt is typically greater than 30 bps. Ofwat plans to use iBoxx 10+ A/BBB indices with a 15 bps downward adjustment to reflect the lower spread of water company debt. If the CAA was to adopt the same approach it would add 15 bps to the indices to account for the higher spread of Heathrow debt compared to water company debt.

148. Index-linked debt typically has a higher spread than nominal debt of around 40 bps. The CAA has previously assumed a proportion of Heathrow's debt was index-linked when undertaking financeability assessments. It is important that the approach to the new cost of debt makes the same assumptions in respect of index-linked debt, and that the additional cost of raising this debt is taken into account in adjusting between the index and the allowed cost.

Timing and true-up mechanism

149. We agree with the CAA's proposal for an end of period adjustment, provided an appropriate forward-looking estimate of the cost of debt is used for each year. As argued above, we think that this should be based on the forward curve for nominal gilts rather than the PwC approach that uses the index-linked gilt forward curve. The most appropriate approach would be to have a separate assumption for the cost of debt in each year in line with the market data. Any required adjustment could be implemented as a revenue adjustment in the subsequent period.

[60] Appendix D, CAP1610

150. The CAA appears to propose an approach that adjusts both for quantity and cost of debt[61]. Our preference would be for the adjustment to be based on assumed quanta of debt and differences in interest rates between actual and forecast in determination (i.e. no adjustment for actual quanta). We consider that an approach that is based on adjusting for both rates and actual quanta of debt is more complicated than it needs to be. It also reduces incentives on Heathrow to time debt and equity issuances appropriately.

4. Financeability and indexing for inflation

Inflation index

151. Heathrow agrees that RPI inflation is the right inflation index for indexing the RAB and estimating the real WACC in H7. We agree with the reasons discussed by the CAA, namely the absence of a CPI-based financial instruments and the impact of a change in airport charges.

152. For Heathrow, it is disappointing that the CAA does not take the opportunity to provide long term certainty on the regulatory framework by confirming that indexing the RAB and the real WACC in future price controls is in the best interest of consumers. Heathrow thinks that, as a minimum, the CAA should at least confirm that the key arguments for using RPI in H7 remain relevant in H8, and that it anticipates that RPI would be the preferred index for H8.

Financeability testing

153. The CAA states that it understands Heathrow's position regarding the need to define a balanced regulatory framework for expansion to ensure that it is financeable. Heathrow welcomes this and looks forward to seeing how the CAA fully integrates financeability with the design of the regulatory framework. This would include a wide range of decisions like the profile of regulatory depreciation or the incentives associated to capital investment delivery.

154. Not properly factoring financeability into the core of the regulatory review could lead to unintended rating consequences. This has recently been seen in the water industry. The publication of Final PR19 methodology by Ofwat has led Moody's to change the water sector outlook to negative including changing the outlook of individual water companies. A downgrading by rating agencies will increase the cost of capital and ultimately lead to higher costs for consumers in the long run.

155. Heathrow agrees with the CAA that debt financeability should be assessed on a notional structure and include a credit metric assessment. Heathrow is nevertheless very concerned that the CAA is not being ambitious enough when setting up the level of the ratios that the H7 regulatory decision will be assessed against. In addition, it seems like the targets in the appendix for some of the ratios would not meet even the investment grade minimum threshold.

156. It is deeply concerning to Heathrow that the CAA considers that the targeted benchmark is the minimum level required by an agency (point of downgrade) and not the target level that an agency would expect. This is especially true when the CAA states that it wouldn't necessarily expect Heathrow to meet benchmark levels in all years. This is not regulatory best practice. We would expect that all relevant benchmarks are met, for all years in the "base case" scenario.

[61] Paragraph 13, Appendix D, CAP1610

157. Instead, the CAA should:

a. Undertake a sensitivity analysis to understand the impact of reasonable downside scenario on credit metrics;

b. Use this to target an appropriate credit rating and target metrics that are robust to reasonable downsides, and will ensure that Heathrow is able to maintain a strong investment grade credit rating

158. The CAA should also be explicit about the credit rating it expects the notional structure to achieve for its H7 determination. Target ratings should be consistent with this credit rating. The credit should also be consistent with the cost of debt assumptions used for determining the WACC.

159. Rating agencies' guidance takes into account the specific capital structure and the particular restrictions and covenants of the company being assessed. Heathrow's capital structure, restrictions and covenant are very protective to debt creditors. The protections significantly reduce debt holders' exposure in negative financial scenarios which allows them to retain significant value on their bonds in these difficult scenarios. Rating agencies recognise these restrictions and therefore allow less ambitious credit metrics compared to a less protective capital structure.

160. The CAA should perform sensitivities based on a non-covenanted structure that reflects the real risk and target rating of a notional capital structure.

161. Some of the credit metrics in table E.2 of the CAA's guidance are based on Heathrow's actual debt structure and not on a vanilla capital structure. This is inconsistent with assessing financeability based on a notional capital structure. This should be corrected. Adjusting for this would make the credit metrics that the H7 decision will aim to meet more challenging. As discussed above, the minimum level of metrics to sustain investment grade rating for a notional-vanilla structure, are more ambitious than a restrictive capital structure.

162. Heathrow considers that the selection of ratios seems, in general, appropriate. It factors in the core ratios that the rating agencies take into consideration when assessing the credit quality of airports and other comparable businesses. Each rating agency focuses on different ratios based on their different methodologies. It is important not to pick and choose what would be the minimum ratio required based on the less restrictive agency to assess financeability. As the CAA is aware, a robust rating is always underpinned by robust credit metrics.

163. The table below, includes detailed commentary on ratios proposed by the CAA:

Interest Cover Ratio (ICR):	This ratio is reflected in Heathrow's covenant structure. However, under normal circumstances we would expect a significant margin to covenant levels. As such, the ratio could be relegated to a secondary metric, as it is not likely to inform the rating level.
FFO interest cover	This ratio is calculated differently by Moody's and S&P. Both use an FFO pre-interest as the nominator, but Moody's uses the interest expense for the denominator while S&P uses interest paid. S&P only uses this ratio as a supplementary coverage ratio, while Moody's uses it

	as part of its 4 key indicators. For this reason, Heathrow proposes to focus on Moody's method of calculation.
Adjusted cash interest cover (ACICR):	This ratio is not part of the metrics that Moody's use for airports. But it does recognise the similarities between Heathrow's financing structure and the other regulated utilities on which this ratio is used. The target that the CAA has included in the document (~1.0-~1.2x) is derived from the Heathrow Finance Plc downgrade/upgrade assessment that it is rated by Moody's as sub-investment grade. Moody's targets 1.5-2.5x for a ratio on the Baa level on the Water sector (same level to the one proposed by the CAA for the FFO to Gross debt ratio). It would be more appropriate to use a range like the one used in the water sector adjusted for the additional risk.
Regulatory Gearing	This ratio is not part of the metrics that rating agencies would usually use to assess the credit worthiness of an airport, but as it happens with the ACICR, it is part of the assessment of regulated utilities. Moody's targets 55-70% for a ratio on the Baa level for the Water sector which is the same level to the one proposed by the CAA for the FFO to Gross debt ratio. It would be appropriate to use a similar range to the one used in the water sector adjusting for the additional risk.
Net debt / EBITDA	The targets included are based on actual capital structure. They should instead be based on a target credit rating and the notional balance sheet. Fitch and S&P take slightly different approaches to setting expected range, depending on their view of the financing structure and its perceived level of risk. Fitch considers Heathrow's actual funding risk as midrange despite recognising its strong capital market access ability, diversification of maturities, hedging, security, and covenants that ring-fencing all cash flows and limit leverage. Weaker debt structures would require lower levels of leverage to the ones included on published reports. Based on S&P's corporate methodology, target ratios for businesses with low volatility and aggressive financing structures should be between 5 and 6 times.
Post Maintenance interest cover ratio (PMICR)	The targets included on the consultation document reflect the boundaries for upgrade/downgrade included in the Fitch report on Heathrow's actual capital structure. The CAA should base them instead on a notional capital structure, requiring a more ambitious target.
FFO to Net debt	This is a core ratio for S&P. It differs from FFO to Gross debt because it considers the available cash within the business to calculate the ratio. We would propose to promote it to the core ratios as cash balances should not be insignificant during expansion to allow for enough liquidity.

164. Heathrow would like to engage with the CAA on the detailed definition of each credit rating metric. In addition:

a. Credit rating benchmarks seem to be suggesting that a lower medium investment grade rating is being targeted. If that is the case, the index used for cost of debt allowance should be consistent (BBB and not average BBB and A).

b. Fitch target ratios on page 92 are based on a structured finance debt structure, so not applicable to the notional structure. Moodys' ratios are non-investment grade ratios (Ba3)

c. If a low investment grade is being targeted, the CAA will need to assess the depth of the market, as it reduces significantly below A-

165. Heathrow thinks the CAA should factor into its qualitative assessment elements like the allocation of risks determined by the general regulatory framework, the risks associated to the capital programme and the level of ambition for operational efficiency (including both operational expenditure and commercial revenue). In addition, we consider that the CAA should include cost of debt as a material change in risk arising from expansion (paragraph 3.27).

166. Finally, regarding equity financeability, Heathrow has the following comments:

a. Dividend yield and metrics factoring in a period more than 5 years should be used when assessing equity financeability as an investment like expansion is so long term.

b. The CAA needs to recognise that provision of new equity for a project is not the same as the willingness of new entrants or the minimum required return

c. Heathrow is in principle supportive of using a RORE methodology to support the assessment of equity financeability

5. Financial resilience and ring fencing

Introduction

167. Heathrow agrees that understanding whether to take additional steps to protect Heathrow's financial resilience is a key consideration for the CAA in H7. This exercise would enable the CAA to meet its primary duty of furthering the interest of consumers as well as ensuring that the Licensee can finance its activities.

168. Heathrow welcomes the CAA's clear intention of not cutting across Heathrow's existing financing arrangements in a way that would precipitate the need for refinancing or amending the current structure. Heathrow agrees with the CAA that any new licence condition should not create costs in excess of the benefits that it will provide consumers.

169. As we raised in our response to CAP1541, Heathrow considers that financial resilience is achieved by means of defining a predictable and consistent regulatory framework that properly compensates for the risk to which Heathrow will be exposed throughout the development, delivery and operation of an expanded airport. This is far more effective than introducing additional licence conditions. Financial resilience is promoted by:

a. Performing a detailed bottom up exercise to set the H7 building blocks in order to define the overall revenue requirement;

b. Making policy decisions that provide long term certainty, i.e. the inflation index to be used in future price controls and the risk premium associated with expansion over the investment and initial operational phase;

c. Setting the TMR consistent with the CAA's previous regulatory decisions; and

d. Avoiding the introduction of excessive or compounded new risks when defining the regulatory framework, such as ex-ante incentives for capital investment.

170. Heathrow agrees with the CAA that a focus on Better Regulation principles is necessary. This focus should be at the forefront of the CAA's decision making. This is particularly true in assessing the advantages or disadvantages of different licence conditions identified for further analysis. At this stage, it is difficult to understand how the CAA is going to approach the exercise of understanding whether new licence conditions are on balance helpful or otherwise. Heathrow would like to work with the CAA on this.

171. In addition to following Better Regulation principles we would draw the CAA's attention to the need to not cut across Heathrow's financing arrangements. This will ensure that any benefits from new licence conditions outweigh the costs to consumers. Heathrow would like to highlight to the CAA that duplicating what is already set in Heathrow's financing arrangements and which already provides effective protection for financial resilience and the safeguarding of assets in to the licence is problematic. This is because:

a. It is essentially redundant, and by definition more costly;

b. It could have unintended consequences beyond those that are already accepted and understood in the financing arrangements:

    i. Over time, the requirements of the licence and the financing arrangements could diverge and ultimately be in conflict with each other, adding complexities, constraints and potentially resulting in a negative outcome for consumers; and

    ii. Any changes to Heathrow's licence which have a material adverse effect on the financing could have a significantly detrimental effect on Heathrow's business and its ability to raise financing going forward.

172. Heathrow considers that it is considerably more robust to look at the licence and the financing arrangements together as a package. This recognises that the financing arrangements already provide significant protections to the risks outlined by the CAA. These arrangements were designed to promote financing resilience and the safeguarding of assets. They represent a set of rules and values which Heathrow has been living by for over a decade.

173. Below, we provide detailed feedback on each of the potential licence conditions that the CAA highlights as warranting further consideration in the future. Heathrow would like to engage with the CAA on these important issues.

Feedback on licence conditions

Restrictions on the disposal of assets

174. The risk which the CAA appears to wish to mitigate is already fully addressed through the financing arrangements. Therefore Heathrow believes that a condition of this nature is unnecessary.

175. Heathrow's financing arrangements already prohibit the disposal of any of its business or assets except in certain limited circumstances[62]. These exceptions are limited in scope and narrowly defined and as a result, Heathrow is subject to robust controls on its ability to dispose of assets. In general terms, the financing restrictions only permit disposals that are for the benefit of the Permitted Business. This is defined as the business of owning, operating and developing the airport.

176. These arrangements seek to ensure that Heathrow continues to own the assets which it needs to operate the airport and generate the revenue associated with that operation. It is clear that, in this case, the interests of airport users are closely aligned with those of the investors, and clearly protected by means of Heathrow's financing arrangements. This makes any additional restrictions imposed through the licence redundant.

An obligation to hold a corporate credit rating

177. Heathrow considers that a corporate credit rating would be wholly unnecessary and expensive given the nature of the credit ratings already held by Heathrow in relation to its financing.

178. Heathrow already maintains a credit rating for three different debt platforms (Class A bonds, Class B bonds and Heathrow Finance bonds) from three different rating agencies (Standard & Poor's, Fitch and Moody's). These are further split between two different levels of its capital structure (Heathrow Funding and Heathrow Finance). These varied and comprehensive ratings already provide detailed insight in to the financial stability of Heathrow.

179. A requirement in the licence to maintain a fourth corporate credit rating (which we assume would be for Heathrow Airport Limited) would be overly burdensome, would not add effective protections to consumers and result in inefficient costs being paid by consumers:

   a. The maintenance of the existing ratings already involves a significant amount of oversight of Heathrow's business from the three largest rating agencies;

   b. Although the ratings have been assigned to the debt instruments, and reflect the relevant agency's view on the likelihood of repayment of principal of, and interest on the relevant bonds, an essential element of the rating analysis includes an assessment of the underlying credit quality of Heathrow as this is essentially what supports the bond repayments;

   c. Each agency, therefore, undertakes an annual review of the ratings which includes an update on the business and its performance, including the implicit credit quality of Heathrow as a whole, and

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[62] For a complete list of the relevant exceptions, please see the definition of "Permitted Disposal" in the Master Definitions Agreement for the Heathrow's financing. https://www.heathrow.com/file_source/Company/Static/PDF/Partnersandsuppliers/conformed_master_definitions_agreement_BAA.pdf

d. Further, obtaining and maintaining a corporate credit rating would be a cost item for Heathrow's consumers. Incurring such a cost when Heathrow's current arrangements are more than sufficient would directly contradict the need for Heathrow to achieve efficiencies across the business and would increase the cost imposed by regulation.

180. Furthermore, Heathrow considers that a requirement to hold a corporate credit rating would risk confusing the market and therefore creating a detrimental effect on consumers. We are concerned about the potential confusion caused by holding multiple ratings which are all rated on a different basis. From time to time, rating agencies may change their methodology and criteria which can lead to rating action being taken (positive or negative) however, such changes may not reflect the financial soundness of the business. We consider that this could lead to serious prejudice to our business and unintended consequences.

181. We note the CAA's comments that, in order to be effective, compliance may need to be backed by cash/dividend lock-up provisions. We think that this is also unnecessary since, these protections already exist under the financing arrangements. If the rating of the Class A bonds is downgraded below BBB+ by two rating agencies and/or the rating of the Class B bonds is downgraded below investment grade by two rating agencies then a trigger event will occur under Heathrow's financing arrangements. This results in, among other things, a cash-lock up at the Heathrow SP group level.

182. In addition to the significant protection already provided to consumers by the financing arrangements, Heathrow would like to bring the CAA's attention to the following points:

a. Credit ratings will be maintained throughout the next regulatory period and beyond. The bonds issued by Heathrow Funding are long dated (with maturities currently ranging through to 2049) and it is a term of the financing that Heathrow takes reasonable endeavours to maintain a credit rating for the Heathrow Funding bonds. Any amendment to this provision would require the consent of the Bondholders. Bondholders' interest and consumers interest are again aligned in this respect; and

b. Current licence conditions also require Heathrow to notify the CAA in advance of any changes to the credit rating requirements in Heathrow's financing arrangements, including in so far as they apply to the credit rating requirements.[63]

183. In light of this, Heathrow considers that dis-benefits for consumers would be derived by requiring an additional corporate credit rating.

Stronger sufficiency of resources obligations

184. Heathrow notes the CAA's comments but considers that the current licence conditions are more than adequate for ensuring that resource obligations are met.

185. In addition, the CAA's business planning guidance requires Heathrow's Board of Directors to certify that the Final Business Plan (FBP) is based on efficient costs (including financing costs), is affordable, reflects consumers' views and is deliverable, including in respect of financeability. This requirement strengthens the protection already included in the licence.

186. We would welcome further evidence from the CAA as to why increasing the regulatory burden would achieve a positive outcome for airport users and would be happy to discuss

[63] Condition E2.10, Heathrow's licence

ways to ensure that the interests of consumers are protected. In particular avoiding additional costs for consumers.

Enhanced compliance certification

187. Heathrow considers that further compliance certification is highly unlikely to be necessary in the context of the extensive compliance certification already provided by Heathrow.

188. Under the terms of its financing arrangements, Heathrow is obliged to publish a semi-annual investor report. These reports, which are published on the Regulatory News Service of the London Stock Exchange and are freely available on Heathrow's website[64], include calculations of historical and forward looking financial ratios, a general overview of the business, details of regulatory and business developments, details on capital expenditure, outsourcing, financing activities, any acquisitions and disposals, hedging and information on any dividends paid since the publication of the last investor report.

189. The investor reports are published at or around the same time as the semi-annual compliance certification is issued to the trustee under the financing arrangements. Dividends can only be paid by the Heathrow SP group during the 90-day period after delivery of the compliance certificate. Accordingly the financing arrangements already adequately deal with the potential concerns outlined by the CAA in the consultation paper regarding the timing of dividend payments relative to compliance certification.

190. As the bonds issued by Heathrow Funding Limited and Heathrow Finance plc are listed on the London Stock Exchange Heathrow is obliged to comply with the EU Market Abuse Regulation. This requires it to publish any price sensitive information on a regulatory news service without delay unless one of the limited exceptions apply.

191. In this context Heathrow is uncertain what consumer benefits the CAA considers would be achieved by additional certification. Additional certification will create extra costs for consumers.

Enhanced ultimate controller undertakings

192. This further regulatory intervention is wholly unnecessary. We do not agree that it will generate additional benefit to consumers. On the contrary, it could potentially generate unintended negative consequences.

193. Heathrow's current licence already contains obligations applicable to the wider Heathrow corporate group including shareholders. Condition E2.7 ensures that shareholders are not able to take actions which might have an adverse effect on the Heathrow business. In addition, as described under the Enhanced compliance certification section, Heathrow is subject to extensive compliance certification through different requirements.

194. Heathrow's shareholders are global investors with diverse portfolios and it is imperative that Heathrow continues to be an attractive investment opportunity in that portfolio. Excessive regulatory controls, imposed when there is no benefit to consumers may act to discourage future investment.

195. We would urge the CAA to carefully consider the wider, and unintended, risks presented by imposing further controls on shareholders, including the additional cost it could create for consumers.

[64] https://www.heathrow.com/company/investor-centre/document-centre/investor-reports

Enhanced information provision in relation to changes to the financing arrangements and in the situation of financial distress

196. To the extent that the CAA relies on provisions in the financing arrangements to support the licence, we acknowledge that it would be appropriate for Heathrow to notify the CAA in advance of making any changes to such provisions. This is the case under the existing licence which looks to the credit rating requirements in the financing. However, the nature of changes would be such that we do not consider it appropriate that Heathrow is required to specifically obtain the consent of the CAA before such changes are made.

197. Should the CAA choose to impose notification obligations, then any such obligations should be narrow in scope and should not include minor changes of an administrative nature.

Cash dividend/lock-up provisions

198. A provision of this nature may cut across Heathrow's financing arrangement and therefore run counter the CAA's intention of not doing so. This could have very detrimental effects on consumers. Heathrow urges the CAA not to consider this provision any further.

199. The inclusion of any cash/dividend provisions in the licence is very problematic for Heathrow given its capital structure and the fact that there are multiple layers of financing which rely on cash being up-streamed through the group in order to service debt.

200. Cash lock-ups are also already a key feature of the financing arrangements providing the protections the CAA appears to be considering. For example, if a trigger event occurs then no further dividend payments can be made from the Heathrow SP group.

201. Furthermore, the terms of the structurally subordinated debt issued by Heathrow Finance plc provide that no member of the group (including Heathrow Airport Limited) will enter into or permit to exist any agreement binding on any member of the group which restricts the ability of the group to pay dividends or move money through the group beyond the restrictions that currently exist in the Heathrow financing.

202. Heathrow's view is that, subject to the precise terms of any licence condition imposed, any dividend or cash-lock arrangements in the licence could lead to significant issues under the financing arrangements, and ultimately create additional costs to consumers.

Requirement to deal on arm's-length basis and normal commercial terms

203. It is not clear what effects the CAA is looking to mitigate with this requirement. We urge the CAA to clearly demonstrate what it is trying to solve and articulate why it believes the current arrangements are not fit for purpose.

204. Heathrow ensures that all its business transactions are carried out on arm's-length terms to ensure the best possible commercial outcomes. This is done via internal processes which ensure fully competitive procurement.

205. Heathrow's financing arrangements already regulate dealings between connected parties with restrictions at both the Heathrow SP group level and Heathrow Finance plc (in each case, applying to all of the subsidiary group companies). Subject to certain limited exceptions (e.g. the shared services arrangements between Heathrow Airport Limited, Heathrow Express Operating Company Limited and LHR Airports Limited) no Heathrow SP group company may enter into any arrangement or contract other than on an arm's-length basis or on terms no less favourable to such Heathrow SP group company than would reasonably be expected to

be obtained in a comparable arm's-length transaction with an entity which is not associated with such a group company.

206. In addition, Heathrow is required to ensure that any outsourcing arrangements are concluded on arm's-length terms. For any outsourcing of any part of its business or services pursuant to which capital expenditure will be incurred. Heathrow must comply with the Public Procurement Rules.

207. Furthermore, the terms of the Heathrow Finance bonds prohibit transactions between affiliates subject to certain limited exceptions, if any group company wants to enter into a transaction or series of transactions with an aggregate value of more than £100 million that is not an ordinary course of business transaction, such group company is required to obtain a fairness opinion to confirm that the transaction is fair from the perspective of the relevant group company.

208. As a result, the Board of directors is already required to scrutinise the terms of any contractual arrangements to ensure that such terms are fair and are on arm's-length terms so that the group remains in compliance with its financing arrangements.

209. Finally, Heathrow's licence already compels Heathrow to procure capital projects in an economical and efficient manner and to publish a Procurement Code of Practice. The Code is consistent to the arrangements described above, and Heathrow complies with it.

Prohibition on cross-subsidies

210. It is unclear to Heathrow what the CAA is looking to achieve by imposing a prohibition on cross subsidies. While Heathrow agrees that it is not uncommon in certain other regulated sectors, businesses in those sectors have business models which are clearly differentiated from Heathrow's.

211. In other regulated sectors, there is a clear wholesale and retail function within business, which regulators have considered must be kept separate to ensure that a dominant position in one is not leveraged in to the other. This is clearly not the case when considering Heathrow's business model which has no vertical integration.

212. If the CAA does wish to proceed with imposing an ex-ante control on cross-subsidisation we would urge the CAA to seriously consider the potential impact of such a control on the effective operation of the single-till. Heathrow's commercial revenues are essential for ensuring that airport users pay the lowest charges possible. The CAA should not do anything to jeopardise the effectiveness of this structure without also considering a wholesale review of the single-till approach.

Conclusion on financial resilience proposals

213. We would like to engage with the CAA and its legal team to better understand the next steps in this important area of the H7 licence. We are keen to understand how the CAA intends to assess the various proposals with a particular focus on how the CAA intends to measure the benefits of any additional licence conditions against the significant additional regulatory burden of each of the proposals.

6. The regulatory treatment of early construction costs[65]

Comments on approach to compensation for early construction costs

214. Heathrow welcomes the CAA's positive step towards making a definitive policy decision on early category C costs.

215. As discussed with the CAA, it is essential for a timely delivery of expansion that the CAA makes a final policy decision for all the elements of early category C costs in its April consultation. All the costs that make up early category C costs are on the critical path for delivering capacity as soon as practicably possible.

216. Heathrow will run residential compensation, property compensation and displacement and pre-consent construction costs (including early design and land investigation) as parallel workstreams.

213. Policy uncertainty regarding pre-consent construction costs will delay progress towards delivering early design works. That in turn will affect the procurement of works and ultimately the start and finish of construction. As discussed in Chapter 2 of this response, delays to opening the runway will have significant costs to consumers. Heathrow urges the CAA to mitigate against this possibility.

214. Any pre-consent design and construction work would be subject to existing airline scrutiny and business case approval. Each project would need to justify its business case. Investment in intelligent early design is demonstrated to greatly reduce the ultimate cost of major projects. Supporting this approach is in principle very much in line with a focus on affordability for the entire H7 and H8 period.

215. Heathrow has the following comments on the CAA's specific policy proposals:

   a. Heathrow accepts the CAA's costs categorisation. That is a split between a) commercial/other compensation (i.e. "displaced uses") costs, b) Compensation for residential, small commercial and agricultural interests, and c) early construction costs (including early design and land investigation costs). However, we think that the term pre-consent construction costs better describes this last group of costs;

   b. Heathrow agrees that it should be able to recover these costs. Heathrow should be able to recover the costs plus the associated return in a timely manner, i.e. when investment takes place. This is provided early category C costs are demonstrably in the interest of consumers and efficiently invested;

   c. Heathrow considers the proposed role of the airlines in review of commercial/other compensation ("displaced uses") costs to be problematic. We support providing visibility of spend and clear rationales for this investment. But this type of investment is a highly specialised area and subject to significant confidentiality considerations, including involving key airlines;

   d. Heathrow proposes that a more appropriate approach for these displaced uses costs is for Heathrow to inform the airline community of the programme of work associated

[65] This section should be read alongside of the information submitted to the CAA, addressing Appendix G of CAP1610.

with these costs and the related forecast expenditure. We would use the existing agreed governance process. However, the airline community and Heathrow should not be compelled to agree on the process for investment or the suitability of the investment. Heathrow would propose that the CAA itself (or a specialist third party acting on behalf of the CAA) assess whether the investment is required and is efficiently developed in line with the guidance set out in Appendix G of CAP1610; and

e. Heathrow agrees with the CAA's proposal that all residential compensation should be rolled into a single cost item of costs.

Competitive market discussion

217. Heathrow agrees with the CAA statement that *"…in a competitive market with short term capacity constraints, prices would increase in a way that signals the need for future investment. If this were to be the case, those increased prices may also provide additional cash flows that could be used by market participants to accelerate their investment plans. For Heathrow, economic regulation prevents the functioning of the market forces by restricting the ability of Heathrow to increase its prices so that, in the circumstances of capacity expansion, there is a case for considering allowing appropriate funding of early Category C costs, where such spending can be shown to be in consumers' interests".* In addition:

a. Heathrow agrees with the CAA that there is thus a clear economic case for timely recovery of these costs, where early category C costs are shown to be in consumers' interests and are efficiently invested.

b. The question of early category C costs relates to the CAA's duties, particularly in the way in which the CAA should carry out its functions. The Civil Aviation Act states that "*The CAA must also carry out its functions, where appropriate, in a manner that will promote competition in the provision of AOS".* The CAA is right in asserting that a shortage of capacity in a competitive market would trigger a price increase. That in turn would signal to market participants to provide more capacity or provide a signal to other agents to enter the market. The price increase would serve to fund the extra capacity needed to serve unsatisfied demand. Fostering such investment helps to promote market competition.

c. The CAA should not restrict its thinking on effective competitive market behaviour to the implementation of its early category C costs policy. This is a principle that the CAA should consider throughout the H7 price review process. This is particularly important given that it is envisaged that during the H7 period there is going to be significant capacity shortage. In a fully functioning competitive market an increase in prices would be expected.

d. In accordance with these duties the CAA should consider how different price profiles for Heathrow's H7 and H8 price control would affect the competitive dynamic of airport services in the London system and wider European transfer market.

7. Interim arrangements to extend the Q6 price control

Timetable and length of the extension

218. Heathrow urges the CAA to end the current uncertainty over the timetable for the H7 regulatory settlement. Heathrow believes that given where the process has reached and the time available the interests of consumers are best served by confirming a further year of

extension to the current price control. That is confirming in the April consultation a Q6+3 running into 2021. We also believe that the CAA should rule out further extensions at that point.

219. Heathrow believes the CAA should also confirm the specific calibration methodology for adjusting revenue in H7 and the associated price path for Q6+2 (2020) and Q6+3 (2021) and a fixed timetable for performing the calibration exercise.

220. We would urge simplicity and practicality in any proposal. While Heathrow has argued for different durations, we are consistently seeking certainty. We are also consistently seeking a practical timetable that aligns with the statutory process for expansion given the impact that will have on H7 and H8. Airport and airlines need a set, integrated timetable so they can plan their efforts to produce the highest quality results for users. As a practical matter, a decision on the timetable only in September is far too late for all involved if the IBP is expected in December 2018. The CAA just needs to decide.

221. Extending to 2021 will allow more time to explore commercial agreements between Heathrow and the airlines. Discussions can build on all the information required after the NPS vote. It will also enable the regulatory review to properly reflect a single masterplan option by better alignment with the expansion planning process. It will enable limited airport and airline resources to be allocated on those matters that take priority (i.e. first resolving the statutory process and high-level design and subsequently the regulatory review). Importantly it will give time for the regulatory framework to be fully articulated and consulted upon. It will provide regulatory certainty regarding the methodology and timing of when and how decisions are going to take place. Using the calibration method proposed by the CAA it will also protect consumers from material changes in market conditions not addressed by the original Q6 review.

222. Heathrow outlines below the reasons why the a 2020 (Q6+2 extension) and related timetable is less preferable:

a. The current H7 timetable provides little opportunity for Heathrow and the airlines to engage in meaningful commercial discussion centred around a matured plan:

i. The CAA states in its document that it remains open to considering commercial arrangements including commercially negotiated contracts between Heathrow and the airlines[67].

ii. A confirmed extension to Q6+3 would provide the opportunity for this engagement later in 2018 and 2019, before the regulatory process intervenes. A further extended Q6 would facilitate meaningful discussions between airlines and Heathrow on commercial contracts based on one single masterplan option that incorporates the feedback from Consultation 1, 2 and potential NPS conditions.

b. The current H7 timetable is fundamentally incompatible with the expansion planning process because:

i. An extension to just 2020 (Q6+2) risks compromising the H7 process by preventing alignment of the H7 regulatory process with the expansion planning

[67] Paragraph 7, page 9, CAP1610

process. Submission of Heathrow's IBP in December 2018 as required for Q6+2, would mean we would be unable to present a meaningful view and costing of a single masterplan which will only be selected around September 2018. That timing is set by the statutory requirements of planning.

ii. A December 2018 IBP submission would only allow for inclusion of a limited amount of feedback from Heathrow's Consultation 1 process and would not allow for any consideration of feedback from Consultation 2 planned to take place in early 2019. Consequently, an August 2019 FBP would also limit the amount of feedback from Consultation 2 which could be incorporated into the presented option. If neither of these documents can provide a complete view of the proposed single masterplan, designed using feedback from all stakeholders, it is difficult to see how the CAA would be able to come to an appropriate conclusion on the H7 regulatory settlement.

iii. The current timetable, based on a Q6+2 scenario, would also mean that the H7 regulatory period would require final proposals in late 2020. This is awkwardly far in in advance of Heathrow receiving DCO approval in late 2021. An extension to Q6+3 (2021) would therefore provide better alignment with the DCO process for H7 itself.

iv. Furthermore, the current timetable could potentially risk distracting important resources from all parties which should be firmly focused developing an expansion programme that considers all stakeholders views from Consultation 1 and 2, and the continuing engagement with airlines and the CCB.

c. The current timetable generates significant regulatory uncertainty. The CAA must avoid creating more uncertainty in an already uncertain environment. The CAA states that the current timetable is illustrative and subject to change if the NPS were to be delayed. The CAA argues that it would only make a formal decision about it in September 2018. This provides little certainty to stakeholders regarding the actual timetable for H7 until far too late.

d. The current H7 timetable will prejudice the process for setting a proportionate extension calibration for Q6+2 and H7 settlement:

i. Q6+2 would mean that engagement on extension calibration would have to be carried out during production of Heathrow's IBP and Constructive Engagement, diluting the focus from this process and potentially leading to a worse outcome for consumers in both the extension of Q6 and H7 as a whole.

ii. The current timetable for H7 does not provide adequate time for the CAA to make thorough and robust decisions on the regulatory framework. To meet this timetable, the CAA is planning consultations in April and summer 2018. In doing this, it is not able to respond to stakeholder feedback on the previous consultation in the following consultation. This leaves the CAA unable to make clear and evidence based decisions in its documents. This could lead to instability and errors in the H7 framework which could cause large consumer detriment. It also means Heathrow in practice is producing an IBP based on an incomplete regulatory framework. That is not regulatory best practice.

e. The current timetable does not incorporate any contingency for any unforeseen events that may take place. A minor delay in the NPS would make the current Q6+2 timetable impracticable. From a planning perspective, it does not make sense to set a timetable that a change to the first big milestone could render non-workable.

223. A comparison of the timetables is below, showing how the two timetables align with the external dependencies.

Q6+2	***Planning Process***	***Q6+3***
April 2018 CAA consultation		**April 2018** CAA consultation
Summer 2018 Final CAA consultation	**Summer 2018** NPS Designation	**Summer 2018** Final CAA consultation
Autumn 2018 Extension calibration		**Autumn/ Winter 2018** Extension calibration
December 2018 IBP submission		
	January 2018 Consultation 2	
August 2019 FBP submission		
December 2019 Initial proposals	**December 2019** DCO application	**December 2019**[70] IBP submission
September 2020 Final proposals		**August 2020** FBP submission
January 2021 H7 start		**December 2020** Initial proposals
	2021 DCO approval	
		September 2021 Final proposals
		January 2022 H7 start

224. Even a cursory review of the timetables confirms that the Q6+3 timetable provides a better alignment to the planning process and enables more time for the CAA to consult on its proposed revenue calibration at the end of 2018.

225. Heathrow is open to engage in this matter with the CAA and open to discuss how to best align interim milestones such as the FBP and the CAA's Initial Proposals in order to meet all stakeholders' needs. Heathrow urges the CAA to make a final decision on the length and terms of extension in its April document.

[70] Heathrow considers that moving the intermediate milestones of the timetable is a sensible approach. Nevertheless, we are open to investigate an earlier delivery of the IBP with the CAA and the airline community.

Price Path

226. Heathrow can accept the CAA's proposed approach in setting a price path and a different underlying revenue requirement. Heathrow in principle supports the CAA's preference of RPI-0% to provide stability for consumers ahead of H7.

Calibration

227. In accordance with the CAA's principles, the calibration of the price control for the extension should ensure stability for both Heathrow and the airlines in advance of the H7 price control. The extension should not divert resource from preparations for H7 and the delivery of new runway capacity, which, as stated by the CAA, is the ultimate benefit for consumers.

228. The CAA proposes to adjust the regulatory depreciation in the extension year to address any difference between the price path and the result of the calibration exercise. Heathrow disagrees with this approach. Adjusting regulatory depreciation may have a negative effect in Heathrow's financing ability and therefore affect consumers.

229. A better approach would be to adjust, H7's revenue requirement, by for example evenly reducing the amount of revenue requirement in H7 generated by the difference between the price path for the extension years (Q6+2 and Q6+3) and the calibrated revenue. This would be neutral in NPV terms to protect the interests of both consumers and Heathrow's investors.

230. This approach has significant regulatory precedent, including the CAA's approach for Terminal 5 between Q4 and Q5 and Ofwat's approach to true up/down revenue between price controls as a consequence of the different incentive schemes in place.

231. In calculating the underlying revenue requirement, Heathrow views a reset of the simpler, operational variables of passenger numbers, operational expenditure and commercial revenue to be the most suitable option. Heathrow believes that this method is in line with the CAA's principles ensuring that it is proportionate, targeted and supports stability.

232. A reset of these variables is proportionate and is relatively simpler to calibrate with basic forecasts or efficiency estimates than other more involved building blocks. Furthermore, the three variables are interrelated so need to be addressed together. This will ensure that extension:

   f. Does not require the same workload as a traditional price control review.

   g. That consumer interests are protected through an extended control period by re-baselining the revenue requirement based on a forecast that incorporates latest performance; and that

   h. Airport charges reflect future changes in circumstance, such as the introduction of Crossrail, changes in trends of passenger growth or wider macroeconomic factors and risks such as Brexit.

233. In its document, the CAA argues that caution must be taken when looking at any adjustments to the WACC due to its potential impact on financeability. Heathrow echoes this sentiment and urges the CAA to consider the complexities of reviewing the WACC or only certain aspects of it as part of a short interim review.

234. The WACC is formed of a set of complex, interlocking components it was set following in-depth analysis of these components ahead of Q6. An accurate reset of the WACC would therefore require significant time and resource. Heathrow considers this to be disproportionate given the length of the extension and the potential consumer detriment caused by a loss of focus on capacity development and the potential impact on future financeability.

235. The Q6 WACC was defined to compensate Heathrow for a set of risks, none of which included the significant investment and uncertainty generated by expansion. In 2020 and 2021, it is envisaged that Heathrow will be engaged in a significant investment programme to deliver expansion. Should the CAA want to reopen elements of the WACC, it should ensure that the risks generated by expansion are properly compensated for.

236. Finally, an extension to the Q6 price control will be implemented my means of a licence modification. Alongside the licence modification there should be clear guidance on the results of the calibration exercise, an exercise that Heathrow would accept if it is done according to the principles outlined by the CAA.