Economic regulation of Heathrow Airport Limited: H7 Final Proposals

Appendices D – K

CAP2365

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

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

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APPENDIX D

Q6 Capex Review

Introduction

D1 Efficient and timely investment by HAL is key to the delivery of an appropriate level of service in the interests of consumers and to allow for the safe and secure operation of the airport. Capex is added to HAL's RAB and the costs of it are recovered from consumers through the allowances we set for regulatory depreciation and returns. So, the level of capex has a significant impact on the financing requirements of the business and the overall level of airport charges in the longer term.

D2 The current regulatory framework for capex includes an *ex post* review for the Q6 period, so that expenditure is subject to an efficiency assessment at the end of the price control period. Any capex that is determined to be inefficient under this assessment may be "disallowed" from HAL's RAB and, therefore, excluded from the calculation of airport charges for the H7 price control.

D3 This Appendix sets out our Final Proposals for the outcome of our *ex post* review of HAL's capex during Q6, including:

- a summary of our previous work including our Initial Proposals;
- a summary of stakeholders' views and our response to those views;
- a summary of our Final Proposals; and
- next steps and implementation.

D4 In part due to the challenges that we have encountered in this *ex post* review, we are placing greater emphasis on new forward looking (*ex ante*) incentives for capital efficiency during H7. Our Final Proposals in respect of these matters are set out in chapter 7 (Capex incentives).

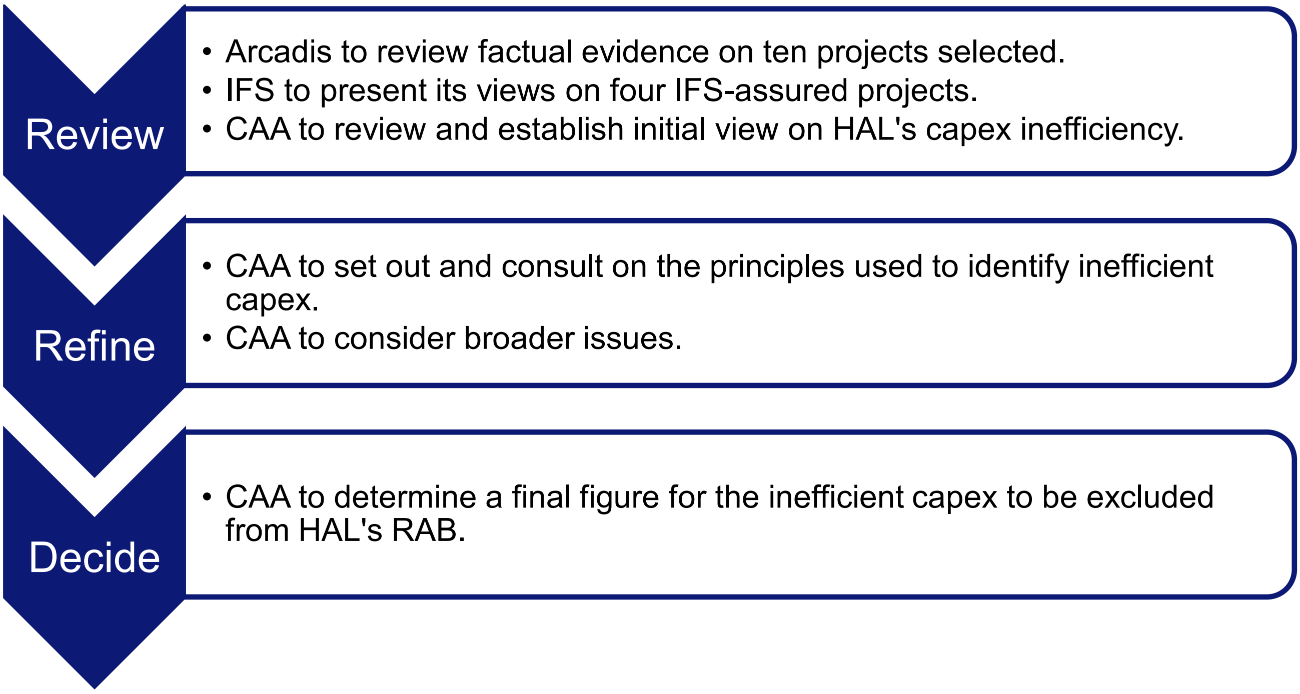
Summary of earlier consultations, including Initial Proposals

D5 In 2018, we began our review of HAL's overall capex during Q6. Since then, we have reviewed information provided by HAL and other stakeholders with support from our expert advisors Arcadis, developed project selection and assessment criteria, and engaged extensively with stakeholders on these matters.

D6 In the September 2020 Working Paper, we outlined our initial conclusions from our review of ten capital projects that HAL had completed or that were still in progress during the Q6 price control (as extended). We also described a number of broader issues around the delivery of HAL's wider capex programme. In the April 2021 Working Paper, we provided an update on the key policy areas and our emerging conclusions. Each of the September 2020 Working Paper and the April 2021 Working Paper set out our emerging views on capex efficiency during the Q6 period.

D7 Our broad approach to the review is summarised in Figure D.1 below. This Appendix focuses on the "Decide" stage of the project.

Figure D.1: Proposed Q6 capex adjustment framework



Source: CAA

D8 The April 2021 Working Paper set out the following issues:

- our intention to retain a framework in which out-turn expenditure may only be disallowed from the RAB at the end of the price control period where it is "demonstrably inefficient and wasteful expenditure" ("DIWE");
- our interim conclusions on the Cargo and Main Tunnel projects, proposing that, once these projects are complete (or at the end of the H7 price control period if this is earlier), if there appears to be new evidence that suggests a greater level of efficiency or inefficiency, we will review these matters further;
- our view that a downward adjustment to HAL's RAB in the range of £12.3 - £12.7 million would be appropriate for the inefficiency in relation to the Cargo Tunnel project. This adjustment would be made at the start of the H7 price control period;

- we did not propose any adjustment for the Main Tunnel at this stage or any adjustment in relation to the other eight capital projects that we reviewed;
- the need for HAL to adhere to the existing capex governance arrangements;
- our intention not to make any adjustments for exceptional performance in relation to the Transport Study framework; and
- our view that capital overheads are an important area and that further work will be carried out on these costs as part of our H7 price control review.

D9 Our Initial Proposals were to:

- reduce HAL's opening RAB by £12.7 million to reflect the inefficiencies we identified in relation to the Cargo Tunnel project;
- reserve the option of conducting a further review of efficiency of the Main and Cargo Tunnel projects once those projects are complete (or at the end of the H7 price control period if this is earlier);
- not make any further adjustments in relation to the remaining eight capital projects that we reviewed as the issues with the remaining projects are not sufficient to justify an adjustment for inefficiency under the DIWE approach;
- confirm that we will be monitoring HAL's ongoing compliance with the relevant capex governance regime closely, and that we may use evidence on this in future reviews, where this is appropriate and proportionate;
- require HAL to update its capex governance documents to take account of key issues raised by our review; and
- consider a review of capital projects that were ongoing during iH7 at the end of H7 if there is evidence at that time that these may have been delivered inefficiently. Any such reviews would take place towards the end of the H7 price control period. We would consider a review if the IFS or other stakeholders identify potential inefficiencies with projects delivered during the iH7 period.

Stakeholders' views and our views in response

Cargo Tunnel

D10 HAL had argued (in response to our April Working Paper) that it had identified £0.75m for asbestos removal costs for this project that we had not assessed appropriately during our review. In our Initial Proposals we said that HAL had not submitted relevant evidence in the review period to support these costs. In response, HAL requested that we re-evaluate the asbestos removal costs and disagreed that it had raised these costs late in the process. However, HAL did not provide any new information in support of its request.

D11 In response to our Initial Proposals, HAL did not support a £12.7 million inefficiency adjustment and said that there is no clear evidence that its actions may have directly attributed to wasted spend or lost benefits.

D12 Airlines generally supported our proposed inefficiency adjustment for the Cargo Tunnel but considered that the size of the adjustment should be larger. Both BA and AOC/LACC referred to their responses to the April 2021 Working Paper in which they supported our proposals to treat any adjustment to the RAB in respect of the Cargo Tunnel project as an interim arrangement because the project is not complete. However, AOC/LACC argued that the review of capex on the Cargo Tunnel should not be conditional on new evidence being put forward.

D13 We have not received any new evidence from HAL or airlines on our efficiency assessment of the Cargo Tunnel. We have considered the views above, and we confirm our position set out in Initial Proposals that a downwards adjustment to HAL's RAB of £12.7 million is appropriate.

Main Tunnel

D14 BA and AOC/LACC referred to their response in the April 2021 Working Paper, which supported the proposed interim arrangements for the Main Tunnel. However, BA was disappointed with our conclusion that there is not currently sufficient evidence of inefficiency on this project.

D15 HAL agreed with CAA's interim assessment for this project, as set out in our Initial Proposals.

D16 Consistent with the assessment summarised above, our Final Proposal is that we do not consider that an inefficiency adjustment should be made to the H7 RAB in relation to the Main Tunnel project under the DIWE approach.

Remaining capital projects

D17 BA remain of the view that there is inefficiency in these projects which have yet to deliver any benefit for consumers and noted the repeated attempts by HAL to work around capital governance processes to avoid following the prescribed change control processes.

D18 AOC/LACC also referred to their April 2021 Working Paper response which reiterated that our proposed adjustment for inefficiency falls over £200m short, and set out more detailed views on relevant projects. While we note these views, we also note that AOC/LACC did not provide any new evidence of potential inefficiencies. Airlines welcomed our recognition of governance failures at times on complex and larger projects and supported our proposal that HAL's compliance with relevant governance arrangements could inform our views on capital efficiency in the future.

D19 HAL welcomed our finding that we did not find clear evidence of inefficiency on the part of HAL in relation to the other projects that we assessed during our review.

D20 Given the absence of new evidence, our Final Proposal is to confirm our position set out in our Initial Proposals that there is not sufficient evidence to justify an adjustment for inefficiency for the other projects we assessed under the DIWE approach.

Capital overheads and risk allowances

D21 Given that stakeholders broadly agreed with our proposals for taking forward policy in these areas, our Final Proposal is to confirm our previous view that we will consider these matters as part of our work to implement and develop the capex incentives framework during H7.

iH7 capital projects

D22 AOC/LACC referred to its responses to the April 2021 Working Paper in which it proposed that CAA should consider reviewing certain capital projects and related areas at the end of iH7, including projects that HAL stopped due to the impact of the covid-19 pandemic, and other projects it considered had problems, such as Project Magenta[1] and the T4 Hold Baggage System (T4HBS).

D23 BA agreed that roll-over projects should be assessed no later than the end of H7 and urged the CAA to ensure that it is fully involved in the update of the capital efficiency handbook.

D24 HAL agreed with the CAA that any iH7 projects that required any further review should be subject to *ex post* review. HAL noted that any review should be completed in a timely manner and in line with when projects complete. HAL also encouraged the CAA to plan on this basis to avoid reopening the H7 RAB at the end of H7 as this leads to significant uncertainty and increased risk. HAL asked the CAA to set the scope of further reviews with a corresponding timeline.

D25 As we have received no new evidence, our Final Proposal is to confirm that any further *ex post* reviews will take place at the end of the H7 price control. We will consider a further review if, for example, the IFS (or other stakeholders) identify potential inefficiencies of projects within this period, and present evidence of such inefficiencies.

[1] An IT project proposed by HAL

Our Final Proposals

D26 In the light of the above, our Final Proposals are below:

- to reduce HAL's opening RAB by £12.7 million to reflect inefficiencies identified for the Cargo Tunnel project. This adjustment is reflected in chapter 10 (The H7 Regulatory Asset Base and HAL's request for a RAB adjustment);
- we reserve the option of conducting a further review of efficiency of the Main and Cargo Tunnel projects once those projects are complete (or at the end of the H7 price control period if this is earlier);
- we will not make any further adjustments in relation to the remaining eight capital projects we have reviewed;
- HAL is required to update its capex governance documents; and
- we may review capital projects that were ongoing during iH7 at the end of H7 if there is evidence that these may have been delivered inefficiently. This may be the case if, for example, the IFS (or other stakeholders) identify potential inefficiencies in projects within this period, and present evidence of such inefficiencies.

D27 We consider that these proposals present a proportionate response to the evidence that we have been presented with. The efficiency adjustment will further the interests of consumers by protecting them from being exposed to inefficient costs.

APPENDIX E

Early Expansion Costs

Introduction

E1 Early expansion costs relate to expenditure incurred by HAL on developing its plans for additional capacity at Heathrow airport by the construction of a third runway and associated terminal and other buildings (known as "expansion"). These costs were incurred mainly between 2017 and early 2020, prior to HAL's decision to pause its plans for expansion in light of the Court of Appeal's decision to set aside the Airports National Policy Statement ("NPS"). While the Court of Appeal's decision was subsequently overturned by the Supreme Court, expansion was quickly overtaken by the onset of the covid-19 pandemic and remains paused.

E2 We have previously confirmed that HAL's efficiently incurred early expansion costs should be added to its RAB and recovered during the H7 price control period and beyond.[2] In making these commitments, we took the view that developing expansion was in the interest of consumers at the time the expenditure was incurred.

Background

E3 In the light of HAL pausing the expansion programme in early 2020, we set out a refocused policy in the June 2020 Consultation[3] for the recovery of both Category B and Category C costs[4] incurred before March 2020. We proposed to treat all expansion costs incurred by HAL before March 2020 in the same way, rather than having separate policies for Category B and Category C costs. These costs would be added to HAL's RAB at the beginning of H7, subject to an efficiency assessment.

2 Economic regulation of Heathrow Airport Limited: working paper on Q6 capital expenditure and early expansion costs CAP1996 2.4(a) and 2.26

3 CAP1940 "Economic regulation of Heathrow: policy update and consultation". See: www.caa.co.uk/CAP1940

4 Broadly, Category B costs are those generally related to seeking planning consent for expansion, while Category C costs are early construction costs.

E4 The April 2021 Working Paper[5] provided a further update on our policy in relation to early expansion costs. It also set out the initial findings from our assessment of the efficiency of costs incurred by HAL before the end of February 2020.

E5 We refer to the costs of pausing and demobilising the expansion programme from March 2020 as "wind down" costs. These costs relate to both Category B and Category C. As well as demobilisation costs,[6] wind down costs also include:

- appeal costs (that is, costs incurred by HAL as a result of it appealing the Court of Appeal's judgment on the NPS to the Supreme Court); and
- ongoing property compensation costs due to hardship, known as Interim Property Hardship Scheme costs.

Each of these is discussed later in this Appendix.

E6 We have assessed wind down costs since our Initial Proposals using new and updated information received from HAL. Table E.1 provides a summary of early expansion costs incurred by HAL between 2017 and 2021.

Table E.1: Summary of early expansion costs incurred by HAL between 2017 and 2021

					Wind down costs (includes IPHS and appeal costs)		
£million Nominal prices	**2017**	**2018**	**2019**	**Jan-Feb 2020**	**2020 (March onwards)**	**2021**	**Total**
Category B	78	118	167	21	14	1	399
Category C	6	11	71	21	17	4	130
Total	84	129	238	42	31	5	529

Source: HAL data

E7 The CAA and, prior to 2020, our advisers, have been reviewing different elements of early expansion costs over the period that HAL has incurred them, and shared our findings across different publications. Table E.2 below summarises the assessments we have undertaken over the past two years (prior to these Final Proposals).

[5] CAP1996 "Economic regulation of Heathrow Airport Limited: working paper on Q6 capital expenditure and early expansion costs", www.caa.co.uk/CAP1996

[6] Wind down costs include items such as residual staff costs, costs associated with fulfilling supplier contractual commitments, and HAL's pre-existing agreements relating to property acquisitions.

Table E.2 – summary of early expansion costs assessment before Final Proposals

Costs	June 2020 Consultation	April 2021 Working Paper	Initial Proposals (October 2021)
Category B costs incurred in 2018	Based on IPCR analysis, proposed allowing HAL to recover all Category B costs incurred in 2018.	Not covered.	Confirmed HAL should be able to add all Category B costs incurred in 2018 to the RAB.
Category B costs incurred before the end of February 2020	Set out proposed approach but no assessment of costs.	Findings from the initial assessment of costs using "RAG" ratings. Identified expenditure categories on which we had concerns.	Findings from further assessment of costs and Initial Proposals for potential disallowance ranges.
Category C costs incurred from 2017 to February 2020			

E8 The rest of this Appendix sets out:

- a summary of our Initial Proposals;
- stakeholders' views on our Initial Proposals and our response to them; and
- our Final Proposals for early expansion costs.

Initial Proposals

E9 We took account of information from HAL, feedback from airlines and other stakeholders and advice from our technical consultants Arcadis in developing our Initial Proposals to further the interests of consumers in relation to early expansion costs.

Efficiency assessment for 2018

E10 We confirmed in our Initial Proposals the position in our June 2020 Consultation that all Category B costs incurred in 2018 should be added to the RAB at the start of H7. This amounts to £118 million (in nominal prices), and was based on the review of Category B costs incurred in 2018 by the Independent Planning Costs Reviewer ("IPCR") appointed by the CAA.

Policy for the recovery of early expansion costs

E11 We confirmed in our Initial Proposals that Category B and Category C costs incurred by HAL before March 2020 can be added to the RAB at the beginning of 2022, subject to our efficiency review.

E12 We also confirmed that risk sharing arrangements, recovery caps for costs incurred in 2020 and 2021, enhanced reporting requirements and a new licence condition on governance arrangements are no longer necessary or appropriate due to the pausing of expansion, and therefore, do not apply to these costs.

E13 We proposed to make an allowance for financing costs for costs incurred before March 2020 as follows:

- the Q6 cost of capital of 5.35% for the period up to the end of 2019; and
- the iH7 cost of capital of 4.83% for the period after January 2020.

Wind down costs

E14 Wind down costs incurred from 1 March 2020 until the end of 2020 totalled £30.5 million.[7] In our Initial Proposals we confirmed that HAL would be allowed to add wind down costs to the RAB subject to an efficiency assessment.

Appeal costs

E15 In the Initial Proposals we said that appeal costs incurred by HAL from March 2020 should as far as practicable be treated in the same way as costs incurred before that date as we considered the cost of HAL appealing to the Supreme Court was an ongoing strand of expansion work as it related to HAL obtaining planning consent for expansion. In the Initial Proposals we said that the CAA will undertake a proportionate review of HAL's appeal costs (around £1 million) before these costs can be added to the RAB.

Interim Property Hardship Scheme ("IPHS")

E16 The IPHS is a discretionary HAL policy that aims to assist eligible property owners who:

- have a compelling need to sell their property;
- but have been unable to do so, except at a substantially reduced price; and
- as a consequence, are facing significant hardship

7 Based on HAL's submissions.

as a direct result of expansion proposals. Under the IPHS, property owners who can demonstrate that they meet certain eligibility criteria are able to have their property purchased by HAL.

E17 The Initial Proposals confirmed our "minded to" position from the April 2021 Working Paper that expenditure in relation to the IPHS should be added to the RAB provided that HAL is able to meet the following criteria:

- HAL complies with appropriate governance arrangements for the Hardship Panel and manages its costs within the budgets set out in the further cost information it provided to us on 1 April 2021.
- HAL takes reasonable steps to maximise the rental revenues from these properties (the amounts of which will be taken into account at the H7 price control review, most likely as part of the single till calculations); and
- any future sale proceeds from these properties will be deducted from HAL's RAB.

Efficiency assessment of expansion costs incurred before March 2020

E18 Our Initial Proposals built on the initial findings in the April 2021 Working Paper and set out Initial Proposals in respect of the efficiency of these costs.

E19 The total range of inefficiency in relation to the costs within the scope of our review was between £0 and £5.2 million. We identified a number of issues relating to HAL's management of expansion. In particular, these related to the way HAL set and modified budgets for the expansion programme and HAL's information recording.

Stakeholders' views

E20 Stakeholders' responses to our Initial Proposals are published on our website.[8] We received responses on early expansion costs from HAL, BA, AOC/LACC and the No 3rd Runway Coalition.

HAL

E21 HAL agreed with the CAA's view that:

- it had not 'unilaterally withdrawn' from the expansion process and there is no case for changing the overall policy of recovery of expansion costs;
- if expansion restarts, there needs to be a CAA policy on HAL's cost recovery;

8 www.caa.co.uk/Commercial-industry/Airports/Economic-regulation/H7/Consultations-and-policy-documents/ (under the drop down for the Initial Proposals)

- all 2018 Category B spend can be added to the RAB;
- Category B and C costs incurred before March 2020 can be added to the RAB subject to efficiency review;
- wind down costs (costs incurred after March 2020) can also be added to the RAB subject to its efficiency review;
- appeal costs should be treated in the same manner as other expansion costs and can be added to the RAB subject to efficiency review;
- IPHS costs can be added to the RAB; and
- the risk sharing arrangements, and recovery caps of costs incurred in 2020 and 2021 will not apply.

E22 HAL disagreed with the CAA's view:

- on financing costs to be applied at 4.83%, and
- that there is potential for up to £5.3m inefficiency in relation to costs incurred before the end of February 2020. HAL asked the CAA to provide the evidence it had used to come to its proposed inefficiency figures.

E23 HAL considered that it had provided sufficient evidence to demonstrate that all costs were directly related to the DCO and efficiently incurred, but said it would provide further evidence to the CAA on the "amber" categories in its Initial Proposals. A summary of this further evidence is set out below.

Further supporting evidence

E24 After submitting its response to the Initial Proposals, HAL provided some additional information on the efficiency of early expansion costs which were reviewed by the CAA as part of the Initial Proposals. HAL considered that the costs it had submitted were directly related to the DCO application and were efficiently incurred. HAL focused its response on the areas that the CAA had highlighted as being potentially inefficient in the Initial Proposals.[9]

9 www.caa.co.uk/CAP2265E p63-68

Table E.3 – Summary of HAL's response on the efficiency of Early Expansion Costs

Category B	
Programme Leadership	HAL said there was a clear requirement for these works as they supported the DCO. An overspend does not automatically represent an inefficiency which should then be subject to a full disallowance.
Masterplan Design and Guardianship	HAL considered that its work focused on compulsory purchase orders via Land Use Parcels set HAL up to create a robust and defendable DCO Case.
Category C	
Major Commercial Acquisitions	HAL engaged with the Home Office and the Ministry of Justice on the potential relocation of the Immigration Removal Centre. The benefit was to ensure the required agreement was in place in advance of the DCO application.
Colleague Costs	The size and complexity of HAL's DCO application required high quality, experienced professionals. Detailed design and construction process work was required alongside the DCO application. HAL provided witness statements from senior staff which set out the need to have the right number of resources in place for 2019.
Ground Investigation (including Category B)	The overspend against the forecast in Q1 2020 was due to the close down of the project and the resolution of final contract costs with the suppliers. It would be counter intuitive to penalise HAL for managing the contract efficiently. HAL was able to resolve the final accounting position for less than had been planned in the wind down costs.
Programme leadership	HAL allocated its people between Category B and Category C at the end of 2018. This allocation was not implemented into its financial pay and people cost model until part way through 2019 mainly due to resource constraints. Category C Programme leadership was rated as relatively strong by the IFS, who noted there was "Evidence of Good Practice and limited Concerns for Efficiency".
IDT –TO 3.1 Terminals aprons and satellites and TO 3.7 Airline occupancy capacity and forecasts	This work enabled Heathrow to gain support from airlines, and further strengthened the overall DCO application. HAL constructively responded to the feedback received as part of the consultation process.
IDT –TO 4.6 Motorways, junctions and local roads	These elements of scope were essential to resolve issues with key stakeholders, thus increasing the chance of a successful DCO. Other work HAL referred to included optioneering work to understand the potential impacts and value opportunity of a different construction method of a new southern road tunnel.

Source: HAL

E25 HAL also provided additional information on wind down costs incurred in 2020 and 2021, the legal costs of its appeal (and the related costs order) and the costs of the IPHS in 2021.

Other stakeholders

E26 The airline community reiterated that, in the event that expansion is recommenced, the CAA should have an established policy on the treatment of costs and governance arrangements that has been subject to prior consultation. The airline community said that it had engaged in good faith with HAL on expansion, despite issues with the timetable, yet never gave approval for early Category C costs and made it clear that any spend would be 'at risk'. Nonetheless, consumers are now bearing the early Category C costs.

E27 BA repeated its previously expressed position that expansion is not "paused": it said that the project has instead been wound up. It expressed opposition to expansion costs in the form proposed and considered that as HAL had unilaterally withdrawn from expansion, it did not support the disapplication of risk sharing to Category B costs and the incorporation of Category C costs into the RAB.

E28 BA also did not support the CAA's policy on wind down costs and appeal costs, but in general, supported the CAA's preliminary assessment of inefficiency for costs incurred up to February 2020.

E29 The No 3rd Runway Coalition said that it did not agree with adding wind down costs to the RAB, especially when it is not clearly detailed what these costs involved. In addition, it said that the structure of the RAB provides no incentive for HAL to keep costs under control.

Our views

E30 In response to HAL's position disagreeing with our view that there is potential for up to £5.3m inefficiency and its request for the CAA to provide the evidence it used to come to its findings on the inefficiency figures:

- we set out how we reached our assumptions on the level of inefficiency in the Initial Proposals[10] and the April 2021 Working Paper;[11];
- HAL provided information which was reviewed when coming to these assumptions; and

[10] See Initial Proposals at Appendix F, page 57-62

[11] See CAP1996 "Economic regulation of Heathrow Airport Limited: working paper on Q6 capital expenditure and early expansion costs", http://www.caa.co.uk/CAP1996

- following review of additional information provided by HAL, we are setting out our Final Proposals on areas of inefficiency below.

E31 In response to the airline community issues on whether expansion has been paused or stopped and whether HAL has "unilaterally withdrawn" from the process, we set out our views on this issue in the Initial Proposals.[12]

E32 In relation to Category B costs incurred in 2018, we note that this policy position was confirmed as final in our Initial Proposals.

E33 In relation to costs incurred before March 2020 (including all Category C costs incurred since 2017, and any Category B costs not previously reviewed by the IPCR), we note that this policy position was confirmed as final in the April 2021 Working Paper.

E34 As set out in our Initial Proposals, we agree that, should expansion re-start in the future, we should put in place a clear policy for how any expansion costs can be recovered by HAL, including a requirement that HAL should demonstrate that any work carried out previously which can be used again (such as design work) is not duplicated. We will consult further on these matters if it appears to be in the interests of consumers for capacity expansion to restart and HAL brings such proposals forward.[13]

Our Final Proposals

E35 This section covers our final proposal in relation to the efficiency of costs incurred by HAL before the end of February 2020, which we have reviewed in previous CAA documents, as well as in relation to wind down, appeal and IPHS costs incurred by HAL since March 2020, which we have been reviewing since December 2021.

Our assessment approach

E36 In undertaking our assessment, we have carefully reviewed the information that HAL submitted. This included checking invoices that HAL submitted, checking the validity of spreadsheet data and checking HAL's submissions against other information that HAL had previously submitted.

E37 We raised questions with HAL and held "deep dive" sessions with a range of relevant HAL subject matter experts, to form a view on the evidence submitted. HAL answered questions that we had in that meeting and submitted written responses.

[12] See Initial Proposals at Appendix F, page 54

[13] ibid

E38 In developing our Initial Proposals, we built on our assessment of costs set out in the April 2021 Working Paper, moving from the RAG ratings included in that document to quantified inefficiency ranges.[14] These ranges were based on our previous assessment and further evidence provided by HAL in response to the April 2021 Working Paper.

E39 In the Initial Proposals, we explained the framework we had used to move from the RAG ratings to quantification of inefficiency ranges, which was based on the nature of the initial finding in relation to each cost category.[15] This approach and the three types of inefficiency we identified are set out in Table E.4 below.

E40 We have updated the proposed disallowance figures in relation to some cost categories based on further information and evidence submitted by HAL in response to the Initial Proposals.

Table E.4: Approach for quantifying inefficiency

Inefficiency type	Findings in relation to cost category	Proposed approach for quantifying inefficiency
1	Categories for which we have identified specific expenditure items (such as expenditure on a consultancy study or a specific type of resource) which have not been well evidenced or justified by HAL.	Spending in relation to the specific item is included in the inefficiency range.
2	Categories where HAL overspent in relation to a relatively stable budget (such as Category C Colleague Costs where there was overspending of 10%).	Full amount overspent is included in the inefficiency range.
3	Cost categories where we have more general concerns that do not always relate to specific expenditure items. For these cost categories, budgets were often substantially revised during the year, without clear justification or change control. This made it difficult to understand whether actual spend relative to budget was efficient. Some	For these costs categories, we will apply a percentage inefficiency derived based on the level of overspending on the three cost categories which fall in inefficiency type 2, i.e. ▪ Category C Colleague Costs, ▪ Category B Financial Management,

14 See www.caa.co.uk/CAP2265E, page 59

15 these are sub-categories of costs within each of Category B and Category C costs, for example colleague costs.

Inefficiency type	Findings in relation to cost category	Proposed approach for quantifying inefficiency
	of these cost categories are also ones where the IFS identified issues.	▪ Category C Ground Investigation. The range of inefficiency for these three categories was 10% to 30% and the average amount overspent for the three categories was 15%. **We use 15% as the percentage inefficiency for these cost categories.**

E41 For wind down and appeal costs incurred by HAL since March 2020, we have used a similar assessment framework as the one we used for costs incurred before March 2020. However, considering the relatively low materiality of these costs, and the fact that no budgets were set for them in advance (as the costs were incurred as a direct result of external circumstances beyond HAL’s control), we have taken a proportionate approach and have not explicitly used RAG ratings, but instead applied the quantified inefficiency method explained in the table above directly.

E42 For IPHS costs, we have previously set out our policy position which included specific criteria for these costs being allowed which we have applied when reviewing HAL’s submission.

Costs incurred before March 2020

E43 In the Initial Proposals we set out a framework for moving from the RAG rating set out in the April 2021 Working Paper to a quantification of inefficiency and our approach for quantifying inefficiency. Below we set out updated tables (Table E.6 and Table E.7) setting out our Final Proposals on disallowances for Category B and Category C costs incurred before March 2020.

Table E.6 Category B costs in scope for potential disallowance

Cost category	Costs in scope (£ million)	Rationale for final disallowance (if changed from Initial Proposals)	Proposed disallowance in Initial Proposals (£ million)	Final proposal on disallowance (£ million)
Programme leadership - financial management activities (financial advisory)	2.6	HAL submitted additional information in relation to the complexity of the work involved and set out how the exact requirements became known after the development of the budget. This information addresses our concerns on the 30% overrun compared to budget in 2019. We propose to allow these costs in full.	0.7	0
IDT – TO 1.5 Masterplan design and guardianship	8.3	HAL submitted additional information in relation to the work of the property team, in particular in relation to Land Use Parcels. It appears that the additional spend helped reduce risk at the DCO and appears reasonable in the circumstances. We propose to allow these costs in full.	0.3	0
Total	**10.9**	**N/A**	**1**	**0**

Source: CAA analysis

Table E.7 Category C costs in scope for potential disallowance

Cost category	Costs in scope (£ million)	Rationale for final disallowance	Proposed disallowance in Initial Proposals (£ million)	Final proposals on disallowance (£ million)
Major commercial acquisitions	9.8	HAL provided some additional narrative information in relation to this category, particularly in relation to the Home Office Immigration Removal Centre. HAL set out the scope of the feasibility and design studies for the new facility which were required as the site of the existing facility was required for the planned new runway. We consider that this additional information did not provide sufficient evidence to address our concerns. As set out in the Initial Proposals it is hard to make the case that the full amount is inefficient, but we do not consider that HAL has made the case for efficiency so we propose to confirm the £0.4m disallowance which uses the 15% benchmark of inefficiency set out in the Initial Proposals.	0.4	0.4
Colleague costs	14.9	HAL provided additional narrative information in relation to this category, particularly in relation to the size and complexity of the DCO and the need to commence detailed design and construction process work, and referred to the previous provision of statements from senior HAL colleagues but we consider that this did not provide sufficient evidence to address our concerns as set out in Initial Proposals around recruitment ramp-up in 2019 despite the use of	1.3	1.3

Cost category	Costs in scope (£ million)	Rationale for final disallowance	Proposed disallowance in Initial Proposals (£ million)	Final proposals on disallowance (£ million)
		costly contractors. As such we propose to confirm the £1.3m disallowance which uses the 10% benchmark of inefficiency set out in the Initial Proposals.		
Ground investigation (including Category B spend)	15.3 Of which: 6.1 (Category B) 9.3 (Category C)	HAL provided additional information to support its position that the overspend related to the resolution of final contract costs with the suppliers. This additional information provided us with sufficient evidence. We propose to allow this in full.	0.6	0
Programme leadership	6.5	HAL provided minimal additional information in relation to this category, and mainly reiterated points that it had made in previous submissions as well as highlighting the grading of Programme Leadership in the IFS review. As such we consider that this did not provide sufficient evidence to address our concerns as set out in the Initial Proposals in relation to mid-year budget changes. HAL exceeded the budget agreed at the time and we consider we should retain our position set out in the Initial Proposals. We propose to confirm the £1.0m disallowance which uses the 15% benchmark of inefficiency challenge set out in the Initial Proposals.	1	1
IDT – TO 3.1 Terminals aprons and satellites and	2.6	HAL provided a small amount of additional narrative information in relation to this category	0.4	0.4

Cost category	Costs in scope (£ million)	Rationale for final disallowance	Proposed disallowance in Initial Proposals (£ million)	Final proposals on disallowance (£ million)
TO 3.7 Airline occupancy, capacity and forecasts		setting out that these elements were essential to obtaining airline support to the project, but we consider that this did not provide sufficient additional evidence to address our concerns as set out in the Initial Proposals in relation to HAL's argument that this work was essential in order to proceed to DCO. We propose to confirm the £0.4m disallowance which uses the 15% benchmark for inefficiency set out in the Initial Proposals.		
IDT – TO 4.6 Motorways, junctions and local roads	3.3	HAL provided a small amount of additional narrative information in relation to this category setting out that these elements of scope were essential to resolve issues with key stakeholders thus increasing the chance of a successful DCO. Although we recognise that part of the additional spend aimed to assess options to deliver certain projects within this task order more efficiently[16], we consider that the limited additional information did not provide sufficient evidence to address our concerns set out in Initial Proposals that the rationale for the additional scope was not well evidenced. We propose to confirm the £0.5m disallowance which uses the 15% benchmark for	0.5	0.5

[16] Although we note that the assessment of options did not identify a quantified saving

Cost category	Costs in scope (£ million)	Rationale for final disallowance	Proposed disallowance in Initial Proposals (£ million)	Final proposals on disallowance (£ million)
		inefficiency set out in the Initial Proposals.		
Total	**52.4**		**4.2**	**3.6**

Wind down costs

E44 In our Initial Proposals we confirmed that HAL would be allowed to add wind down costs to the RAB subject to an efficiency assessment. We have now undertaken that efficiency assessment. As these wind down costs had no budget, we used the efficiency assessment approach as set out in Initial Proposals. As such these costs could have been classified as inefficiency type 1, but we reviewed the evidence provided by HAL on its wind down costs incurred over 2020 and 2021, (including deep dives and responses to requests for information) and we consider that they were efficient and that HAL had managed its costs in an appropriate way during an extremely challenging period.

E45 Our Final Proposals are that HAL should be allowed to add wind down costs to the RAB in full.

E46 Tables E.8 and E.9 summarise the Category B and Category C costs respectively from March 2020 until the end of Dec 2021. The total costs in the two tables is: £35.6m, of which £14.3m relates to Category B costs presented in Table E.8 and £21.3m relates to Category C costs presented in Table E.9.

Table E.8 - Category B costs for March 2020-end of Dec 2021

Actuals	Total including adjustments (£000s, nominal prices)	
	March-Dec 2020	2021
Colleague costs	2,321	53
Programme leadership	(1,249)	(445)
Future Heathrow	1,126	(13)
Consents	1,427	80
Community and Stakeholder	568	70
IT (including Programme IT and Future Heathrow IT)	1,222	72

Actuals	Total including adjustments (£000s, nominal prices)	
	March-Dec 2020	2021
Ground Investigation	(1)	260
Property	356	0
Regulation and Strategy	54	0
IDT	4,623	197
Surface Access	(321)	0
Category B Opex	3,513	
Total Actual	**13,640**	**673**

Source: Heathrow

Table E.9 - Category C costs for March 2020 - end Dec 2021

Actuals (£000)	Total including adjustments (£000s, nominal prices)	
	March-Dec 2020	2021
Major Commercial Acquisitions	1,292	-
Residential Compensation (including IPHS – see below)	1,392	4,045
Commercial Property Other	5,145	294
Seeking Agreement	754	-
Total Property	8,583	4,339
IDT	1,743	(8)
Ground Investigation	1,246	16
Future Heathrow	29	-
Surface Access	(7)	-
Detailed Design and Site Prep	3,012	8
Colleague costs	821	39
Programme leadership	3,901	-
Finance	134	-
Finance Platform	-	-
Executive Director Overheads	(48)	-
Consents	(127)	-
Community and Stakeholder	(21)	-

Actuals (£000)	Total including adjustments (£000s, nominal prices)	
Programme IT	654	-
Regulation and Strategy	-	-
Programme	5,315	39
Noise	-	-
Total Actuals excl Risk	**16,909**	**4,386**

Source: Heathrow

E47 We are expecting HAL to continue to incur small amounts of residual ongoing costs beyond the publication of this document (for example property costs as described in the IPHS section below). These costs will be considered as part of the annual RAB calculation process following HAL's publication of its annual regulatory accounts. See Appendix K (Rolling forward the RAB) for more details.

E48 We confirm that £35.4m in 2020 prices (£35.6m in nominal prices) will be added to HAL's RAB for wind down costs, this includes IPHS costs but not appeal costs.

Appeal costs

E49 We confirmed in the Initial Proposals that HAL should be able to recover appeal costs (around £1m) (less a £10,000 court award) subject to a high-level review.[17] HAL submitted a breakdown of its costs and we requested additional supporting evidence.

E50 Following further analysis, we considered that HAL had presented sufficient evidence of its costs and we confirm that HAL are able to recover its appeal costs of £1,081,393.[18]

E51 We confirm that £1.1m (in 2020 prices, also £1.1m in nominal prices) will be added to HAL's RAB.

Interim Property Hardship Scheme

E52 We confirmed in the Initial Proposals[19] that HAL should be able to recover the costs of the IPHS subject to the following criteria:

17 www.caa.co.uk/CAP2265E p56

18 Includes deduction of £10,000 as per Supreme Court costs award in R (on the application of Friends of the Earth Ltd and others) (Respondents) v Heathrow Airport Ltd (Appellant), 16 December 2020

19 www.caa.co.uk/CAP2265E p57

- HAL complies with appropriate governance arrangements for the Hardship Panel[20] and manages its costs within the budgets set out in the further costing information it provided to us on 1 April 2021;
- HAL takes reasonable steps to maximise the rental revenues from these properties (the amounts of which will be taken into account at the H7 price control review, most likely as part of the single till calculations); and
- any future sale proceeds from these properties will be deducted from HAL's RAB.

E53 HAL provided data on the costs relating to this scheme in 2021. Following assessment of this data, we can confirm that HAL are able to recover the IPHS costs from 2021 of £4,044,659 (nominal prices).

E54 The costs of the IPHS to be added to the RAB are included in the RAB addition set out above.

Implementation

E55 The costs to be added to the RAB exclusive of financing costs in both nominal and 2020 prices are shown in table E.10 below.

E56 Chapter 10 (The H7 Regulatory Asset Base and HAL’s request for a RAB adjustment) sets out the total amounts added to the 2022 opening RAB in respect of early costs including relevant financing costs, based on HAL’s earlier submission. Any differences arising from the early costs that have been added to the 2022 opening RAB and the results shown in Table E.10 will be addressed in our calculation of the 2023 opening RAB.

E57 Any future sale proceeds from properties acquired under the Interim Property Hardship Scheme, or any other properties acquired for the purpose of airport expansion, will be deducted from the RAB as “proceeds from disposals”. To the extent that further clarity is needed, we will deal with this issue further through RAB rules or guidance that we make in due course. We would expect HAL to sell properties acquired under this scheme at market value in accordance with the ordinary rules of disposing of properties.

E58 The treatment of rental incomes from properties (including those acquired under the Interim Property Hardship Scheme) are considered within chapter 5 (Commercial Revenues).

20 The independent panel that assesses applications for the IPHS

Table E.10: Total RAB additions for Early Costs (excluding financing costs)

					Wind down costs (includes IPHS and appeal costs)		
£million **Nominal prices and 2020 prices**	**2017**	**2018**	**2019**	**Jan-Feb 2020**	**2020 (March onwards)**	**2021**	**Total**
Category B	65	108	157	11	14	1	356
Category C	6	11	68	20	17	4	126
Total (nominal)	71	119	225	31	31	5	483
Total (2020 prices)	75	122	227	31	31	5	491

E59 We agree with stakeholders that if capacity expansion were to restart, we should have an established policy on the treatment of costs. In the circumstances of the capacity expansion programme restarting, we would consult stakeholders on these matters.

APPENDIX F

Capex incentives

Introduction

F1 Chapter 7 (Capex incentives) sets out our approach to forward looking (*ex ante*) capex efficiency incentives for H7. This appendix provides further details on some aspects of our policy in this area, including illustrative examples showing how the framework should work in practice. This appendix covers:

- a summary of our overall approach for capex incentives;
- an overview of the capex categories we have used to inform our work on capex incentives for the H7 price control and our approach to delivery obligations;
- an illustration of how we propose using delivery obligations to adjust the capex baseline;
- a worked example of the reconciliation process; and
- a summary of CAA views on coverage of *ex ante* incentives, including views on a report produced by HAL's advisors Jacobs.

Our overall approach for capex incentives in H7

F2 We have summarised our Final Proposals for capex incentives in Table F1 below.

Table F.1: Summary of our overall approach for H7 capital efficiency incentives

<table>
<tr><td rowspan="2">High-level proposal</td><td colspan="2">We will move to an ex ante framework under which HAL's performance is measured against cost baselines agreed in advance of delivery. In the first instance, the baselines for individual capex projects will be set based on G3 values.</td></tr>
<tr><td>Capex categories and baselines</td><td>Delivery Objectives / obligations</td></tr>
<tr><td rowspan="6">Start of H7

The price setting process</td><td rowspan="6">The overall H7 capital envelope is set by the CAA, based on the level of capex HAL has demonstrated is needed through its H7 capex plan.

The envelope is split into capex categories, based on HAL's programmes and our own analysis.[21] Capex categories should include projects that have common outputs/objectives and similar levels of risk and controllability.

Each capex category will have an indicative baseline. This would be the sum of forecast development and core expenditure.

The purpose of the indicative baseline is to (i) have a clear initial forecast associated with a high level objective for each capex category; (ii) track changes within period, and (iii) have a clear line of sight from these to the final baseline (see below). This would enable airlines and CAA to have good oversight of changes that occur compared to the initial plan.

The sum total of core and development baselines associated with all categories represent the "capex envelope" within which HAL will be expected to operate.</td><td>Each capex category should have a SMART[22] high-level statement of what HAL is seeking to deliver, and the reasons it has prioritised this spending. This would be the Delivery Objective, and be defined at the "capex category" level.</td></tr>
<tr><td>Delivery Obligations</td></tr>
<tr><td>Each project within a programme must have its own Delivery Obligations specified at G3 and agreed with airlines. These Delivery Obligations should specify each project's expected:

• Outputs;
• Quality; and
• Timing.

Airlines and HAL will also agree at G3 the level of adjustment to capex baselines that will apply during reconciliation if a project's Delivery Obligations are not met, and the indicators that will used to determine delivery.</td></tr>
<tr><td>Timing incentives</td></tr>
<tr><td>Other than Q6 projects that are subject to triggers and that continue into H7, there will be no additional triggers or penalties applied for late delivery of projects.</td></tr>
</table>

[21] This can include analysis by our consultants, such as the work undertaken by Arcadis which is further detailed in this Appendix.

[22] Specific, Measurable, Achievable, Realistic, and Timely.

During H7 **Enhanced governance arrangements**	As projects in HAL's capex portfolio move through the governance process, the indicative baselines would be updated to reflect G3 values for individual projects (when agreed). Adjustments to the G3 baselines would only happen where changes are agreed with airlines through a change control process as part of the enhanced governance process. The CAA would also have a role as part of the G3 or change control process: as a minimum this would be an "arbiter" role as in Q6.	When any post-G3 adjustments to baselines take place during the period, the Delivery Obligation may also need to be updated to reflect changes in project scope. The CAA would have a role as arbiter in circumstances where HAL and airlines do not agree on either new Delivery Obligations (where projects pass G3) or changes to existing Delivery Obligations. We will also consider during the implementation stage of our policy whether we need to have a role in approving Delivery Obligations to ensure that outcomes are in consumers' interests.
Capex baseline reconciliation	Reconciliation will be at the capex project level. The CAA will use performance against Delivery Obligations to adjust the capex baseline to reflect performance and in line with the values agreed between HAL/Airlines at G3 for under delivery. Following this adjustment, the revised baseline will become the final baseline. Reconciliation would involve comparing HAL's actual spending for each capex project to the final baseline. HAL will bear 25% of any overspending compared with the final baseline or would get to keep 25% of any underspending (these adjustments would be applied to the RAB).	
Capex envelope uncertainty mechanism	Capex across all programmes will be capped at the value of the capex envelope specified in these Final Proposals. Expenditure beyond this value will not be reflected in airport charges, unless HAL have requested CAA to adjust the value of this cap during one of the two application windows provided for during H7.	

Capex categories and delivery objectives for H7

F3 In setting the price control, we estimate a baseline amount of capex based on currently available information that is consistent with HAL being able to provide a safe, secure and reasonably resilient airport, with an appropriate level of service for consumers and airlines. The process and analysis we have undertaken to set this allowance is explained in chapter 6 (Assessment of capital expenditure).

F4 For H7 we are also proposing updated arrangements for capital efficiency, which involve splitting HAL's capex plan into capex categories, and identifying a delivery objective for each capex category, as described in Table F.1 above.

F5 The capex allowance set by us is based on the most recent business plan proposal by HAL, as part of the RBP Update 2, which was submitted in response to our Initial Proposals in December 2021. This update included a list of programmes / capex categories proposed by HAL for H7, and associated delivery objectives which HAL considered were aligned to the SMART structure developed by CAA's consultants Arcadis for the Initial Proposals.

F6 Our consultants Arcadis reviewed HAL's updated business plan, and assessed whether the capex categories proposed by HAL were consistent with the CAA definition. In the report we have published alongside these Final Proposals, Arcadis have advised that the capex categories contained in HAL's RBP Update 2 (using the 10 sub-capex categories in the Asset Management and Compliance programme proposed by HAL) are compliant with the CAA definition.

F7 Based on this advice, and the capex baseline we have included in chapter 6 (Assessment of capital expenditure) the final list of capex categories for H7 is set out in the table F.2 below.

Table F.2 List of capex categories

Capex category
1. AM&C[23]: Baggage
2. AM&C: Rail
3. AM&C: Mechanical
4. AM&C: Electrical
5. AM&C: Controls
6. AM&C: Civils
7. AM&C: Airfield

[23] Asset Management and Compliance.

8. AM&C: Technology
9. AM&C: Compliance
10. AM&C: Commercial
11. T2 Baggage
12. Regulated Security
13. Commercial Revenues
14. Efficient Airport
15. Carbon and Sustainability

F8 We also asked Arcadis to review the delivery objectives included by HAL in the RBP Update 2. For the ten Asset Management and Compliance ("AM&C") capex categories, HAL proposed using OBR measures as delivery objectives. As explained in chapter 7 (Capex incentives), we do not agree that performance against the OBR framework should be the primary means of assessing effective capex delivery.

F9 For the remaining five categories, Arcadis has reviewed the delivery objectives proposed by HAL and assessed whether they meet the SMART test. This assessment is included on page 40 of the Arcadis report. Overall, Arcadis have advised that most of the delivery objectives, except the one relating to Regulated Security, do not meet the SMART test.

F10 Arcadis undertook an exercise to develop the delivery objectives put forward by HAL into a set of SMART delivery objectives. The level of granularity of information available at this stage about the H7 capex plan means that Arcadis has not been able to finalise the delivery objectives (for example due to the lack of specific quantified metrics which are to be developed by HAL at a later stage of the programme development process).

F11 Arcadis does not recommend that the wording set out in the example it has developed should be used as the final version for each capex category but as an indication that a high-level SMART delivery objective can be developed at a capex category level by HAL going forward.

F12 We expect HAL to work with airlines to continue defining the outcomes, outputs and timescales for the H7 capex categories over the next few months, into well defined delivery objectives.

Using delivery obligations to adjust the capex baseline

F13 In chapter 7 (Capex incentives) we described our decision to use performance against delivery obligations as a means of adjusting the capex baseline for a project in the event that HAL does not deliver what has been agreed. In this Appendix, we give a worked example to illustrate how this would operate in practice.

F14 Although we have used an example of a project that is included within HAL's capex plan, all other project specific and performance related information included in this Appendix is hypothetical and is solely for the purpose of illustration.

Project: Upgrade of Pre-Conditioned Air Units

F15 At G3, airlines and HAL will be required to agree the costs and Delivery Obligations associated with the project. In the table below, we provide a simple illustration of how this might work.

Table F.2: Illustration of how Delivery Obligations might be presented

	G3 baseline
Cost	**£50m**
Delivery Obligations:	
Scope	104 units
Quality	Design Standard XYZ
Timing	June 2025

F16 As well as agreeing the Delivery Obligations, the airlines and HAL will also need to agree at G3 the weighting that should be applied to each individual Delivery Obligation. This will determine the level of capex baseline reduction that will be associated with under delivery. Airlines and HAL should also agree the SMART indicators that will be used to establish if a Delivery Obligation has been met. This might include indicators for "partial" delivery and the reduction to the baseline capex allowed into HAL's RAB that might accompany these. In the tables below, we provide an illustration of how this might be presented.

Table F.3: Illustrative indicators and weightings for Delivery Obligations

Delivery Obligation (DO)	Weighting	Baseline capex by DO	DO not meet	DO fully meet
Scope: 104 units	33%	£16.5m	Less than 104 units installed	104 units installed
Quality: Design standard XYZ	50%	£25m	Units do not meet Design Standard XYZ	All units meet Design Standard XYZ

Delivery Obligat-ion (DO)	Weighting	Baseline capex by DO	DO fully not meet (0%)	DO partially meet (25%)	DO partially meet (50%)	DO partially meet (75%)	DO fully meet (100%
Timing: June 2025	17%	£9.5m	Not delivered by April 2026	January-March 2026	October-December 2025	July - September 2025	June 2025

F17 Continuing with this example, we can then show what adjustment to the capex baseline would be made if HAL does not fully meet all of the Delivery Obligations. In this example, we have assumed the following out-turn level of performance:

Table F.4: Illustrative out-turn performance against Delivery Obligations

	G3 baseline	Out-turn performance
Cost	**£50m**	**£50m**
Delivery Obligations:		
Scope	104 units	104 units
Quality	Design Standard XYZ	Design Standard XYZ
Timing	June 2025	March 2026

F18 Using the measures agreed at G3, we can then calculate how successfully each Delivery Obligation has been met.

F19 This level of performance can then be used to calculate the revised capex baseline as follows:

Output: £16.5m x 100% = £16.5m

Quality: £25m x 100%	=	£25m
Timing: £9.5m x 25%	=	£2.38m
Revised Capex Baseline	**=**	**£43.88m**

F20 As HAL spent £50m on achieving this level of performance, this would constitute an overspend of £6.12m.

F21 The following section provides examples of how this type of adjustment to capex baselines will form part of the capex reconciliation process to support the package of capex incentives.

Worked examples of the reconciliation process

F22 We have set out a few simple worked examples to:

- illustrate the stages of the reconciliation process;
- demonstrate the principles of reconciliation in a worked example; and

F23 Table F.5 outlines the stages of updating capex baselines and reconciling the incentive against the final capex baseline.

Table F.5: H7 Capex incentives process stages

1.	H7 final proposal	We will set an indicative capex baseline for each year, this will reflect expenditure anticipated to be incurred in H7 on projects that are either already core or are anticipated to progress through G3 to core in the course of H7	Reflected in H7 maximum revenue yield per passenger
2	Post H7 final proposal capex adjustment	Where we have agreed to HAL's request to adjust the capex baseline (in line with the requirements of conditions C1.7 to C1.13), we will amend the indicative capex baseline for each year remaining in the price control	Reflected in H7 maximum revenue yield per passenger
3	G3 baseline updated annually	The capex baseline is adjusted annually to reflect allowed capex on core projects, as defined in condition C1.7	Reflected in annual airport charges
4	End of period reconciliation	Three stages: i) For projects not subject to *ex ante* incentives, CAA will undertake an *ex post* review of capex efficiency and establish whether any incurred costs should be disallowed ii) For projects subject to *ex ante* incentives, the final capex baseline for each project will reflect whether the delivery obligations have been met; and iii) apply capex efficiency incentive adjustments to the sum total of incurred capex subject to incentives, including associated financing cost adjustments, to the H8 opening RAB.	Reconciliation of capex incentive

5	Backstop reconciliation	The backstop reconciliation for the last forecast year of H7 and H8 opening year (2026 and 2027).	

F24 Table F.6 sets out an example of how incurred capex subject to incentives (step 4.iii in Table F.5) will be calculated, using 4 example projects to illustrate the entire capex portfolio. For each project that passes through to core, the incurred capex subject to incentives will reflect expenditure made pre-G3 capex (development) and post-G3 capex (core).

Table F.6: Illustration of how incurred capex subject to incentives will be calculated

	2023	2024	2025	2026
Project progress	Project A passes G3	Project B passes G3	Project C passes G3	Project D passes G3
Incurred capex subject to incentives	**Sum of:**	**Sum of:**	**Sum of:**	**Sum of:**
	Project A post-G3 capex within 2023	Project B post-G3 capex within 2023	Project C post G3 capex within 2025	Project D post G3 capex within 2026
	Project A pre-G3 capex prior to and within 2023	Project B pre-G3 capex prior to and within 2024	Project C pre-G3 capex prior to and within 2025	Project D pre-G3 capex prior to and within 2026
		Project A post-G3 capex within 2024	Project B post-G3 capex within 2025	Project C post G3 capex within 2026
			Project A post-G3 capex within 2025	Project B post-G3 capex within 2026
				Project A post-G3 capex within 2026

F25 Table F.7 provides a stylised example to demonstrate how the reconciliation process will work for each project subject to *ex ante* incentives. The example consists of the following calculation stages:

- Establish the **final capex baseline**, reflecting whether the delivery obligation has been met;
- Compare out-turn capex to the final capex baseline to calculate the amount of **overspending or underspending**;

- Calculate the **NPV of the overspending or underspending**, reflecting the financing costs during H7;
- Apply capex incentive rate to calculate the **NPV of overspending or underspending at HAL's risk**; and
- At the H8 price review, we will adjust the opening RAB for the **NPV of overspending or underspending at HAL's risk.**

F26 The example presented below is kept simple to demonstrate how the mechanics of the calculations will work for a project that spans the duration of H7.[24] It illustrates overspending against the final capex baseline, but the mechanism works symmetrically for underspending.

F27 The example uses several simplifying assumptions:[25]

- The project is overspent against the G3 baseline in each year of the price control period;
- 25% incentive rate is applied to capex (so that HAL retains 25% benefit of any underspending and bears 25% of any overspending);
- H7 cost of capital of 4.18%; and
- does not consider inflation and simplifies the financing (by assuming expenditure cashflows take place at the end of the year) and depreciation calculations.

[24] This worked example in Excel format is available on request by emailing economicregulation@caa.co.uk

[25] The simplified assumptions used in this example are for illustration purposes only.

Table F.7: Worked example of *ex ante* capex efficiency incentive reconciliation[26]

Line	Calculation stage	(£m real prices)					
Calculation of over/underspend at HAL's risk		**2022**	**2023**	**2024**	**2025**	**2026**	**Total**
1	Final capex baseline	105	105	105	105	105	**525**
2	Delivery obligation adjustments	5	5	5	5	5	**25**
3 = 1 - 2	Final capex baseline after delivery obligation adjustment	100	100	100	100	100	**500**
4	Out-turn incurred capex subject to incentives	120	120	120	120	120	**600**
5 = 4 - 3	Over/underspend	20	20	20	20	20	**100**
6	WACC (pre-tax)	4.18 %	4.18 %	4.18 %	4.18 %	4.18 %	**-**
7	Number of years to 2026	4	3	2	1	0	**-**
8 = (1 + (6)) ^ (7)	NPV factor to 2026	1.18	1.13	1.09	1.04	1.00	**-**
9 = 5 * 8	NPV of over/underspend	24	23	22	21	20	**109**
10	Incentive rate	25 %	25 %	25 %	25 %	25 %	**-**
11 = 9 * 10	NPV of over/underspend at HAL's risk	6	6	5	5	5	**27**
Adjustment to RAB at end of H7		**2022**	**2022**	**2023**	**2024**	**2025**	**2026**
12	Opening RAB	0	120	234	341	445	**-**
13 = 4	Out-turn capex	120	120	120	120	120	**600**
14	Depreciation[27]	0	6	13	16	20	**55**
15 = 12 + 13 - 14	Closing RAB	120	234	341	445	545	**-**
16 = 9	NPV of over/underspend	24	23	22	21	20	**109**
17 = 5	Over/underspend	20	20	20	20	20	**100**
18 = 16 - 17	Financing cost adjustment	4	3	2	1	0	**9**
19 = 2 * 8	NPV of delivery obligation adjustments	6	6	5	5	5	**27**
20 = 2	Delivery obligation adjustments	5	5	5	5	5	**25**
21 = 19 - 20	Financing cost of delivery obligation adjustments	1	1	0	0	0	**2**
15	Closing RAB	120	234	341	445	545	**-**
11	NPV of over/underspend at HAL's risk	6	6	5	5	5	**27**
18	Financing cost adjustment	4	3	2	1	0	**9**
21	Financing cost of delivery obligation adjustments	1	1	0	0	0	**2**
22 = 15 - 11 + (18 - 21)	**H8 opening RAB**	-	-	-	-	-	**524**

[26] Numbers in the table may not add up due to rounding to nearest £ million. An Excel version of this table is available upon request.

[27] Depreciation numbers will be based on the forecast RAB at the time of setting the H7 price control.

F28 The objective of the reconciliation calculations is to ensure that an adjustment is made at H7 so that any overspending (or underspending) by HAL during the H7 period is subject to the same incentive strength regardless of the year in which it occurs. To achieve this, the overspending or (underspending) at HAL's risk is calculated in NPV terms and is compared against the full financing cost (or benefit) already accrued during H7. The difference between these amounts is the required adjustment to achieve the targeted capex efficiency incentive rate.

F29 The RAB will also be adjusted to account for the financing costs associated with any adjustment that is made to the baseline at the end of the period (to reflect non-delivery or under delivery of the delivery obligation).[28]

F30 The assessment will require the use of forecast expenditure for 2026. Any deviations between the forecast and actual expenditure will be trued up as part of the H8 price control.

F31 For projects that are not subject to *ex ante* incentives, any costs that CAA considers to be inefficient through its *ex post* review, will be disallowed from the opening RAB for H8. This will include the NPV of any financing costs associated with this expenditure accrued in H7.

CAA views on Jacobs' report and coverage of *ex ante* incentives

F32 In 2021, HAL commissioned consultants (Jacobs),[29] to develop a set of criteria against which to assess whether HAL's capex programmes are suitable for *ex ante* incentives. Based on this analysis, in its response to the April 2021 Way Forward Document HAL, proposed that only certain types of capex programmes or projects should be subject to *ex ante* incentives.

F33 In the Initial Proposals document, we said that while generally a helpful submission, we consider that the Jacobs report does not offer a balanced view and we do not agree with its main conclusions in terms of the HAL programmes that are suitable for *ex ante* incentives.

[28] Baseline adjustments that are made at the end of the price control (after programmes are delivered so that the delivery obligations can be assessed), will not be reflected in annual charges through the in-period adjustment mechanism (that is, the allowed capex adjustment term development set out in Condition C1.9 which addresses annual updates to G3 baselines). Therefore, the reconciliation process will also need to take account of the financing costs associated with any adjustment that is made to the baselines at the end of H7.

[29] Jacobs report on H7 Capital efficiency, June 2021. Submitted by HAL in response to the April 2021 Way Forward Document.

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F34 In its response to the Initial Proposals, HAL referred to the Jacobs report again, and continued to argue that *ex ante* capex incentives should only apply to some of the programmes included in its H7 capex plan.

F35 We set out in chapter 7 (Capex incentives) the reasons why we consider that *ex ante* incentives should apply to all H7 capex.[30] The key reason is that we are proposing that baselines and delivery obligations are set once projects progress through G3, and we expect all projects, regardless of programme, to have been sufficiently developed at that stage such that a P50 cost estimate can be reasonably applied. A P50 cost estimate means that there is an equal probability of an overspend against the estimate as there is of an underspend.

F36 In its report, Jacobs did not take into account the CAA proposed approach of holding HAL to account against baselines and delivery obligations set at G3, and did not consider how this would mitigate the risk and uncertainty associated with some types of projects at the outset versus the G3 stage.

F37 When considering airports (and HAL specifically) against other regulated infrastructure sectors, the report overlooked some key issues such as:

- HAL's assets are confined to a specific operational site, compared to rail, water, or electricity assets that are spread around the country (often buried in complex urban environments);
- HAL's assets are relatively new compared to other industries (particularly rail and water) which have older assets of uncertain condition; and
- other infrastructure sectors, for example rail, also have robust and structured governance arrangements around capital investment (for example with Government, other funders and train operators).

F38 Based on the comparison with other sectors, Jacobs developed a list of "*ex-ante* criteria". We do not consider that these criteria are the right ones to use in determining which projects should be in the scope of *ex ante* incentives, for the reasons set out above. We also do not agree with the way they have been interpreted in the Heathrow context, for example:

- when it comes to "unobservable risks", we note that HAL should have a good understanding of relevant risks for each project by the time a project reaches G3, and budgets include allowances for risk and contingency to deal with some risks materialising;

[30] With the exception of pass through costs (Crossrail contributions) and core projects that have progressed through G3 prior to the application of ex ante incentives.

- the complexity of a project in itself is not a reason to exclude it from *ex ante* incentives, as cost efficiency is also important in relation to complex projects. In addition, where complexity is due to the existence of interfaces between different types of assets and stakeholders, HAL should take steps to manage these interfaces effectively and should be reasonably incentivised to do so.

APPENDIX G

Assessment of the H7 capex incentives framework against the CAA's duties

Introduction

G1 This appendix sets out our analysis of our decision on the H7 capex incentives framework, as set out in chapter 7 (capex incentives) of this document, against the CAA's duties as set out in CAA12.

G2 As discussed in the Summary chapter, the CAA's primary duty in CAA12 is to "*further the interests of users or air transport services regarding the range, availability, continuity, cost and quality of airport operation services*." In performing this duty, the CAA must "have regard" to a number of "secondary duties".

G3 The relevant secondary duties we have identified that we need to have particular regard to for our assessment of the capex incentives framework are:

- the need to promote economy and efficiency on the part of HAL;
- the need to secure that all reasonable demands for the provision of AOS are met; and
- the need to secure that HAL can finance its provision of AOS at Heathrow Airport.

G4 We must also have regard to the principles that regulatory activities are carried out in a way which is transparent, accountable, proportionate, consistent and targeted only at cases where action is needed (the Better Regulation Principles).

G5 In the August 2020 Working Paper, we undertook an assessment of our proposed approach against a set of high level criteria. We consider that these criteria are aligned with our duties and have set out in Table G.1 how they map to the relevant secondary duties.

Table G.1: Mapping of high-level criteria for implementation against the relevant CAA secondary duties for this assessment

High-level criteria for implementing a capex incentives framework (the August 2020 Working Paper)	Relevant secondary duties for this assessment
1. Build on the approach to core and development capex and governance used for Q6, implementing improvements to address issues identified in practice and introducing new incentive arrangements, where appropriate, to reduce significantly, or eliminate, the need for *ex post* efficiency reviews by the CAA. It should also preserve the vital role of airlines in helping to assess HAL's project proposals, delivery and quality standards, and costs.	• The need to promote economy and efficiency on the part of HAL. • The "Better Regulation Principles" in section 1(4) CAA12, and specifically, consistency, so far as appropriate with the approach in Q6, transparency, proportionality and targeting action at a case where it is needed.
2. Provide clear, simple and symmetrical financial incentives for capex overspending and underspending, that are proportionate, allocate appropriate risks to HAL, and minimise difficulties associated with cost allocation and the administrative burden of implementation.	• The need to promote economy and efficiency on the part of HAL; • The need to secure that HAL can finance its activities; and • The Better Regulation Principles, and specifically transparency, proportionality, and targeting action at a case where it is needed.
3. Not place unreasonable risks on HAL so that the overall capex programme is financeable in a cost effective and efficient way. The incentives must also retain flexibility for HAL to design and implement the H7 capex programme, allowing for appropriate and efficient changes in scope during H7.	• The need to secure that HAL can finance its provision of AOS. • The Better Regulation Principles, particularly proportionality.
4. Ensure that any revenue adjustments arising from the incentives lead to the charges paid by airlines reflecting efficient levels of capital spending. Efficient costs should be linked to the delivery of project standards (including appropriate outputs and deliverables).	• The need to promote economy and efficiency on the part of HAL. • The Better Regulation Principles, and specifically proportionality, and targeting action at a case where it is needed.

G6 One of the key Better Regulation Principles is that of targeting an intervention at a case where action is needed. We start this assessment by setting out the rationale for intervention before proceeding to the rest of the assessment.[31]

Rationale for intervention

G7 We started developing proposals for forward looking (or *ex ante*) capex incentives in 2019, having identified a number of issues with the existing approach to the governance and incentivisation of efficient capex during Q6 and iH7.[32]

G8 Our approach to capex governance and capex incentives for HAL has evolved over time. The experience from Q5 of setting a fixed baseline for capex was found in practice not to reflect the dynamic nature of the industry and led to large variances against forecast.

G9 In response to the issues identified with the Q5 framework, in Q6 an updated capex framework was implemented, using the "development to core" process to introduce a degree of flexibility. Over the course of the price control period, projects could transition from development to core capex by moving through project "Gateways". Decisions to move projects from development to core were agreed by HAL and airlines. This flexible approach enabled those development projects that were not yet fully specified or sufficiently costed at the time of setting the price control to be developed further and, where appropriate, delivered during the price control period.

G10 While there are benefits to the Q6 framework, we have also identified issues based on our own analysis and feedback from stakeholders, including airlines and the IFS.[33]

G11 The key issues identified with the Q6 framework are summarised below:

- The Q6 approach does not provide sufficiently strong commercial incentives on HAL to ensure projects are delivered on or below budget;
- Under the Q6 approach, it is not always clear to airlines whether the benefits/outputs from projects have been delivered;

[31] Therefore, the assessment in Table G.2 does not include an assessment against the Better Regulation Principle of 'targeted at a case where action is needed' as this issue is dealt with in paragraphs G.10 and onwards.

[32] For example we discussed the merits of introducing *ex ante* incentives in the January 2020 Consultation and paragraphs 7-12 of the August 2020 Working Paper.

[33] The IFS presented a working draft to HAL, airlines and the CAA in March 2020 on learning points from H7. The IFS also produced an end of Q6 report for the CAA in July 2020.

- *Ex post* assessments can be challenging and are likely to require expert judgement and a broad evidence base to identify inefficiencies across the capex portfolio;
- While HAL faced a form of *ex ante* incentive, in that it did not recover the financing costs associated with any overspending against the agreed G3 capex baseline, the strength of this incentive varied over the regulatory period (becoming weaker over the course of the price control). Therefore, it is not targeted at encouraging cost efficiency and could create perverse incentives on HAL to delay spending; and
- Some airlines have noted that the incentives to ensure that projects are delivered on time are not strong enough under the existing approach.

G12 We also note that there are inherent difficulties with conducting *ex post* reviews arising from:

- the passing of time since the projects under review completed which are exacerbated in the case of long-running projects; and
- the inevitable asymmetry of information between the regulated company and regulator.

G13 We first started developing proposals for forward looking capex incentives at a time when HAL was actively working towards applying for Development Consent under the Planning Act 2009 for expansion. A key objective of our policy for the H7 price control is to create appropriate incentives for HAL to make capital investments efficiently. We consider that this remains a priority even with our focus changing to a “two runway” airport as the difficult circumstances that the aviation sector is experiencing as a result of the impact of the covid-19 pandemic mean that efficiency and value for money will be particularly important.

G14 Implementing forward looking capex incentives is important for H7 for the following reasons:

- We want to build on the approach to “core and development” capex and governance used for Q6, implementing improvements to address issues identified in practice (see above) and introducing new incentives, where appropriate, to reduce significantly, or eliminate, the need for *ex post* efficiency reviews by the CAA. So, our approach seeks to be consistent with that in Q6 to the extent that this is compatible with improving the incentive arrangements to address the issues identified above;

- Efficiency of capex in H7 will be particularly important given the difficult circumstances that the aviation sector has faced as a result of the impact of the covid-19 pandemic, and there is an increased focus on affordability of charges for consumers. As a result, action is needed to seek to improve the incentives on HAL to deliver capex efficiently;
- We want to provide clear, simple and symmetrical financial incentives for capex overspending and underspending, allocate appropriate risks to HAL, minimise difficulties associated with cost allocation and do not create an undue administrative burden. As such we consider that our approach is proportionate to address the issues with the arrangements in Q6 that we have identified;
- We do not want to place unreasonable risks on HAL so that the overall capex programme is financeable in a cost effective and efficient way. The incentives should also retain flexibility for HAL to design and implement the H7 capex programme, allowing for appropriate and efficient changes in scope during H7. So, again, we consider that our approach is proportionate as well as having proper regard to the impact it has on HAL's ability to finance its activities;
- We want to provide broad based incentives for HAL exercise tight cost control if an external event impacts on delivery of capex, to make sure the adverse impact of such events on costs is as low as reasonably practicable. As such our approach promotes economy and efficiency on the part of HAL; and
- We want to ensure that any revenue adjustments arising from the incentives lead to the charges paid by airlines reflecting efficient levels of capital spending. Efficient costs should be linked to the delivery of project standards, including appropriate outputs and deliverables. Again, we consider that our approach is proportionate as well as having proper regard to the impact it has on HAL's ability to finance its activities while promoting economy and efficiency on the part of HAL.

Assessment of the capex incentives framework against our duties

G15 In this assessment, we are comparing our H7 capex incentives framework against the Q6 capex efficiency framework (the counterfactual). More detail on our H7 capex incentives framework is available in chapter 7 (Capex incentives) of this document and in Appendix F (Capex incentives).

G16 We have set out below (Figure G.1) a summary of the counterfactual and our H7 framework.

Figure G.1: Overview of the Q6 capex efficiency framework (the counterfactual) against our H7 capex incentives framework

Approach in Q6	H7 Decision
Core and development framework with vital role for airlines	Similar to Q6, retain core and development framework with vital role for airlines
Ex post assessment of inefficient capex at end of period	Ex ante incentives on over/underspend linked to performance against Delivery Obligations (no ex post review for H7 projects)
Ex ante financing cost incentive (around 13% on average)	Ex ante incentive rate of 25% applied on a symmetrical basis to all of HAL's H7 capex plan
Trigger payments penalise HAL for late delivery of projects	Trigger payments replaced by timing element within Delivery Obligations
Charges reflect development and core capex allowances, updated during period	Similar to Q6, charges reflect agreed changes to capex baselines, updated during period
Gateway process and governance at portfolio and project levels, with IFS providing the role of an expert independent reviewer	Similar to Q6 with continued role of IFS, but with enhanced governance and reporting of capex projects/categories and performance against Delivery Objectives/Obligations
Capex envelope set at start of price control	A mechanism so that HAL can request changes to the overall capex envelope in response to new requirements emerging

Source: CAA

G17 The table below sets out our assessment.

Table G.2: Assessment against the CAA secondary duties

Relevant CAA duties for this assessment	Counterfactual (Q6 approach)	CAA's H7 capital incentives framework
The need to promote economy and efficiency on the part of HAL.	Currently, the efficiency of HAL's capex is assessed through *ex post* reviews, conducted at the end of the regulatory period. The CAA undertakes a review of HAL's capex, to determine what proportion of actual capex incurred should be added to HAL's RAB. Recent reviews have demonstrated that it is difficult and contentious to establish efficiency using *ex post.* In addition, finding and quantifying evidence of inefficiency does not necessarily mean that the remaining expenditure has been incurred with the same level of efficiency that might be reasonably expected from an appropriately calibrated set of forward looking incentives. This means that potentially, inefficient capital expenditure could be added to the RAB, if it is not disallowed through the	An *ex ante* approach to capex expenditure, as detailed in chapter 7 (Capex incentives) of this document would promote greater economy and efficiency on the part of HAL compared to the Q6 approach, because: • If HAL over-spends on a project or programme, a proportion of the over-spending would not be added to the RAB (it would be disallowed). This would create a stronger incentive for HAL to exercise greater cost control during the regulatory period, when projects are at risk of going over budget, in order to minimise the potential disallowance at the point of reconciliation. • HAL would also be able to earn a 'bonus' in relation to any under-spending relative to the baseline, which would be added to the RAB. Currently, the maximum value that can be added to the RAB in relation to a project or programme is the actual spending incurred (subject to the CAA's *ex post* efficiency review). Under our *ex ante* approach, HAL would have a stronger incentive than currently to reduce costs, as it can then earn a higher amount through outperformance (assuming all the outputs have been delivered). Overall, compared to the counterfactual, this approach provides a stronger, but proportionate, incentive during the H7 period for HAL to undertake capex efficiently. Stakeholders have commented that an issue with an *ex ante* approach is that HAL would have an incentive artificially to inflate baselines in order to be able to "beat" the incentive more easily. We consider that this risk is mitigated by airline involvement in the process of agreeing G3 estimates (which will directly feed into the capex category baselines). We are also proposing more transparent reporting of capex baselines for H7 which will

	ex post review, and then is included in charges to airlines and ultimately consumers.	allow the CAA and airlines to track and better scrutinise baseline adjustments. HAL has argued that an *ex ante* approach would lead to higher costs for consumers, as HAL would increase risk allowances in projects, to mitigate the increased risk it is exposed to. We note that our approach is to use G3 estimates to set capex project baselines that HAL's performance is measured against, and that these estimates are currently set at a P50 level.[34] There should be no need for HAL to increase risk allowances beyond the P50 level, as at a P50 level, HAL should expect to perform at baseline across its capex portfolio, not requiring additional risk allowances. We are also signalling our intent to monitor the allocation of expenditure to cost components. If we find that these are being systemically inflated against historical averages, then we may consider whether this reflects behaviour that is not economic or efficient. HAL has also argued that a move to *ex ante* incentives could increase the time and, therefore, money, needed for the development stage of projects. As with Q6, we expect HAL to undertake the necessary optioneering and planning during the development stage of projects to a sufficient quality to derive a P50 cost estimate for G3. The quality of this work should help to lower costs by optimising designs and minimise the prospect of cost overruns. Therefore, we do not consider that a disproportionate increase in development costs would be in the interest of consumers and we will monitor development costs during H7 relative to those seen during Q6 / iH7, to understand whether they have increased, as a percentage of overall capex costs. Having considered, these points, we consider that the benefits of moving to *ex ante* incentives will outweigh the potential risks, and, so, will promote economy and efficiency on the part of HAL more effectively than the existing arrangements.

[34] This is the value at which there is a 50% chance of the project coming in above this cost and a 50% chance of it coming in below this cost.

The need to secure that all reasonable demands for the provision of AOS are met.	The development to core framework allows HAL and airlines to bring forward capital projects during the regulatory period, where they identify a need for intervention. This flexibility within the framework means that HAL is able to secure that all reasonable demands for the provision of AOS are met. HAL is able to recover costs associated with these projects through charges during the period, which also means it is able to secure that all reasonable demands for the provision of AOS are met. CAA efficiency adjustments are applied at the start of the next regulatory period, through the RAB.	Our *ex ante* approach retains the existing development to core framework. This means that HAL would still be able to identify capital interventions and bring them forward, with the agreement of airlines (or at their request), to meet reasonable demands for the provision of AOS. Under our approach, airport charges within the period would be based on expenditure incurred that reflect the evolving capex requirements, but would be capped at the level of the initial capex envelope. This means it will be able to secure the funding so that all reasonable demands for the provision of AOS are met. Any adjustment for under or outperformance would be applied at the start of the next regulatory period, through adjusting the RAB. If new requirements emerge within the period that require an increase in the overall capex envelope, then HAL will have two opportunities to request CAA to increase the value of the envelope, hence allowing for capex to support the reasonable demands of users to be met in an efficient and timely manner. As a result, we consider that *ex ante* arrangements will retain sufficient flexibility, especially when coupled with airline involvement in the development to core process to secure that investment needed to support HAL being able to meet the reasonable demand for AOS under the incentive scheme.
The need to secure that HAL can finance its provision of AOS.	If the CAA, through its *ex post* review, identifies a proportion of capex as inefficiently incurred, that capex is removed from the RAB at the start of the next regulatory period. During the period, HAL is able to add actual capex to the RAB, and earn a return in	An *ex ante* regime could result in both disallowances and 'bonuses' for HAL, depending on whether it has under- or out-performed the capex baselines set for each capex category. If HAL overspends relative to the baseline, the impact on HAL would be similar as in the counterfactual. However, we note that under our approach, HAL can both under- and out-perform baselines so that the asymmetry of the current incentive is removed. As such, these arrangements should represent a "fair bet" for HAL and ensure that the arrangements are targeted at and proportionate to the out-turn spending on the projects under the incentive, so promoting economy and efficiency on the part of HAL.

	relation to that expenditure (through the WACC) which allows it to finance its activities and, therefore, provision of AOS, through debt and equity. At the end of the regulatory period, there is the potential for some proportion of HAL's historic spending to be removed from the RAB going forward, which would have an impact on HAL's revenues in the next regulatory period (through the allowed return HAL can earn on its RAB). This impact is considered by the CAA as part its analysis of affordability and financeability at the time of setting the regulatory settlement, to ensure that the overall package for the next regulatory period does not create any unreasonable risk for HAL. A feature of the Q6 arrangements is that the risk to HAL is asymmetric, as the CAA can only make a disallowance if it identifies inefficiency. In addition, under the Q6 approach there is	HAL's performance would be assessed against baselines which are set on the basis of G3 budget estimates, which are at the P50 level. In the light of this, on expectation, the financial impact of the *ex ante* incentive on HAL should be zero. HAL has argued that under an *ex ante* regime, it would be exposed to more risk overall, which would result in a higher WACC. This is because, in HAL's view, there are a number of factors outside of its control that can have an impact on costs, and HAL would price this risk in when proposing a WACC. Overall, we do not consider that moving to an *ex ante* framework would lead to an increase in the WACC, for the following reasons: - We acknowledge the possibility that *ex ante* incentives will expose HAL to forecasting error associated with factors outside its control. However, we consider that this risk is offset by the removal of a large element of regulatory discretion (through *ex post* reviews), which we consider drives a similar level of risk exposure under the current framework. Not all regulatory discretion is removed under our proposal, as the CAA would still account for whether HAL has delivered the agreed Delivery Obligations associated with capex projects. However, this review would be narrower in scope and would use "SMART" indicators agreed between HAL and airlines at G3 to determine the level of successful delivery and associated capex baseline reduction associated with under-delivery. Therefore, the overall level of regulatory discretion under our H7 approach is lower. - We have also noted that HAL is exposed to asymmetric risk under *ex post* reviews which would be removed under *ex ante* incentives. We do not consider that asymmetry or "skewedness" of returns directly affects the WACC. Nonetheless, we expect that moving to a more symmetric incentive regime will have value for investors. Overall, for the three reasons set out above, we consider the impact on the WACC would be neutral under our *ex post* framework. Our proposals would,

	uncertainty around what proportion of HAL's spending will be disallowed by the CAA, which could create a perception of greater regulatory uncertainty and risk.	therefore, not have a negative impact on HAL's ability to finance the provision of AOS at Heathrow. More generally, in terms of HAL's exposure to risks outside of its control, we are of the view that should events occur that have an impact on a project which are beyond HAL's control, this could be reflected in baselines and delivery obligations through the "scope change" process set out in Appendix F (Capex incentives), if it is reasonable to do so. In addition, currently, if there is an external event that impacts a project, there is no incentive on HAL to exercise tight cost control to make sure the impact of this external event on costs is as low as possible, because HAL does not expect to be penalised for overspending in relation to such events. Under an *ex ante* incentive framework, these incentives on HAL would be strengthened, resulting in overall lower capex. As a result, we consider that the introduction of these arrangements will provide for investment that is financeable.
The Better Regulation Principles: is the CAA's approach transparent?	The CAA undertakes an *ex post* assessment of capex, which it consults on publicly (including proposed disallowances). This ensures the assessment process has a reasonable level of transparency, as a summary of the CAA's approach and findings are available for stakeholders to review.	Under the *ex ante* framework, HAL and airlines would agree at G3 the capex baseline and the indicators that will be used to assess performance against Delivery Obligations. HAL and airlines will also agree in advance the level of adjustment to a project's capex baseline associated with underperformance. This will ensure greater transparency than the counterfactual on the methodology and measures that will be used to assess performance. We also expect that the governance and information provision requirements supporting capital expenditure should be updated to ensure changes to the scope of capex categories (and delivery objectives/obligations) to be clearly documented and recorded during the period. In addition, the H7 framework also removes the asymmetry of the Q6 framework and removes a large element of regulatory discretion associated with the CAA's current *ex post* review of capex. This increases the level of

		transparency (as well as improving the accountability) of the regulatory framework in place for capex efficiency. As such, we consider that the H7 arrangements are more transparent than the existing arrangements which rely on challenging *ex post* reviews the outcome of which cannot be readily predicted in advance.
The Better Regulation Principles: is the CAA's approach accountable?	The CAA undertakes an *ex post* assessment of capex, which it consults on publicly (including proposed disallowances). This ensures the assessment process has a reasonable level of accountability, as the CAA's findings are available for all stakeholders to see and potentially challenge.	The CAA's capex incentives policy is part of the overall price control settlement for H7, which can be appealed to the CMA, So, our approach is accountable. The CAA would undertake a review of whether to increase the size of the overall capex envelope if we receive a legitimate request to do so from HAL, or airlines. In considering a request we will consult with stakeholders ensuring accountability as our findings will be available for all stakeholders to see and challenge, and provide their own input and evidence. The process of moving capex from development to core will be retained, so ensuring that capex projects remain accountable to airline stakeholders. Overall, therefore, and also taking into account the removal of the large element of regulatory discretion associated with *ex post* incentives, the level of accountability is the same or greater than the counterfactual.
The Better Regulation Principles: is the CAA's approach proportionate?	The current approach involves the CAA undertaking an assessment of a sample of capex projects and is informed by the definition of efficiency set out in the Capital Efficiency Handbook and the DIWE framework. This approach considers a wide range of factors, as set out in paragraph 1.26 of the September 2020 Working	Under the *ex ante* approach, only a proportion (determined by the symmetric incentive rate) of over or underspending will be disallowed from the RAB or added as a bonus (depending on whether HAL has over or underspent). This limits the extent of HAL's risk exposure, including because, at a portfolio level, HAL can both under and out-perform baselines so that the asymmetry of the current incentive is removed, while providing stronger incentives to exercise cost control compared with the current approach. Furthermore, under the *ex ante* framework, the CAA will no longer undertake *ex post* reviews of projects: we will review whether delivery obligations have been met (with possible adjustments to baselines for under-delivery) but measures of performance and levels of adjustment

	Paper: these factors include how the work was procured, the extent to which HAL was able to control relevant expenditure, possible duplication of activity, the extent to which expenditure was proportionate to the outputs which that expenditure was intended to, and/or did, deliver. While this assessment is undertaken only on a sample of projects, it has a significant scope, as set out above.	should be pre-agreed between HAL and airlines, making the process of reviewing them at the end of H7 more limited in scope compared to the existing process of reviewing all aspects of a sample of capex projects. Furthermore, we are signalling that we anticipate that lower value/complex projects might be bundled together into tranches for Delivery Obligations to be applied for the purpose of adjusting capex baselines. In combination, we consider these elements ensure the proportionality of our approach. We also note that *ex post* reviews for some projects/categories might be required by exception, such as for projects already underway ahead of H7. As a result, the H7 approach will be proportionate to the delivery of an effective incentive across HAL's capex portfolio in terms of both the level of incentive applied and the level of regulatory intervention required for its operation.
The Better Regulation Principles: is the CAA's approach consistent?	The existing approach to capex incentivisation has been developed over time and in consultation with stakeholders, including HAL and airlines. It has a number of benefits and is consistent with our duties and the objective of promoting HAL's efficiency.	The *ex ante* approach builds on, and so is consistent with, a number of elements of the Q6 framework, for example, retaining the current approach for development and core spend, which was developed for Q6. We are ensuring that we retain the elements of the current approach that we consider are effective in incentivising HAL's efficiency, so ensuring consistency so far as is appropriate, while improving in areas where issues have been identified and action needed. Finally, the general approach of adopting *ex ante* incentives (in general rather than the specifics) is also consistent with parallel approaches adopted by other regulators, such as Ofgem and Ofwat to incentivise capital efficiency. As such, the H7 arrangements are as consistent as is appropriate with those that currently apply while still delivering improvements over those areas in the operation of those incentive arrangements.

G18

G19 Under the *ex ante* framework, HAL will have clearer and stronger incentives to drive efficiency in its capex during the regulatory period, which will over time lead to lower charges for airport users. The assessment we have set out in Table G.2 above demonstrates that our *ex ante* capital incentives framework performs as well or better than the existing capex efficiency arrangements in place since the start of Q6 (the counterfactual) across all the relevant secondary duties and the Better Regulation Principles.

G20 In this light, and having considered the comparative merits of incentivising capex under the *existing ex post* arrangements and the H7 *ex ante* arrangements, changing the incentive arrangements for HAL in the H7 price control to *ex ante* incentives will better enable the CAA to discharge its primary duty to "*further the interests of users or air transport services regarding the range, availability, continuity, cost and quality of airport operation services*."

APPENDIX H

WACC

Background

H1 This Appendix provides further information in respect of certain detailed issues relating to our estimation of the WACC for H7. These are:

- our comparison of HAL's Class A bond spreads at issuance against the benchmark indices;
- the consistency of our TRS mechanism with previous CAA analysis of correlation and volatility; and
- a comparison of our Final Proposals for the H7 WACC with recent determinations in the water and energy sectors.

H2 This should be read in conjunction with the chapter 9 (Weighted average cost of capital) in the Financial Issues section of these Final Proposals.

Comparison of Class A bonds to benchmark indices

H3 The following discussion provides further detail regarding our comparison of HAL's Class A bonds to the iBoxx non-financials A and BBB-rated 10+ years indices.

H4 The purpose of this comparison is to calibrate our notional cost of debt with reference to actual market data on HAL's Class A debt. We do so by including a halo effect or HAL-specific premium to the extent that HAL has outperformed or underperformed the benchmark indices.

H5 We have, therefore, examined the cost of each of HAL's Class A bonds at the point of issuance. We then compare this with the value of the iBoxx indices above at that time.

H6 The basis for our comparison is the "spread" of each instrument. The spread is the difference between the yield-to-maturity[35] on an instrument and the

[35] The yield-to-maturity is defined as the discount rate that equates the present value of a stream of future cashflows associated with a financial instrument to its current price, if the instrument in question is held to maturity. The yield-to-maturity at issuance can be considered to represent an estimate of the "cost" of a financial instrument to its issuer.

corresponding yield-to-maturity on a benchmark instrument: typically a fixed-rate gilt or a floating rate index such as LIBOR.

H7 In addition, some of HAL's Class-A bonds are foreign-currency denominated. For these instruments, we consider it appropriate to estimate a "sterling equivalent spread" to ensure comparability to the sterling-denominated iBoxx indices used. This is the spread calculated once the current price, scheduled coupons and principal repayments are converted to sterling using the currency swap curve at the point of issuance. We have also included the cost of the foreign currency swaps that we estimate would have been incurred in carrying out this currency conversion.

H8 For foreign currency-denominated bonds, we use spreads to LIBOR, since this is consistent with HAL's own internal practice. For sterling-denominated bonds, we use the spread relative to gilts. We measure the spreads on the iBoxx indices in a consistent manner: when we compare the spread on a foreign currency bond to the spread on the iBoxx at issuance, we measure both relative to LIBOR. When we compare the spreads on a sterling-denominated bond to the spread in the iBoxx at issuance, we measure both relative to gilts.

H9 We have summarised the spread at issuance on HAL's Class A debt instruments below, alongside the corresponding spread on the iBoxx indices at that time in Table H.1.

Table H.1: Issuance spreads on HAL Class A bonds compared with contemporaneous iBoxx spreads

Issue date	Amount outstanding (£)	Issuance spread (bp)	iBoxx spread (bp)	Difference
25/06/2021	68,357,933	116.97	122.57	-5.59
13/04/2021	377,117,661	79.13	94.34	-15.21
13/04/2021	174,054,305	154.56	106.35	48.21
08/04/2021	433,742,381	133.43	100.37	33.06
13/10/2020	450,000,000	260.00	130.13	129.88
13/10/2020	294,153,984	260.10	125.82	134.28
12/10/2020	678,129,159	201.95	128.10	73.85
19/03/2020	50,900,000	216.29	268.68	-52.39
17/12/2019	69,556,992	93.65	140.44	-46.79
15/04/2019	159,672,747	68.54	132.92	-64.38
14/03/2019	554,896,320	125.84	141.95	-16.11
11/03/2019	73,532,555	126.88	164.77	-37.89

11/10/2018	94,229,899	117.80	133.76	-15.96
30/08/2018	236,823,720	130.82	146.33	-15.51
08/03/2018	224,592,925	82.47	147.48	-65.01
12/07/2017	442,872,542	89.16	126.23	-37.07
07/12/2016	94,341,581	72.64	143.76	-71.12
09/08/2016	400,000,000	118.00	122.97	-4.97
17/02/2016	281,964,162	164.83	232.73	-67.90
21/05/2015	261,699,266	88.14	122.11	-33.97
01/04/2015	83,981,742	82.36	142.68	-60.32
11/02/2015	557,928,612	78.85	148.24	-69.38
01/07/2014	39,882,490	109.19	140.14	-30.95
12/06/2014	50,000,000	180.74	133.46	47.28
23/05/2014	485,935,803	64.32	145.97	-81.65
31/10/2013	750,000,000	117.00	134.14	-17.14
02/04/2012	41,565,006	174.00	192.85	-18.86
26/01/2012	41,773,502	173.14	227.90	-54.76
13/05/2011	750,000,000	175.00	134.42	40.59
03/12/2009	700,000,000	270.00	179.08	90.93
18/08/2008	749,600,000	231.11	213.45	17.67
18/08/2008	199,909,000	241.62	197.03	44.59
18/08/2008	899,967,000	203.06	197.03	6.03
Total	**10,771,181,288**	**158.45**	**150.35**	**8.10**

Source: Bloomberg, CAA analysis

H10 We can observe from Table H.1 that, at some points in time, HAL has been able to issue debt more cheaply than the iBoxx and at other times HAL's Class A debt has been issued at a premium to the iBoxx spread. On average, the table above suggests that HAL has issued debt at a premium of 8bps to the benchmark indices over the period when HAL has issued Class A debt.

Consistency of TRS adjustment with CAA analysis of correlation and volatility

H11 HAL has stated that the magnitude of our adjustment to the asset beta for the TRS mechanism is not consistent with previous CAA estimates of the correlation of Heathrow risk to market risk. HAL also made the point that it was not in line with the CMA's approach to asset beta for NERL.

H12 We demonstrate below that the adjustment we have made to take account of the TRS mechanism is, in fact, consistent with a correlation coefficient of 0.1-0.5 – or indeed any strictly positive coefficient.

H13 We assume that:

- β_1 is the pre-pandemic beta;
- β_2 is the unmitigated pandemic beta;
- β_3 is the mitigated pandemic beta;
- σ_1 is the unknown pre-pandemic volatility of returns;
- σ_2 is the unmitigated pandemic volatility of returns; and
- σ_3 is the mitigated pandemic volatility of returns.

H14 For simplicity, we also assume that:

- the volatility of returns on the market portfolio – σ_M – is constant (but the conclusion is not contingent on this assumption);
- the correlation coefficient is an unknown, non-zero constant, ρ_1;
- the pandemic increases the volatility of returns by an unknown percentage, X; and
- the TRS mechanism halves the impact of the pandemic on the volatility of returns.

H15 On this basis:

- $\beta_1 = \sigma_1 / \sigma_M * \rho_1$
- $\beta_2 = \sigma_2 / \sigma_M * \rho_1$
- $\beta_3 = \sigma_3 / \sigma_M * \rho_1$
- $\sigma_2 = \sigma_1 * (1+X)$
- $\sigma_3 = \sigma_1 * (1+X/2)$

H16 This implies that:

- $\beta_2 = \beta_1 * (1+X)$
- $\beta_3 = \beta_1 * (1+X/2)$
- $\beta_2 - \beta_1 = \beta_1 * X$

- $\beta_3 - \beta_2 = \beta_1 * (1+X/2) - \beta_1 * (1+X) = - \beta_1 * X/2$.

H17 This means that the TRS mechanism will halve the increase in the beta due to the pandemic, providing that the correlation coefficient is non-zero. The impact of the TRS mechanism on the unmitigated pandemic beta would therefore be the same regardless of whether the coefficient was 0.1-0.5 or 0.8-1.0 or indeed any other non-zero value. HAL's statement that our TRS mechanism implies a particular correlation coefficient is therefore incorrect.

Comparison of Final Proposals WACC with recent determinations

H18 Our Final Proposals WACC is somewhat higher than corresponding determinations by other regulators and the CMA in water (PR19) and energy (RIIO-GD2/T2). This is due to a cost of equity estimate that is considerably higher than for other sectors. As discussed in chapter 9 (Weighted average cost of capital), this partly reflects the impact of the pandemic on the asset beta, but also our view at Q6 that HAL was exposed to higher systematic risk than network utilities even in the absence of the pandemic.

H19 The higher cost of equity is partially offset by a cost of debt that is somewhat lower than for other sectors. This primarily reflects the impact of higher forecast inflation in H7 compared with what was forecast for PR19 and RIIO-GD2/T2 respectively.

Stakeholders' views

H20 CEPA commented that, "[the] *CAA's approach drives a counterintuitive outcome in that the aviation WACC premium over and above energy and water sector returns has increased significantly for H7 relative to Q6, despite risk being allocated away from Heathrow in the H7 regulatory regime.*"[36]

H21 It then attributed this to a departure from "*well-established regulatory approach without justification – this is especially true for the (pre-pandemic) asset beta and assumed debt tenor.*"

H22 CEPA illustrated this by providing an estimate of the pre-pandemic vanilla WACC "*based solely on a rolled forward CAA Q6 methodology*"[37] of 1.6%-2.8%, that is, considerably lower than our Initial Proposals estimate and more in line with network utility benchmarks.

[36] CEPA (2021), "Response to CAA H7 Initial Proposals: Cost of Capital", p6.

[37] CEPA (2021), "Response to CAA H7 Initial Proposals: Cost of Capital", p6.

Our views

H23 We would firstly highlight that we do not agree with CEPA's characterisation of its illustrative estimate as being based solely on a rolled forward CAA Q6 method, since it differs from our Q6 approach in certain key respects as follows:

- CEPA has used shorter-tenor ILGs than we adopted at Q6 to estimate the risk free rate and has also not applied a forward adjustment as we did at Q6. The result of these errors is a risk free rate that is too low, and an upper-bound WACC that is too high;
- CEPA's asset beta range of 0.4-0.5 reflects neither the range (0.42-0.52) nor the point estimate (0.50) adopted at Q6; and
- CEPA's cost of embedded debt estimate is based on an entirely different approach than the one we applied at Q6. CEPA have used a 5-year non-collapsing average of the iBoxx A/BBB 10-15yr GBP index. By contrast, we based our Q6 cost of embedded debt estimate on the yields on HAL bonds with various remaining time to maturity, and broadly reflecting HAL's actual average tenor at issuance of 20 years. This difference is highly material: CEPA's illustrated "rolled forward" cost of debt is 373bps lower than the Q6 level and is some 87bps lower than our Final Proposals cost of debt, which we consider more faithfully reproduces the Q6 approach. It is also 140-180bps below the cost of debt estimated at PR19 and RIIO-GD2/T2 respectively.

H24 We consider that these differences mean that CEPA's illustrative estimate provides a misleading view of the impact of our departure from our Q6 method.

H25 We acknowledge that the "WACC premium" compared with network utilities has widened since Q6. However, we would note that a significant proportion of this is attributable to changes in market-wide parameters, as opposed to HAL-specific judgements or methodological changes that we have made.

H26 To illustrate this, we have carried out a modified version of CEPA's analysis, with the following amendments:

- we started from our Final Proposals estimate;
- we focused on the cost of equity specifically, since this is the principal driver of differences between our Final Proposals estimate and the PR19 and RIIO-GD2/T2 determinations; and
- we then substituted in our Q6 asset beta point estimate of 0.50 in place of our Final Proposals estimate of 0.53, and our Q6 debt beta point estimate of 0.1 in place of our Final Proposals estimate of 0.075.

H27 This results in a cost of equity of 6.64%, compared with our Final Proposals estimate of 7.50%. Although this is a material change, it accounts for only a minority of the difference between our estimated cost of equity and that for water and energy networks. This is illustrated in Table H.2 below.

Table H.2: Comparison of H7 cost of equity to network utilities

Previous		Recent		Recent (modified)	
PR14	5.65%	PR19	3.51%	PR19	3.51%
RIIO-GD1/T1	6.70%	RIIO-GD2/T2	3.63%	RIIO-GD2/T2	3.63%
Networks average	6.18%	Networks average	3.57%	Networks average	3.57%
Q6	6.83%	H7 FPs	7.50%	H7 with Q6 equity beta	6.64%
Gap between airports and networks	0.65%	Gap between airports and networks	3.93%	Gap between airports and networks	3.07%

Source: CAA, Ofgem and CMA determinations

H28 This suggests that the current “WACC premium” over network utilities is largely driven by changes in the market-wide parameters (the risk free rate and TMR) since Q6. This is consistent with the available evidence: the risk free rate in particular has fallen dramatically since Q6, while the implied equity risk premium has increased. A higher equity risk premium implies that investors require additional compensation for investing in higher risk assets such as airports and less compensation for investing in “safer” assets such as water and energy.

H29 This phenomenon alone gives rise to a significant increase in the WACC premium over network utilities, even before we account for any change in our view of relative risk, the effect of the pandemic or the impact of the TRS mechanism.

APPENDIX I

Financial resilience and ring fencing

Introduction

I1 This Appendix sets out our Final Proposals for changes to the financial resilience and ringfencing rules in HAL's licence. These Final Proposals have developed through a series of consultations and working papers[38] and focus on relatively narrow changes to HAL's licence which aim to:

- clarify the licence;
- improve the flow of information to the CAA; and
- make it more consistent with the regulatory regime as a whole.

I2 This Appendix:

- summarises our Initial Proposals and associated licence drafting, as well as stakeholders' comments on them;
- sets out our views on those comments and some recent work by Ofwat in this area;
- provides the case for changes to the rules applying to HAL; and
- sets out our Final Proposals.

I3 Initial Proposals and the Draft Licence Consultation discussed possible changes to:

- make minor changes to the sufficiency of resources obligation[39] (and associated certificates) to ensure internal consistency within the licence by requiring HAL to have sufficient assets to operate the airport "in accordance with the licence";

[38] These proposals have their origin in the context of expansion, our intention to consider the need for changes in the financial resilience arrangements for HAL having been mentioned first in January 2017 (see CAP1510 (www.caa.co.uk/CAP1510) at paragraph 5.35) and being developed in subsequent consultations and working papers (see especially the August 2019 Working Paper, and the June 2020 Consultation (at Appendix F)).

[39] Currently set out in Condition E2.1 of HAL's licence

- make clear the equal importance of financial and operational resilience by requiring separate certificates for financial and operational resources (in place of the existing combined certificate);[40]
- propose new requirements to provide additional supporting evidence in circumstances where the directors of HAL draw the CAA's attention to matters that may affect HAL's resilience;
- include a new requirement in HAL's licence to ensure that the CAA has notice of, and access to, the same information as HAL provides to credit markets;
- clarify the ultimate holding company undertaking;[41] and
- include a new requirement in HAL's licence to ensure new directors are aware of the ultimate controller undertaking.

Stakeholders' views

I4 Only BA and HAL made substantive comments on the Initial Proposals and Draft Licence Consultation. HAL reiterated its position from earlier responses that it does not accept the CAA's longstanding position set out in the decision to implement the Q6 price control that the "forward look" of the resources certificates should be two years, claiming this leads to "spurious precision", especially when sudden shocks arise. It restated its argument in response to the April 2021 Way Forward Document that the only substantive change that the CAA should make should be to align the "forward look" period in those certificates with the 18-month period used for the accounting "going concern" test. It argued this would not dilute the obligation to inform the CAA if the directors no longer hold the view expressed in the last certificates given.

I5 HAL also:

- considered that splitting the resources certificates into financial and operational certificates is not justified;
- argued that an obligation that would require the directors to certify that HAL will have sufficient resources to carry on its business in accordance with its licence obligations for the coming two years is not acceptable as this would require directors to certify future compliance with the Licence while the directors could not know in advance what the licence will require; and

[40] Currently required by Condition E2.2 of HAL's licence

[41] Currently in Condition E2.7, E2.8 and E 2.9 of HAL's licence

- said that it has no plans to continue producing scenarios in support of its resources certificates once demand returns to a more stable state. It also asked how the CAA would assess these scenarios and what consequences might follow.

I6 BA agreed with the CAA's recognition that information asymmetries between HAL and the CAA create risks for the consumer and that we should not dilute the "forward look" of the sufficiency of resources certificates. However, it discounted the benefits that the whole business securitisation structure created by HAL's "financing platform" [42] bring, arguing that the CAA should assure itself that HAL can meet its licence obligations even in the most extreme circumstances. It also reiterated its advocacy of the introduction of a Special Administration regime.[43]

I7 BA proposed that the CAA should adopt a reporting regime drawing on those of the Financial Reporting Council and UK Listing Authority, it also considered that:

- HAL should be required to inform the CAA of a wider range of financial arrangements, including non-UK financing and financing higher up the corporate group as well unpublished credit research; and
- wanted the ultimate controller undertaking to be widened to cover change of control events.

Our views

The need for change

I8 As we have made clear throughout the process for setting the H7 price control, our approach is based on a "notional company". As one of the elements of this approach is that consumers do not underwrite the actual financing choices made by HAL's directors and shareholders, there remains a residual risk that those actual financing choices may lead to HAL experiencing financial distress.

I9 Even though we consider that, in practice, and in part because of the protections for HAL put in place by its financing platform, the chance of HAL experiencing financial distress is "a low probability event", it could, if it were to materialise, potentially have a high impact. As we noted in our Initial Proposals, the analysis that we have undertaken indicates that the risk to consumers of the airport closing in such circumstances is low, consumer detriment could still arise from

[42] Details of the arrangements comprising HAL's "financing platform" can be found at: https://www.heathrow.com/company/investor-centre/offering_related-documents

[43] That is, a regime in insolvency law that alters the "normal" administration process for insolvent companies to ensure continuity of service or operation such as those created by the Energy Acts 2004 and 2011.

disruption to services and/or reductions in investment. Overall service quality could also decline as a result of management distraction or overload in such circumstances.[44] So, we consider that it is in consumers' interests for the CAA to take proportionate steps to mitigate such risks arising if HAL's actual financial position were to deteriorate to the point of financial distress.

I10 We also noted in our Initial Proposals that HAL is part of a wider group of companies that supports a relatively high level of debt. However, within that group, HAL is to an extent "insulated" from indebtedness incurred by entities "higher up" the corporate structure by being part of the "whole business securitisation" structure created by its financing platform. The financing platform includes Heathrow Funding Limited and Heathrow Finance plc as the primary route by which HAL raises very significant volumes of debt finance. This indicates that it would not be appropriate for our approach to look further up the corporate structure.

I11 We consider that HAL's credit quality and financial stability is enhanced by the financing platform because the covenants and restrictions contained in it provide a degree of extra protection for HAL and reduce the probability of it experiencing financial distress. As a result,

- consumers obtain some protection against the risks of financial distress from those provisions in HAL's "financing platform" which, to a significant extent, cover the same ground that regulatory rules would do otherwise. We consider that this is the case even though the primary aim of those provisions is to protect the interests of bond holders;[45] and
- the interests of consumers and investors are, at least in normal times, aligned in relation to HAL's ongoing financial stability.[46]

I12 Nonetheless, the wider group covered by the arrangements set out in the financing platform has come under financial pressure during the covid-19 pandemic. At the same time, the rules in HAL's licence on financial resilience:

[44] We set out further details on our views of the detriment that consumers could suffer in the event of HAL experiencing financial distress in the April 2021 Way Forward Document, the June 2020 Consultation and the August 2019 Working Paper.

[45] For example, the financing platform contains rules restricting HAL's activities, and level of indebtedness, as well as credit rating requirements backed by a "dividend lock up" and restrictions on asset disposals, each of which might be observed in a "regulatory" ring fence.

[46] We also note that the interests of investors and consumers might not necessarily be aligned in times of financial distress. We do not consider that this necessarily undermines the beneficial "spill over" effects that the covenants in the financing platform bring for the interests of consumers.

- are not extensive (and significantly less than those in other sectors subject to economic regulation);
- do not themselves protect HAL's cash or assets for the benefit of consumers; and
- do not benefit from Special Administration as a "backstop".

That said, they have a limited effect on HAL's wider group through the requirement for HAL to obtain an undertaking from its ultimate controller not to do anything that would be likely to cause HAL to be in breach of its licence.

I13 In this light, we continue to consider that it is appropriate for the CAA to consider appropriate enhancements to the existing rules to protect the interests of consumers in the event that HAL experiences financial distress. At the same time, we maintain the view that we have set out throughout the development of this policy that we do not consider that it would be proportionate for the CAA to implement financial resilience rules into HAL's licence that would "cut across" the financing platform, because this would precipitate a costly and disruptive refinancing of HAL.

I14 Given these factors, we need to place significant reliance on the provisions in HAL's licence that provide early warning of difficulties to protect the interests of consumers as they may enable the CAA to consider action tailored to the matter arising. This reliance is greater than if protections such as cash and/or dividend lock ups were in place in the licence that could act "automatically" to protect HAL's financial position.

I15 Having considered the existing arrangements in detail, we also consider that:

- the existing obligations in the licence are neither as clear as they could be, nor have they kept pace with other developments in the licence since the Q6 price control, specifically the introduction of the "economy and efficiency" obligation in Condition B3 of HAL's licence;
- the current arrangements in relation to the certification of sufficient resources do not ensure that the CAA is provided with appropriate and timely information or clearly demonstrate the equal importance of HAL maintaining sufficient financial and operational resources;
- the identity of the ultimate controller is not as clearly defined as it should be;
- the scope of information that HAL's group companies must hold as a result of the ultimate controller undertaking is not as clear as it should be to ensure that the ultimate controller undertaking functions effectively to protect the interests of consumers; and

- the licence does not assure appropriate prominence for the "ultimate controller undertaking" in HAL's broader corporate governance structure or processes, especially with new directors.

I16 In this light, we consider that proportionate, targeted intervention is needed to protect the interests of consumers through a limited number of changes designed to mitigate the risk faced by consumers described above. These changes will:

- improve the information and "early warning" measures in HAL's licence so that, if HAL gets into difficulties, the CAA has better information on which to decide whether to intervene in consumers' interests;
- ensure that the drafting of the sufficiency of resources obligation and associated certificates and ultimate controller obligation in the licence is clear, consistent and, where relevant, reflects changes to the licence since Q6;
- clarify the requirements and scope of the ultimate controller obligation; and
- ensure that there is proper knowledge of the ultimate controller undertaking within HAL's broader corporate structure and processes.

I17 We consider that these changes will not:

- affect HAL's financeability as they do not include changes that would cut across its financing platform or impose material compliance costs on it;
- undermine the responsibility of HAL's management and shareholders for its financial stability; or
- change our focus from the notional company in setting the price control.

Our views

I18 We note that HAL's comments largely repeat comments that it has made in relation to previous consultations, particularly in requesting the CAA to align the "forward look" of sufficiency of resources certificates with the period used for accounting "going concern" certificates. This issue has been addressed by the CAA before, both in the Q6 price control, and in Initial Proposals.[47] Similarly, HAL's rejection of separate financial and operational resources certificates has been a consistent theme of its responses throughout the development of our policy in this area. We do, however, agree that any new requirements should not be retrospective. This is reflected in the drafting set out in the drafting of the

47 See The Grant of HAL's Licence (CAP1151) at paragraph 2.131ff.

amended licence conditions in part Appendix C (Notice of the CAA's proposal to modify HAL's licence).

I19 We note HAL's comment that the drafting of the certificates we consulted on in the Draft Licence Consultation might, on one reading, be construed as requiring directors to certify compliance with licence conditions that they might not know would be in force during that "forward look" period. While we do not consider that the drafting should be limited, as HAL argues, to certifying compliance with only those licence conditions that are in force at the time the certificate is given, we consider that the form of the certificates could benefit from further clarification to address HAL's concern. So, we have clarified the drafting of the certificates so that they refer to only those licence conditions to which HAL reasonably expects to be subject. We consider that this approach addresses HAL's concern while still being flexible enough to address to regulatory developments.

I20 As for HAL's request for confirmation on the approach to assessing the scenarios that the proposed drafting contemplated, and the consequences of that assessment, we are clear that the aim of seeking this information is to provide the CAA with timely and relevant information by:

- illuminating any issues that HAL's directors have already identified in preparing the relevant certificate, to facilitate the CAA's understanding of them; and
- enabling the CAA to determine whether more information is required, for example through formal or informal information requests.

I21 The CAA's assessment and response to such scenarios will depend on the nature of the issues raised and the quality of the information provided. As a result, it is not possible for the CAA to be more precise about these matters, save to say that the aim of these provisions is not to support pre-determined regulatory intervention or, of itself, to be a trigger for enforcement action.

I22 We note BA's assertion that the CAA must assure itself that HAL is able to meet its licence obligations, even in the most extreme circumstances. We consider that this implies an interpretation of CAA12 under which the matters that the CAA is required to *have regard to* securing or promoting[48] would, in fact, be obligations on the CAA to *ensure* that HAL does, in fact, deliver on these matters in all circumstances. We do not agree. Rather, HAL is responsible for compliance with the obligations in its licence.[49]

48 By section 1(3) CAA12.

49 Further discussion of the nature of our duties under CAA12 is set out in the Summary chapter.

I23 We also do not accept the analogy that BA draws with failed companies in the energy sector. Given that HAL has weathered the covid-19 pandemic without encountering financial distress to a degree comparable with energy suppliers, we do not see that this provides a strong argument for the very much more intrusive regulatory interventions BA proposes. Furthermore, the costs of insolvencies in energy supply businesses are largely socialised onto the generality of consumers through the supplier of last resort and Special Administration regimes. As no such regimes exist for HAL, any losses would not be passed onto consumers in the same way. As we consider that Heathrow airport would remain in operation even if HAL were to be in financial distress, then the analogy is not appropriate, even though consumers could still suffer detriment as explained above.

I24 Further, we have checked our analysis of the likely consequences for the operation of Heathrow airport in the event that an administrative receiver were to be appointed. We are satisfied that our view that this will not lead to Heathrow airport closing is robust. On this basis, HAL would remain subject to the full suite of licence conditions applicable to it in such circumstances. So, should specific action be needed by the CAA to protect the interests of consumers, the CAA would retain a range of regulatory tools enabling it to act, including enforcing existing obligations and amending the licence. As the need for, and design of, any intervention cannot be judged outside any specific circumstances that might arise, we consider that a proportionate approach is to build on and improve the existing arrangements, while working within the constraints of not precipitating a need for HAL to undergo a refinancing.

I25 We also note that introduction of a Special Administration regime would likely interfere with bond holders' rights and so be contrary to our policy of not cutting across the financing platform. This is, in any event, a matter for Government, not the CAA.

I26 As for BA's suggestion that we look to the requirements of the UK Listing Authority ("UKLA") and Financial Reporting Council ("FRC"), the CAA's requirement for a longer term "forward look" is designed to require HAL's directors to take a more "holistic" view of the continuing financial and operational strength of the licensee, rather than address very specific reporting requirements. We also consider that taking ideas from the UKLA/FRC or the Prudential Regulatory Authority is more likely to lead to duplication and conflicting rules over time (as parallel requirements change over time) and are disproportionately onerous.

I27 In an event, HAL's Licence already contains an obligation to inform the CAA if the directors no longer hold the expectation given in the latest certificate and this would be triggered if financial distress occurred. Specifying specific matters that must be reported to the CAA potentially creates a false sense of security if the actual circumstances do not fall into one of the categories, and is not consistent with the more “holistic” approach taken in the certification obligations and associated obligation to inform the CAA.

I28 As for BA’s other comments, we consider that a rule covering material placed on HAL’s “Investor centre” on its website is sufficient to provide the CAA with sufficient material to support a proportionate approach to monitoring its financial resilience. Given HAL’s disclosure obligations under securities legislation, we do not consider that this would create an incentive for HAL *not* to place material in the public domain. In this context, it should be noted that we also consider materials prepared by credit rating agencies, so the proposed rule plays an important, but not the sole, role in providing visibility of HAL’s financial position. As we regulate HAL, not its shareholders, we do not consider it appropriate or proportionate to consider financing arrangements outside the “banking ringfence” created by the financing platform.

Ofwat’s latest work on financial resilience

I29 Since we published our Initial Proposals, Ofwat has published a “discussion paper” and academic report on financial resilience.[50,51] We agree with the general concern identified in this work that financial distress could have an impact on consumers through lower investment and service quality/operational performance as well as management distraction in any restructuring it caused. However, we do not consider that Ofwat’s work provides a strong basis for the CAA to seek to introduce significantly more onerous rules to promote the financial resilience of HAL than those contemplated by Initial Proposals.

Our Final Proposals

I30 Given the reasoning above and stakeholders comments on our Initial Proposals, we have considered again our approach to the financial resilience and ringfencing rules. This, together with our experience of the operation of the existing arrangements since the commencement of the covid-19 pandemic in early 2020 has shown that the present regime, while generally fit for purpose, could usefully be improved in the interest of consumers by modifying HAL’s licence to it to address the issues discussed above. Our Final Proposals set out below.

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[50] Financial resilience in the water sector, a discussion paper: https://www.ofwat.gov.uk/consultation/financial-resilience-in-the-water-sector-a-discussion-paper/

[51] A report on financial resilience, gearing and price controls Prepared for Ofwat by Professor Robin Mason and Professor Stephen Wright 3 December 2021”: A report on gearing, price controls and financial resilience; draft 03 31 October 2021 (ofwat.gov.uk)

Sufficiency of resources obligation

I31 It is clear to us that the obligations in HAL's licence to:

- maintain sufficient resources;
- certify the directors' expectations for having such resources; and
- inform the CAA if the directors no longer hold the expectation in the last certificate they gave

work together to protect the interests of consumers. Their combined effect is to provide the CAA with both comfort with that the licensee is not anticipating distress (whether financial or operational) and provide early warning of distress should it become an issue.

I32 However, to address a lack of internal consistency within HAL's licence and address changes made since Q6, we propose a relatively simple change to make clear that HAL is required to maintain sufficient financial resources and sufficient operational resources to support the operation of the airport in accordance with the obligations in the licence.

Separation of operational and financial certificates

I33 The information contained in the "sufficiency of resources certificates" (currently in Condition E2.2) protects consumers' interests by providing assurance to the CAA. If the possibility of distress arises, the certificates, combined with the ongoing obligation to inform the CAA of issues that might call the latest certificate in question, also enable the CAA to enter into dialogue with the licensee in a timely way, enabling it to assess the position and determine what, if any, further information it should seek, or action it should take to protect consumers. This supports the interests of consumers in the continuity of the provision of AOS at Heathrow, lessening the chance of disruptive distress.

I34 Our experience of the operation of these conditions since the start of 2020 is that HAL has provided significant financial and other information to the CAA and engaged in ongoing dialogue with us through the covid-19 pandemic, including in the context of its request for a RAB adjustment. However, it would not be appropriate for the CAA to rely on the "goodwill" of successive management teams at HAL to continue this approach. This, coupled with the inevitable information asymmetry between regulator and regulated company, could expose consumers to an increased risk that an unforeseen issue may damage their interests should it materialise.

I35 We note, however, that the certificates of adequacy of resources provided by HAL since the start of the covid-19 pandemic have not provided significant information about the impact of developments on the operation of the airport.

Significantly more information was provided by HAL in the context of its request for an adjustment to the RAB.[52] Similarly, the certificate of adequacy of resources in 2022 largely repeated HAL's price control submissions, rather than provide new insight into its operational position. We also note, in the context of airport performance more generally during the recovery from the pandemic, the importance that having sufficient operational (as opposed to financial) resources have for the service that consumers experience.

I36 Bearing all this in mind, we remain of the view that it is appropriate to ensure that the right level of assurance and information flows to the CAA on both operational and financial matters and that this is best achieved by splitting the certificates. Our Final Proposal is, therefore, to promote the provision of information to the CAA at a consistent level of detail for both financial and operational resources, by splitting and clarifying the "sufficiency of resources certificates" that HAL is required to provide. We propose to split the certificates of sufficiency of resources currently required by condition E2.2 into separate certificates for each of (i) operational and (ii) financial resources. Nonetheless, the modified certificates will, save for being tailored into separate certificates for each of (i) financial and (ii) operational resources, be in broadly the same form as at present, except for some changes and re-ordering to improve the clarity and readability of the certificates and for consistency with the amended sufficiency of resources obligation in condition E2.1.

I37 This will ensure that each of financial and operational issues will have equal weight and that doing so is proportionate and in interests of consumers.

I38 Since the obligations to maintain sufficient resources, coupled with the certification obligations cannot be expected to anticipate all future risks on their own and could not have been expected to have helped HAL to predict the impact of the covid-19 pandemic, this approach emphasises the importance of the ongoing obligation to inform the CAA if the directors no longer hold the expectation in the last certificate(s) they gave.

I39 In this light, we have considered again HAL's arguments that the "forward look" provided by the certificates should be shortened to align with the 12 to 18-month period assessed as part of the "going concern" statement given in Heathrow (SP) Limited's accounts. Putting aside the fact that the licensee is HAL, not Heathrow (SP) Limited, we note that this seeks to re-run a debate at the time that the Q6 price control was set.[53] The CAA noted at that time that, where an annual

52 See chapter 10 (The H7 Regulatory Asset Base and HAL's request for a RAB adjustment).

53 See The Grant of HAL's Licence (CAP1151), at paragraph 2.129, the CAA noted HAL's concerns and said it understood that HAL's banking and bond covenants require it to maintain 12 months' liquidity. However, it

certificate covers 24 months, the minimum oversight is approximately 12 months on the day before the next certificate is produced. So, if an annual certificate were provided covering only 12 or 18 months, the CAA would have very little forward visibility towards the end of those 12 months because the assurance provided by the obligation on the licensee to inform the CAA if the directors no longer hold the expectation given in the last certificate[54] would only apply to a period of significantly less than one year. From this, it is clear that the ongoing obligation to inform the CAA (and so provide appropriate information to the CAA to assess the position in the interests of consumers) would be significantly and inappropriately diluted if a shorter period were used.

Supporting information for the certificates of sufficiency of resources

I40 While the sufficiency of resources certificates are, themselves, valuable, they need to be supported by rules that provide for additional information to be passed to the CAA to ensure that it has appropriate information to enable it to consider whether it needs to act to protect the interests of consumers. Having considered stakeholders' further submissions, our Final Proposal is to not require HAL to produce and submit information in support of sufficiency of resources certificates either during:

- "business as usual" period where HAL's directors expect to have sufficient resources for the following two years, because the information will not disclose matters of importance to the interests of consumers; or
- any scenario in which HAL's directors do not expect to have sufficient resources, because the CAA should already be aware of the issue through HAL informing the CAA of it either (i) as the problem develops, through the most recent certificate being "qualified" by matters that the directors draw the CAA's attention to, or (ii) for faster-developing problems, as a result of the licence requirement for the directors to inform the CAA that they no longer have the reasonable expectation expressed in that most recent certificate.

I41 So, in these circumstances, the CAA should already be aware of the problem in question and be taking steps to address it appropriately. As a result, we consider that a proportionate approach is for our Final Proposals to maintain the position set out in Initial Proposals, requiring additional information in support of the

considered that the CAA's licence condition for adequate resources covers something slightly different: it is not a liquidity requirement but rather that management has the reasonable expectation that it has adequate financial and other resources.

[54] This is the obligation in condition 2.3 of HAL's licence to inform the CAA if the directors of the Licensee become aware of any circumstance which causes them no longer to have the reasonable expectation expressed in the then most recent certificate given under Condition E2.2.

resources certificates only where the licensee is providing a "qualified" certificate that draws the CAA's attention to specific matters. Making this change will mean that HAL will be required to provide information in support of the certificates only when it is most useful to the CAA in protecting the interests of consumers.

I42 Our Final Proposal for the supporting information to be provided with the certificates is to require HAL to provide a "central" case with "high" and "low" sensitivities relating to the specific matter(s) to which the directors are drawing the CAA's attention. The licensee should also describe the impact of the sensitivities on its financial and/or operational resources, as appropriate to the relevant certificate. This approach is both targeted only at cases where action is needed and proportionate as it focusses the obligation closely on matters of concern to the CAA and consumers, without requiring the provision of additional information at other times. We consider this approach also ensures that the licensee's directors retain responsibility for issues as they arise.

Provision of financial market information

I43 HAL publishes extensive information on its website and through the London Stock Exchange Regulatory News Service ("RNS"), to comply with its market obligations and financing platform. We will monitor the RNS, but HAL is in sole control of when material is released through the RNS, so is better placed to know when such material becomes available. As this material is of clear relevance to HAL's financial position it is appropriate to require HAL to notify the CAA that it has released such material and not rely on the goodwill of the licensee from time to time. So, our Final Proposal is to modify HAL's licence to include a simple obligation requiring HAL to inform the CAA when relevant new material is placed on its website. We consider that this targeted approach is proportionate to the benefits to consumers of the CAA accessing this information in a timely way.

Ultimate controller obligation

I44 The "ultimate controller undertaking" is an important tool for ensuring that consumers' interests are not undermined by actions taken elsewhere in the licensee's corporate structure. To support this, it is important that:

- the identity of the ultimate controller (known as the "Covenantor" in the licence) is clear;
- the ultimate controller and HAL's group companies can readily identify the information that they must hold under the ultimate controller obligation so they can ensure this information is available to the CAA; and
- the directors of the ultimate controller are aware of the existence and content of the ultimate controller undertaking.

I45 As our previous consultations have discussed, the present obligation neither identifies the ultimate controller with sufficient clarity, nor makes sufficiently clear to what information it applies. We consider that these issues can readily be addressed without changing either the identity of the ultimate controller or the intensity of the obligation on HAL in practice. We consider that we should do this by making clear that the:

- ultimate controller is identifiable by reference to terms defined in the Companies Act 2006;[55] and
- clarifying that the information that the subsidiaries of the ultimate controller need to hold are those records that the licensee may reasonably need to carry on the activities permitted under its licence.

I46 We consider that this approach ensures that this obligation will be limited to ensure group companies do not have to hold information that they would not otherwise hold for their functions within HAL's group.

I47 As for whether directors of the ultimate controller are sufficiently aware of the existence and content of the ultimate controller undertaking, we have considered HAL's comments on the relationship between the directorships of FGP TopCo (as the present ultimate controller of HAL) and HAL itself though HAL's broader corporate structure. Taking into account HAL's comment that FGP Topco Limited is an entity with directors on the HAL Board who are actively involved in Licence discussions throughout the year, we have decided that an annual reminder of the ultimate controller undertaking to those directors is not needed. Rather, the objective of ensuring that the relevant directors are aware of the nature and extent of the ultimate controller undertaking can be discharged effectively by ensuring that HAL writes to any new director of the ultimate controller on appointment to its board, making them aware of the undertaking. As a result, our Final Proposal is to require this as part of their "induction" into the role and to be done within a week of their appointment. This short period is needed in order to mitigate the risk that the new appointee starts being involved in board decisions that may have an impact on HAL before they become aware of the undertaking. We consider that this is a proportionate approach to raising the profile of this obligation in the particular circumstances of HAL's governance structure.

I48 In developing these Final Proposals, the CAA has had particular regard to the need to:

[55] By making clear that the ultimate controller is the holding company of the Licensee which is not itself a subsidiary of another company, with "holding company" and "subsidiary" bearing the meanings given to those terms in section 1159(1) of the Companies Act 2006.

- secure that HAL can finance its activities, by taking care not to cut across HAL's financing platform because this would provoke an expensive and disruptive refinancing;
- promote economy and efficiency on the part of HAL by not imposing obligations on HAL that would be costly to comply with; and
- secure that reasonable demands for AOS are met by promoting the financial and operational stability of HAL and the ability of the CAA to become aware of and address any concerns that might arise in a timely manner.

I49 We have also had regard to the Better Regulation Principles, in particular that:

- action is needed for the reasons, and to progress the aims, set out above; and
- these Final Proposals are proportionate, having been designed to achieve the aim of addressing the matters set out in those paragraphs in ways that address the need for action without creating any significant increase in the regulatory burden on HAL.

I50 Of particular relevance to our assessment of the proportionality of our proposals are, that they will:

- only require additional information in limited circumstances, otherwise relying on materials currently produced for market participants; and
- not cut across HAL's financing platform; but
- will still promote the CAA having the information it needs in circumstances where it needs more information to determine its appropriate course of action in the interests of consumers.

I51 We also consider that the modifications we propose have been designed to ensure that the obligations on HAL are clear and internally consistent by addressing those inconsistencies that have developed within the licence since Q6 and areas where the obligations on HAL are not sufficiently clear.

I52 The text of the modifications to HAL's licence needed to implement these Final Proposals is set out in Appendix C (Notice of the CAA's proposal to modify HAL's licence).

APPENDIX J

Policy on reopeners

Policy guidance on reopening a price control

J1 This guidance is intended to clarify how we are likely to deal with a future request to reopen HAL's price control.

J2 Consistent with our decision on setting the Q6 price control and the position under CAA12, our view remains that:

- HAL may request that its price control be reopened at any time; and
- we would consider any such request in the light of our statutory duties under the circumstances prevailing at the time.

J3 However, we consider that there is a high threshold for reopening a price control that is only likely to be met in exceptional circumstances.

J4 We further clarify that:

- in principle, other parties are also able to request that HAL's price control is reopened. As with any request from HAL, we would consider a request from a third party in the light of our statutory duties under the circumstances prevailing at the time;
- there are different ways that any decision to amend HAL's price control could be implemented. These include amending an existing price control formula part way through the period using the process set out in section 22 of the Civil Aviation Act 2012, or by changing our approach to setting the next price control, for example by adjusting the way we calculate the opening regulatory asset base ("RAB") for the next period. Each of these routes would allow our decision to be appealed to the CMA at the time they are implemented through a modification to HAL's licence; and
- we could also decide ourselves to reopen a price control (rather than in response to a specific request from HAL or a third party). Any such decision would be implemented as described above and subject to the same appeals mechanism.

J5 We also note that:

- we would only expect there to be a strong case for reopening a price control in exceptional circumstances;

- our May 2021 decision to adjust HAL's RAB by £300 million, as set out in the RAB Adjustment Decision, demonstrates that we are willing to reopen a price control, particularly in exceptional circumstances, and that we will do so only to the extent that this will further the interests of consumers;
- for the H7 period, we are introducing a traffic risk sharing mechanism which should reduce the likelihood that the exceptional circumstances that might justify reopening a price control could arise solely as a result of traffic being higher or lower than forecast;
- when considering whether and how to respond to any request to reopen a price control, we are likely to have regard to the benefits for consumers of regulatory certainty and consistency;
- we would expect any request to reopen a price control to be accompanied by specific evidence demonstrating the need for such action and, in particular, how this will further the interests of consumers; and
- this guidance is not intended to set any expectation as to how we would deal with a future reopening request (other than we would do so in the light of our statutory duties and the prevailing circumstances, and that there is only likely to be a strong case for reopening a price control in exceptional circumstances) or to commit to adjust the price control if HAL faces a risk over and above a particular threshold.

APPENDIX K

Rolling forward the RAB

Purpose and basis of the calculation

K1 This Appendix specifies the detail of the formulae that we intend to use for tracking the regulatory asset base (RAB) for Heathrow airport.

K2 The equations set out below are based on the projections made by the CAA in reaching its final decision on the charge conditions for the control period from 1 January 2022 to 31 December 2026.

Inflation adjustment

K3 The data used in inflation adjustment is published by the Office for National Statistics as follows:

(a) consumer price index (CPI): CPI INDEX 00: ALL ITEMS 2015=100 (the D7BT series)

(b) retail price index (RPI): RPI ALL ITEMS Jan 1987=100 (the CHAW series)

K4 From these CPI and RPI data we adopt the following series:

(a) $\mathrm{RPI}_{\mathrm{Dec,t}}$ is the RPI index for December of Regulatory Year t

(b) $\mathrm{RPI}_{\mathrm{Dec,t-1}}$ is the RPI index for December of Regulatory Year $\mathrm{t}-1$

(c) $\mathrm{RPI}_{\mathrm{Annual,t}}$ is the arithmetic mean of monthly RPI index values for each month in Regulatory Year t

(d) $\mathrm{CPI}_{\mathrm{Annual,t}}$ is the arithmetic mean of monthly CPI index values for each month in Regulatory Year t

(e) $\mathrm{CPI}_{\mathrm{Annual,2020}}$ is the arithmetic mean of monthly CPI index values for each month in Regulatory Year 2020

K5 From these five series we construct the following inflation adjustment terms:

Inflation adjustment	Used for
$\frac{RPI_{Dec,t}}{RPI_{Dec,t-1}}$	Annual RPI growth from December of Regulatory Year $t-1$ prices to December of Regulatory Year t prices
$\frac{RPI_{Dec,t}}{RPI_{Annual,t}}$	RPI growth from annual average of Regulatory Year t prices to December of Regulatory Year t prices (within year RPI growth)
$\frac{RPI_{Dec,t}}{RPI_{Annual,2018}}$	RPI growth from 2018 RPI annual average prices to December of Regulatory Year t prices

K6 In each year, the RAB is expressed in December RPI-real prices of that year. The CAA assumed ordinary depreciation figures are expressed in 2018 RPI-real annual average prices.

K7 A value corresponding to a Regulatory Year can be expressed in different price bases and denoted by the subscripts as follows:

Price base	Subscript
RPI prices in December of the previous Regulatory Year	$\mathrm{Dec}, \mathrm{t}-1$
RPI prices in December of that Regulatory Year	Dec, t
Annual average RPI prices of that Regulatory Year	t
Annual average RPI prices of Regulatory Year 2018	$\mathrm{RPI}, 2018$

Composition of the RAB

K8 The RAB of Regulatory Year t consists of two elements:

$$\mathrm{RAB(t)}_{\mathrm{Dec,t}} = \mathrm{Basic\ RAB(t)}_{\mathrm{Dec,t}} + \mathrm{Cumulative\ profiling\ adjustment(t)}_{\mathrm{Dec,t}}$$

where:

- $\mathrm{RAB(t)}_{\mathrm{Dec,t}}$ = the RAB of Regulatory Year t
- $\mathrm{Basic\ RAB(t)}_{\mathrm{Dec,t}}$ = the Basic RAB of Regulatory Year t
- $\mathrm{Cumulative\ profiling\ adjustment(t)}_{\mathrm{Dec,t}}$ = Cumulative profiling adjustment of Regulatory Year t. This is the adjustment to reflect profiling/smoothing of charges within a regulatory period.

The Opening Basic RAB

K9 The Opening Basic RAB of Regulatory Year t equals to the Closing Basic RAB of Regulatory Year $\mathrm{t-1}$, both expressed in RPI prices in December of Regulatory Year $\mathrm{t-1}$. That is:

$$\text{Opening Basic RAB}(\mathrm{t})_{\mathrm{Dec,t-1}} = \text{Closing Basic RAB}(\mathrm{t}-1)_{\mathrm{Dec,t-1}}$$

K10 For H7, the Opening Basic RAB of Regulatory Year 2022 expressed in RPI prices in December of Regulatory Year 2021, $\text{Opening Basic RAB}(2022)_{\mathrm{Dec,2021}}$, is £17,466.115 million. Detailed calculations are given in chapter 10 (The H7 Regulatory Asset Base and HAL's request for a RAB adjustment).

Annual Basic RAB roll-forward

K11 The Basic RAB annual roll forward is given by:

$$\begin{aligned}
&\text{Closing Basic RAB}(\mathrm{t})_{\mathrm{Dec,t}} \\
&\quad = \text{Opening Basic RAB}(\mathrm{t})_{\mathrm{Dec,t-1}} \times \frac{\mathrm{RPI}_{\mathrm{Dec,t}}}{\mathrm{RPI}_{\mathrm{Dec,t-1}}} \\
&\quad + \text{Actual capex}(\mathrm{t})_{\mathrm{t}} \times \frac{\mathrm{RPI}_{\mathrm{Dec,t}}}{\mathrm{RPI}_{\mathrm{Annual,t}}} \\
&\quad - \text{Proceeds from disposals}(\mathrm{t})_{\mathrm{t}} \times \frac{\mathrm{RPI}_{\mathrm{Dec,t}}}{\mathrm{RPI}_{\mathrm{Annual,t}}} + \mathrm{TRSA}(\mathrm{t})_{\mathrm{t}} \times \frac{\mathrm{RPI}_{\mathrm{Dec,t}}}{\mathrm{RPI}_{\mathrm{Annual,t}}} \\
&\quad - \text{CAA assumed ordinary depreciation}(\mathrm{t})_{\mathrm{RPI,2018}} \times \frac{\mathrm{RPI}_{\mathrm{Dec,t}}}{\mathrm{RPI}_{\mathrm{Annual,2018}}}
\end{aligned}$$

where:

(a) t represents Regulatory Years 2022, 2023, 2024, 2025 and 2026

(b) $\text{Closing Basic RAB}(\mathrm{t})_{\mathrm{Dec,t}}$ is the RAB at the end of Regulatory Year t

(c) $\text{Opening Basic RAB}(\mathrm{t})_{\mathrm{Dec,t-1}}$ is the Opening Basic RAB at the beginning of Regulatory Year t

(d) $\text{Actual capex}(\mathrm{t})_{\mathrm{t}}$ is the capital expenditure that has passed through Gateway 3 in Regulatory Year t

(e) $\text{Proceeds from disposals}(\mathrm{t})_{\mathrm{t}}$ is the proceeds from disposals in Regulatory Year t

(f) $\mathrm{TRSA}(\mathrm{t})_{\mathrm{t}}$ is the adjustment to the RAB in Regulatory Year t for the part of the traffic risk sharing adjustment that is not implemented by adjusting allowed charges in H7. It is calculated as follows:

(i) $\mathrm{TRSA}(2022)_{2022} = 0.7 \times \mathrm{ARS}(2022)_{2022} \times (1 + \mathrm{RWACC})^{4.5}$

(ii) $\mathrm{TRSA}(2023)_{2023} = 0.8 \times \mathrm{ARS}(2023)_{2023} \times (1 + \mathrm{RWACC})^{3.5}$

(iii) $\mathrm{TRSA}(2024)_{2024} = 0.9 \times \mathrm{ARS}(2024)_{2024} \times (1 + \mathrm{RWACC})^{2.5}$

(iv) $\mathrm{TRSA}(2025)_{2025} = \mathrm{ARS}(2025)_{2025} \times (1 + \mathrm{RWACC})^{1.5}$

(v) $\mathrm{TRSA}(2026)_{2026} = \mathrm{ARS}(2026)_{2026} \times (1 + \mathrm{RWACC})^{0.5}$

where:

1. $\mathrm{ARS}(\mathrm{t})_{\mathrm{t}}$ is calculated in the same way as $\mathrm{ARS}_{\mathrm{t}}$ in Condition C1.18 of HAL's licence; and

2. RWACC is the pre-tax RPI-real weighted average cost of capital which shall have a value of 4.18%.

(g) $\mathrm{CAA\ assumed\ ordinary\ depreciation}(\mathrm{t})_{\mathrm{RPI,2018}}$ is the CAA's assumed ordinary depreciation in Regulatory Year t. The values over H7 are given by:

(i) Regulatory Year 2022: £778.843 million

(ii) Regulatory Year 2023: £802.661 million

(iii) Regulatory Year 2024: £831.955 million

(iv) Regulatory Year 2025: £874.083 million

(v) Regulatory Year 2026: £913.842 million

Adjustments in addition to annual Basic RAB roll-forward

K12 In addition to the annual roll forward formula in paragraph K11, at various points of H7, we may make adjustments to the RAB, with appropriate indexation factors applied, to reflect our policy decisions on capex efficiency as required. We will adopt an evidence-based approach to conduct efficiency assessments on HAL's capex and early expansion costs and the associated financing costs, in order to ensure that only efficient capex is renumerated.

K13 For 2026, we will make an adjustment to the RAB through the $\mathrm{CODI}(2026)_{\mathrm{Dec,2026}}$ term to allow for the difference between forecast and out-turn cost of new debt indexation during H7. The calculation of $\mathrm{CODI}(2026)_{\mathrm{Dec,2026}}$ is given by the workbook titled "CAA_cost_of_new_debt_indexation.xls" which is a part of this Appendix.