

# Economic regulation of Heathrow Airport Limited: H8 Initial Proposals

## Appendices E - L

CAP 3232F

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## APPENDIX E

## OBR proposed measures

E1 In this appendix we summarise the proposed measures, targets and types of incentives to be included in the OBR framework and MTI scheme and comments on the status and next steps for these measures ahead of our final proposals.

**Table E1: OBR proposed measures**

| Measure                                | Metric <sup>1</sup>                  | Target | Incentive type                | Comments  |
|--|--------------------------------------|--------|-------------------------------|---|
| Cleanliness                            | Survey score – moving annual average | 4.15   | Financial<br>Rebate and Bonus | Existing MTI measure retained; incentive allocation to be considered further                                  |
| Wayfinding                             | Survey score – moving annual average | 4.20   | Financial<br>Rebate and Bonus | Existing MTI measure retained; incentive allocation to be considered further                                  |
| Helpfulness/attitude of security staff | Survey score – moving annual average | 4.10   | Financial                     | Existing MTI measure; retained as additional condition for security queue time central search bonus incentive |

<sup>1</sup> Survey score - moving annual average: HAL's Quality of Service Monitor (QSM) passenger survey tool for tracking passenger satisfaction with elements of Heathrow's operation and service uses a 1-5 scale - Extremely Poor (1), Poor (2), Average (3), Good (4), to Excellent (5).

| Measure   | Metric <sup>1</sup>                  | Target | Incentive type                | Comments  |
|---|--------------------------------------|--------|-------------------------------|---|
| Wi-Fi performance                                       | Survey score – moving annual average | 4.10   | Financial<br>Rebate           | Existing MTI measure  |
| Security queue time - Central search                    | % of queues <5 mins                  | 95%    | Financial<br>Rebate and Bonus | Existing MTI measure retained; associated eligibility criteria to be considered further             |
|   | % of queues <10 mins                 | 99%    | Rebate                        |   |
| Security queue time - Transfer search                   | % of queues <10 mins                 | 95%    | Financial<br>Rebate and Bonus | Existing MTI measure retained   |
| Security queue time - Staff search                      | % of queues <10 mins                 | 95%    | Financial<br>Rebate and Bonus | New financial bonus incentive added to measure; bonus incentive allocation to be considered further |
| Control posts vehicle queuing time                      | % of queues <15 mins                 | 95%    | Financial<br>Rebate and Bonus | New financial bonus incentive added to measure; bonus incentive allocation to be considered further |
| Availability of lifts, escalators and travelators       | % of time available for use          | 99%    | Financial<br>Rebate           | Existing MTI measure  |
| Availability of check-in infrastructure                 | % of time available for use          | 98%    | Financial<br>Rebate           | Existing MTI measure  |
| Baggage System reclaim availability - arrivals carousel | % of time available for use          | 99%    | Financial<br>Rebate           | Existing MTI measure; associated eligibility criteria to be considered further                      |

| Measure                                       | Metric <sup>1</sup>                         | Target | Incentive type      | Comments   |
|---|---|--------|---------------------|--|
| Terminal 5 track transit system availability  | % of time available for use                 |        | Financial           | New Service Day metric with 98% target and two-train availability target to be agreed by HAL and airlines and replace existing MTI |
|   | 1 train                                     | 99%    | Rebate              |  |
|   | 2 trains                                    | 97%    |                     |  |
| Stand availability                            | % of time available for use                 | 99%    | Financial<br>Rebate | Existing MTI measure   |
| Availability of jetties                       | % of time available for use                 | 99%    | Financial<br>Rebate | Existing MTI measure   |
| Availability of fixed electrical ground power | % of time available for use                 | 99%    | Financial<br>Rebate | Existing MTI measure   |
| Availability of stand entry guidance          | % of time available for use                 | 99%    | Financial<br>Rebate | Existing MTI measure   |
| Availability of pre-conditioned air           | % of time available for use                 | 98%    | Financial<br>Rebate | Existing MTI measure; serviceability definition and target to be considered further  |
| Pier-served stand usage                       | % of passengers served                      | 95%    | Financial<br>Rebate | Existing MTI measure   |
| Runway operational resilience                 | Number of daily deferred aircraft movements | 0      | Financial<br>Rebate | Existing MTI measure   |

| Measure   | Metric <sup>1</sup>                                       | Target | Incentive type      | Comments   |
|---|---|--------|---------------------|--|
| Timely Delivery from Departures Baggage system      | % of bags delivered >20 mins before departure time        | 98%    | Financial<br>Rebate | New financial rebate incentive applied to existing MTI measure; associated eligibility criteria to be considered further |
| Passenger Assistance Service - overall satisfaction | Survey score – moving annual average                      | 4.00   | Financial<br>Rebate | New financial rebate incentive applied to existing MTI measure; associated eligibility criteria to be considered further |
| Overall satisfaction                                | Survey score – moving annual average                      | 4.26   | Reputational        | Existing MTI measure; HAL proposals for increased 4.35 target and financial bonus incentive to be considered further     |
| Customer effort (ease)                              | % of passengers reporting 'easy' or 'very easy'           | 91%    | Reputational        | Existing MTI measure; HAL proposal for increased 91.6% target to be considered further                                   |
| Enjoy my time at the airport                        | % of passengers reporting 'enjoyable' or 'very enjoyable' | 80.5%  | Reputational        | Existing MTI measure; HAL proposal for reduced 77.1% target to be considered further                                     |
| Feel safe and secure                                | % of passengers agreeing they felt safe and secure        | 96%    | Reputational        | Existing MTI measure   |
| Ease of access to the airport                       | Survey score – moving annual average                      | 4.44   | Reputational        | Existing MTI measure; HAL proposal for reduced 4.38 target to be considered further                                      |
| Helpfulness/attitude of airport staff               | Survey score – moving annual average                      | 4.36   | Reputational        | Existing MTI measure; HAL proposal for increased 4.37 target to be considered further                                    |

| Measure                       | Metric <sup>1</sup>  | Target    | Incentive type | Comments   |
|-------------------------------|--|-----------|----------------|--|
| Baggage misconnect rate       | Average number of missed bags per 1000 passengers                  | 9.8       | Reputational   | New target proposed by HAL   |
| Departure punctuality         | % of flights taking-off within 15 mins of scheduled departure time | 80.5%     | Reputational   | Existing MTI measure; H7 target retained   |
| Airport departures management | Average time between start request and take-off                    | 30 mins   | Reputational   | Existing MTI measure   |
| Airport arrivals management   | Average time between touch down and chocks on                      | 10 mins   | Reputational   | Existing MTI measure   |
| Passenger injuries            | Number of passenger injuries                                       | 0.32      | Reputational   | New target proposed by HAL; to be met by end of H8 2031  |
| Immigration queue times       | % of queues < 45 mins (non-EEA) or 25 mins (EEA)                   | 95%       | Reputational   | Existing MTI measure   |
| Carbon emissions              | Total carbon emissions as Tonnes CO2 per year                      | See notes | Reputational   | New target reductions proposed by HAL of: <ul style="list-style-type: none"> <li>- In the air 15% reduction from 2019 to 2030</li> <li>- On the ground 45% reduction from 2029 to 2030</li> </ul> End of H8 2031 target to be considered further |

## APPENDIX F

## Business plan incentive

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### Background

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- F1 Our H8 Final Method Statement and Business Plan Guidance set out the new financial incentive mechanism to incentivise HAL to submit a high-quality business plan for H8.
- F2 Under this business plan incentive<sup>2</sup> (“BPI”), HAL may receive a financial reward, or incur a financial penalty, depending on our assessment of the quality of its business plan against the published criteria.
- F3 We said we intended to consult in our initial proposals on our initial assessment of the H8 Business Plan against our incentive criteria, following which we would consider any further evidence before reaching our final decision on any applicable bonus or penalty.
- F4 This document sets out our initial assessment for consultation as part of our initial proposals. This assessment is made solely with respect to the H8 Business Plan submitted by HAL on 10 July 2025 and takes no account, at this stage, of any further information or clarifications subsequently provided by HAL.
- F5 We intend to update this assessment for our final proposals to take into consideration all business plan-related information submitted by HAL up to that point.

### Our approach

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- F6 In the H8 Final Method Statement, we said we would assess HAL’s H8 Business Plan against the following nine criteria:
1. that the plan meets the requirements that we have set out in our Business Plan Guidance, particularly on areas that are material and where high quality information will be important for us to be able properly to develop our proposals for the H8 price control;
  2. that the plan is presented in a clear and coherent way, so that stakeholders can engage with the material presented;
  3. the way in which the plan benefits consumers is clearly demonstrated;

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<sup>2</sup> H8 Method Statement and Business Plan Guidance, page 22

4. the plan is coherent and joined up across its separate sections;
5. the plan is appropriately challenging in the targets it sets;
6. there is evidence of third party assurance;
7. the plan is submitted on time;
8. HAL responds to follow-up information requests in a timely way; and
9. any additional information that HAL might submit to us late in the price control process is appropriate and HAL can justify why the further submission is necessary, proportionate, appropriate and in the interests of consumers.

F7 We said we would then assign the quality of the plan to one the following three categories:

- Very high-quality plan: the plan exceeds our expectations against the criteria. For example, it is clear how consumers' needs (as ascertained through consumer research and stakeholder engagement) have informed the development of the plan and how they will be furthered by the implementation of the plan, and the plan is ambitious in the targets it sets for HAL.
- High-quality plan: the plan meets the requirements set out in the criteria. For example, there is some evidence of how consumers' needs have informed the development of the plan and how they will be furthered by the implementation of the plan, and the plan sets moderate targets for HAL.
- Low-quality plan: the plan fails to meet a number of the requirements set out in the criteria. For example, there are significant failings and insufficient evidence of how consumers' needs have informed the development of the plan and how they will be furthered by the implementation of the plan, and the targets set for HAL in the plan are not sufficiently stretching.

F8 We developed a symmetrical incentive mechanism with potential for bonuses and penalties equivalent to up to 10bps of return on regulatory equity ("RORE") in each year of the H8 period, to be calculated by reference to the forecast RAB values over the H8 period, with the bonus/penalty to be included in allowed revenue for the H8 period. This would equate to up to about £8 million per year, or around £0.10 per passenger, and the assessment could lead to a penalty or reward within this range.

F9 We said we would set a high bar for HAL to earn a reward. For example, HAL would need to demonstrate that it meets our criteria of a high-quality business plan, as well as achieving "very high-quality" status in the areas of its business plan that we consider, having reviewed the plan, to be a high priority for furthering the interests of consumers. In contrast, if HAL were not to meet the requirements of a high-quality business plan and achieves "low-quality" status in

priority areas, we would consider applying a penalty. Nonetheless, a full penalty would only be appropriate if the plan was assessed as low quality across a significant number of criteria or areas of the plan and there was consumer detriment.

- F10 We said that our assessment of the quality of the plan would be made in the round and that we would explain our assessment to avoid applying disproportionate rewards or penalties, for example where there is a single area of the plan that is high or low quality.

## Our assessment

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- F11 The following sections set out our assessment of HAL's H8 Business Plan submitted on 10 July 2025 against each of the criteria described above, including performance against the business planning guidance criterion.
- F12 As part of the H8 price control process, we have also engaged with airlines on the BPI and considered any areas of concern raised, noting that overall, airlines took the view that HAL has failed the majority of the BPI criteria, and the CAA should trigger the process for imposing a penalty under the BPI.
- F13 We then categorise the quality of the plan and explain our assessment of the potential reward/penalty.

## Performance against Business Plan Guidance criterion

Criteria 1: HAL's plan meets the requirements that we have set out in our Business Plan Guidance, particularly on areas that are material and where high-quality information will be important for us to be able properly to develop our proposals for H8

- F14 A detailed assessment of the plan, separated by each of the main workstream areas, against our criteria has been included as a table at the end of this Appendix.
- F15 This analysis indicates that while HAL met the requirements of the Business Plan Guidance in many important areas, there were also a number of important areas where it failed to meet our expectations.
- F16 As set out in the definition criteria, we have considered whether these variances from the requirements of the Business Plan Guidance were material and important to the development of our proposals for the H8 price control.
- F17 Examples of areas where HAL has failed to meet our requirements, and where this is significant to our work to develop the H8 price control, include:

- HAL's forecasts across all opex categories had less granularity than requested, and several cost items (for example, IT & computer services and rents) have been reclassified into different cost categories, resulting in inconsistent levels of information between the latest outturn year (2024, the baseline year) and the forecasts from 2025 onwards. Data consistency between baseline year and forecasts is important for us to be able to properly develop our view of opex costs for H8. A similar shortcoming arises for the commercial revenue forecasts.
- While HAL presented analysis of the benefits of achieving an A- credit rating rather than a BBB+ credit rating, it did not present a rounded assessment of the overall *net* cost or benefit of the higher rating.
- Although HAL has assembled an extensive body of consumer research and this research informed aspects of the H8 Business Plan, we consider clearer links between planned investments and consumer outcomes could have been articulated.
- In the case of Other Regulated Charges ("ORCs"), HAL failed to provide forecasts split by each Specified Facility, and did not provide forecasts of future ORC volume drivers and fixed costs, contrary to the requirements of the guidance.

F18 While noting that several important areas of the business plan were assessed as below the standard we expected, we also identified some examples of where HAL had provided very good information (which may be regarded as exceeding the requirements of the Business Plan Guidance):

- In relation to HAL's proposals for capex, the excel-based data tables provided by HAL for each capex project within the portfolio, met our expectations, detailing how much expenditure was already incurred in each project, how much HAL plans to incur in H8 and how much will be spent beyond the end of the H8 period. This whole life cost profile is critical for our assessment of capex efficiency;
- for each project at gateway stage of maturity at or beyond P2 tranche ("P2T"), we received very detailed project cost sheets. Although these failed to provide standard cost information expected at this level of maturity, the detailed narratives included in these project cost sheets were fundamental for our "need assessment" of projects that are at a reasonable level of maturity; and

- HAL also provided the CAA with extensive data on its financial structure, presenting information on a security-by-security basis including in respect of its derivative portfolio. It was also responsive in respect of follow-up queries, and facilitated detailed presentations of the analysis conducted by its advisors, KPMG, which underpinned HAL's cost of debt estimates. We will consider such follow-up information in our assessment of the H8 Business Plan in our final proposals. It is also noted however that not all of this material was shared with airlines.

F19 Our above assessment is made based solely on HAL's H8 Business Plan submission dated 10 July 2025. Since that time, HAL has responded to requests for clarification and in some cases submitted additional information. We said in our Method Statement that our assessment would also consider how HAL responds to these follow-up requests, and so ahead of H8 final proposals, our assessment will continue to be updated to reflect this.

## Performance against the other criteria

Criteria 2: The plan is presented in a clear and coherent way, so that stakeholders can engage with the material presented

- F20 We found that the H8 Business Plan had a logical structure, with the main document and appendices broadly clear, comprehensive and accessible.
- F21 However, the use of a variety of different categorisation frameworks ("objectives", "foundations", "beacons", "values", "enablers" etc), while having a positive intent, provided a degree of complexity which detracted from rather than enhancing the clarity of the presentation.
- F22 We noted there were some redactions in the version of the plan which HAL shared with airline stakeholders that appeared unnecessary (for example, historical passenger numbers, a key driver of operational costs and revenues, and NPV and IRR, in three of the 20 business cases).
- F23 We also found that some of the data submitted by HAL was "hard-coded" when it would have been appropriate to provide the calculation formulae. This sometimes made it hard for us to work out how HAL had derived its figures or required us to submit follow-up requests for clarification. This was noted by the airlines, who expressed concerns as to the quality and transparency of the plan and said prevented an assessment of whether it is delivering for the consumer.
- F24 Overall, HAL has generally met the expectations in this area, with the above noted exceptions.

Criteria 3: The way in which the plan benefits consumers is clearly demonstrated

- F25 At an individual project level, the capex business cases were detailed and well-presented, and demonstrated the benefits of projects, for example in relation to

opex savings, commercial revenues generated, and so on. However, while HAL had undertaken substantial customer research of various types, it was difficult to discern at the aggregate level how it had been used in developing the plan. There did not appear to be a clear process whereby the customer research had led to the identification of needs, the screening of options and subsequently to the development of the plan; instead, the consumer research seemed more to perform the role of a 'sense check'. This meant that we found it difficult to identify the consumer "golden thread" which HAL suggested ran through the document.

F26 Given the significant real increase in airport charges proposed by HAL, it was also not sufficiently clear what consumers may expect to receive in return in terms of specific improvements. Airline stakeholders also noted that HAL had not expressed the 'headline' impact of its plan on the level of airport charges on a 'like-for-like' basis (in particular, having excluded business rates from its calculation of future airport charges).

F27 Overall, HAL did not meet our expectations in this area.

#### Criteria 4: The plan is coherent and joined up across its separate sections

F28 A business plan contains a number of elements which are inter-related and need to be coherent and 'joined-up' across its separate sections: for example, how demand forecasts impact expenditures and revenues, and the effect of such expenditure on output and quality, all informed by customer needs and the impact on charges.

F29 There are clear linkages between demand forecasts and operational expenditure requirements and commercial revenue estimates, which are transparently and clearly presented. Similarly, HAL's H8 Business Plan uses consumer engagement to inform the update of the OBR framework and Measures, Targets and Incentives ("MTI") scheme in respect of service quality at the airport. More broadly, service quality is also linked to capital investment and in particular asset maintenance which underpins resilience, and these appear reasonably evidenced.

F30 Conversely, some areas where we would expect greater cohesion, such as the relationship between consumer research to prioritisation of projects as discussed in relation to consumer benefit, failed to meet our expectations.

F31 Nonetheless, HAL has generally met the expectations in this area.

#### Criteria 5: The plan is appropriately challenging in the targets it sets

F32 We have considered this criterion principally with respect to the efficiency assumptions HAL has assumed in its plan:

- opex efficiency assumption of 1.2 per cent a year on costs under HAL's management control;

- commercial revenues management stretch assumption of 1 per cent; and
- capex efficiency assumption of 5 per cent,

- F33 On the face of it, these assumptions appear reasonably challenging targets for HAL, when compared to the targets applied in other regulated utilities. However, supporting evidence that the starting baseline is efficient appears to be insufficient.
- F34 On service quality, in our view, HAL's plan maintains targets set for H7 albeit with some additional cost overlays to maintain specific measures. The proposed changes to security queue measurement would introduce daily measurement, but it is unclear whether this would be equivalent to the current targets for the H7 period. No changes are proposed to the outcomes set in the H7 price control and HAL also provides a reasoned approach to evolving the rebate and bonus incentives. While the plan appears to maintain service performance, there should be scope for greater improvements.
- F35 We also considered whether HAL's assumptions regarding financing costs and sustainability were appropriately challenging. We noted the extensive analysis conducted by HAL's advisors, KPMG, that carried out tests of the efficiency of HAL's financing strategy compared to counterfactual strategies that it considered to be reasonable.
- F36 As for sustainability, we found it difficult to verify whether HAL's targets were appropriately challenging with limited information on the assumptions made and the extent to which its plans support progress towards longer-term environmental goals, such as "net zero".
- F37 Overall, the plan did not meet our expectations in this area.

#### Criteria 6: There is evidence of third-party assurance

- F38 We have assessed HAL's performance against this criterion in respect of the assurance provision requirements detailed across the method statement.
- While not strictly third-party assurance, but required as part of the method statement, HAL presented a statement of its board approval and assurance processes and listed the targeted independent assurance conducted in key aspects of its plan.
  - In relation to consumer research and engagement, HAL listed six elements to its assurance process. Of these, only two relate to third-party assurance. Findings from the assurance lack transparency.

- The ‘capex by category and by project’ requirements set out that HAL could provide third party assurance of the cost estimates as one way, among others, of evidencing that the cost estimates are efficient, which is particularly relevant where projects are unique and difficult to benchmark. We have not seen evidence of third-party assurance justifying the efficiency of project cost estimates.

F39 Overall, the plan has not met our expectations in this area.

**Criteria 7: HAL submits its plan on time**

F40 HAL’s plan was submitted on-time, on 10<sup>th</sup> July 2025 and it has met the expectations for this criterion.

**Criteria 8: HAL responds to follow-up information requests in a timely way**

F41 We will consider this in our final assessment of the H8 Business Plan in our final proposals.

F42 To date, generally HAL has responded promptly to our follow-up requests, although some requests have taken longer. We will continue to monitor HAL’s performance in this regard on an ongoing basis to inform our assessment in our final proposals.

**Criteria 9: Any additional information that HAL might submit to us late in the price control process is appropriate and HAL can justify why the further submission is necessary, proportionate, appropriate and in the interests of consumers.**

F43 We will consider this in our final assessment of the business plan in our final proposals.

**Categorisation of quality of HAL’s H8 Business Plan**

F44 Based on our detailed assessment of seven of the above nine criteria relevant to these initial proposals, we consider that HAL has sufficiently met three of these criteria within the H8 Business Plan submitted on 10 July 2025.

F45 To determine the categorisation of HAL’s H8 Business Plan, we have applied this to the dimensions below, previously defined in the H8 Method Statement and Business Plan Guidance for assessing the quality of the plan:

**Table 1.1: Approach to categorising HAL's plan**

| Quality | Meeting the criteria | Consumer needs | Demonstrating ambition |
|---------|----------------------|----------------|------------------------|
|---------|----------------------|----------------|------------------------|

|                  |   |   |   |
|------------------|---|---|---|
| <b>Very high</b> | HAL's H8 Business Plan exceeds our expectations against the criteria                      | It is clear how consumers' needs have informed the development of the H8 Business Plan and how they will be furthered by the implementation of the H8 Business Plan   | The H8 Business Plan is ambitious in the targets it sets for HAL                |
| <b>High</b>      | HAL's H8 Business Plan meets the requirements set out in the criteria                     | There is some evidence of how consumers' needs have informed the development of the H8 Business Plan and how they will be furthered by the implementation of the H8 Business Plan                                   | The H8 Business Plan sets moderate targets for HAL                              |
| <b>Low</b>       | HAL's H8 Business Plan fails to meet a number of the requirements set out in the criteria | There are significant failings and insufficient evidence of how consumers' needs have informed the development of the H8 Business Plan and how they will be furthered by the implementation of the H8 Business Plan | The targets set for HAL in the H8 Business Plan are not sufficiently stretching |

F46 Applying the above categorisation and considering the H8 Business Plan in the round, HAL's plan falls short of high quality. While there are high quality aspects of the plan there are also significant areas where our expectations were not met.

### Assessment of potential reward/penalty

F47 In our Final Method Statement, we said that, in order to earn a reward, HAL would need to demonstrate that it meets our criteria of a high-quality business plan, as well as achieving "very high-quality" status in priority areas. Conversely, we said we would consider applying a penalty if HAL were not to meet the requirements of a high quality business plan and achieves "low quality" status in priority areas.

F48 Our assessment has identified a number of areas of significant weakness. Nonetheless, since 10 July 2025, HAL has and responded to our requests for further information. Our initial assessment is that these have being helpful and have provided important new information and context. The business plan incentive was designed to encompass such follow up information in our final assessment, with scope for HAL to continue to improve the overall quality of its plan ahead for our final proposals. As such, at this stage, we do not intend to propose a reward/penalty for our assessment.

## Consolidated assessment template for HAL business plan submitted 10 July 2025

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- F49 As part of our Business Plan Incentive (BPI) criteria, our H8 Final Method Statement (CAP3038) set out our expectation for HAL's plan to meet "the requirements that we have set out in our business plan guidance, particularly on areas that are material and where high-quality information will be important for us to be able to properly develop our proposals for H8".
- F50 The following tables provide a detailed assessment of whether the plan, submitted by HAL on 10 July 2025, met the requirements of our business planning guidance published in CAP3038A.
- F51 This assessment is made solely with respect to the Business Plan submitted by HAL on 10 July 2025 and takes no account, at this stage, of any further information or clarifications subsequently provided by HAL. We intend to update this assessment for the H8 Final Proposals to take into consideration all business plan-related information submitted by HAL up to that point.
- F52 We have indicated, using the categorisation below, whether HAL's business plan in respect of each element of the guidance:
- i. Fails to meet the requirements set out in our business plan guidance (FTM)
  - ii. Meets the requirements set out in our business plan guidance (M)
  - iii. Exceeds the requirements set out in our business plan guidance (E)
  - iv. Is no longer subject to the requirement/the requirement has changed (N/A)
- F53 These ratings are supported by justification or evidence of our assessment under 'Explanatory comment'.

## Scope

### General

The business plan should be:

|  | CAA assessment | Explanatory comment   |
|--|----------------|---|
| Transparent, including in relation to having a clear and robust narrative covering all key areas, and be publicly available to all stakeholders. | FTM            | <p>The narrative across HAL's business plan has been generally transparent.</p> <p>However, there were issues with HAL's transparency with stakeholders. Specifically, failing to make publicly available key, and non-commercially sensitive, information related to the drivers of costs and revenues (for example, historic passenger numbers), project cost sheet narratives and WACC reports, thereby limiting stakeholders ability to fully engage with the H8 process.</p> <p>We acknowledge that a version of the plan was published on HAL's website (with redactions) and we consider this to have been helpful towards meeting the criteria.</p> |
| Supported by a robust evidence base, drawing on industry best practice.  | M              | Overall, HAL justifies its plan by reference to extensive analysis and a wide body of evidence, including in areas such as WACC and consumer research.  |
| Well-structured and well-integrated between different elements of the plan.  | M              | <p>The success of HAL's business plan against this criterion has been mixed but overall we assess this as having been met. There is consistency between the financeability and cost of capital sections in terms of gearing and cost of debt considerations, as well as the approach of MTIs to consumer engagement and resilience issues. This is also applies to passenger demand forecasts and operational expenditure and commercial revenue.</p> <p>We would however expect to see more cohesion between consumer research and the prioritisation of capital projects, as discussed in more detail in the consumer benefit section.</p>                |
| Designed to reflect consumers' views and preferences to the fullest extent practicable.  | M              | Overall, HAL has assembled a substantial body of evidence on consumers' views and synthesised these into a range of needs and priorities to inform its business plan. Some sections adequately reflect consumer views such as environmental sustainability and the approach to bonus incentives for service quality. However for  |

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|  |     | other areas, beyond at a high level, links between these views and the content of the business plan is not always clear. For example within financeability, where HAL could have done more to examine the impact of higher credit ratings on charges for consumers.  |
| Based on efficient costs and financing assumptions.                                      | FTM | HAL has based its assessment on and explained why it consider its cost and financing assumptions to be efficient, as well as linking its assessment to its view of risks and incentives.<br><br>However, the quality and completeness of this information is insufficient to properly compare with the CAA's independent information and therefore we determine HAL to have failed to meet this criterion. |
| Affordable (in terms of providing value for money charges for airlines and consumers).   | FTM | HAL largely discusses affordability in terms of delivering operational efficiencies and maintaining service quality but does not specifically address the affordability of the significant increase in airport charges proposed. The plan frequently asserts it provides value for money without providing convincing evidence on how this has been assessed.  |
| Should cover all HAL's activities, including those relating to the single till and ORCs. | M   | The plan covers all relevant regulated activities.   |
| Deliverable (including in respect of financeability).                                    | M   | The business plan appears deliverable with a section dedicated to deliverability included in the plan. Each capital business case has a section dedicated to the deliverability of the projects and initiatives and the proposed financing are based on a continuation of HAL's current financing arrangements with only incremental changes to the target credit rating, therefore appearing deliverable. |

### Time-period

|   | CAA assessment | Explanatory comment  |
|---|----------------|--|
| The business plan should cover the five-year period from the end of the existing price control arrangements (2027 to 2031) with higher level projections to demonstrate longer-term | M              | The business plan covers the appropriate five-year period (2027 to 2031).<br><br>To demonstrate longer-term financeability and affordability beyond 2031, cost and financial information has been provided where requested. However, the financial |

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| financeability and affordability beyond 2031. For some items, historical data for past years is also requested.  |   | information does not appear robust as it indicates credit metrics that do not achieve the thresholds consistent with the credit rating HAL is proposing. This appears to be due to lack of comprehensive robust forecasting rather than specific indication of a financeability concern. |
| Where forecasts are presented, these should be provided in an annual form which is consistent with their presentation in HAL's accounts and figures should be presented for each year of the five-year period. | M | The cost information provided in the plan is provided for each of the five-years (2027 to 2031).   |

### Level of detail

|   | CAA assessment | Explanatory comment   |
|---|----------------|---|
| The business plan should provide a level of detail on projects which reflects the time periods for delivery: projects that are further in the future will typically have less detail. | M              | HAL provides less detailed business cases for capital initiatives at early pre-P2T stage of the project gateway lifecycle with more detailed business cases being provided for project at P2 to G6 gateway stage.   |
| The business plan should link revenues and costs to scenarios for passenger numbers, taking account of expected developments in capacity and other matters.                           | M              | Opex and commercial revenues forecasts are presented for each of the three 'base', 'low', and 'high' passenger traffic scenarios required.  |
| The business plan should clearly identify risk, contingency and efficiency assumptions throughout.  | M              | Efficiency assumptions applied to capex, opex and commercial revenues are explained in the relevant chapters of the business plan. Risks associated with capital projects are discussed in a dedicated section of each business case. 'Tailwinds' affecting opex and revenues are briefly discussed in the relevant chapters. |

**Price base and assumptions for inflation**

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
|--|-----------------------|--|
| The business plan should present all financial, cost and revenue data in nominal and consistent real prices, with real values in 2024 CPI prices.                                      | M                     | Consistent with the requirements in our guidance, all cost, revenue and financial information across the business plan documents are presented in 2024 CPI prices. The Excel-based data tables also present cost and revenue data in nominal prices.   |
| The business plan should specify what price index it has used to create nominal prices, for example, if industry specific inflationary indices have been used for specific cost items. | M                     | The Excel-based data cost tables identify the price index used to create nominal prices for opex and revenue items. The Business Case Framework specifies the price index used to adjust capital costs for inflation.  |
| The business plan should specify which CPI index has been used to convert data from nominal to real prices.  | M                     | The Excel-based cost data tables and the corresponding opex, commercial revenue and capex chapters of the business plan specify that CPI for the 12 months ended 31 December 2024 is used to adjust to 2024 prices.<br><br>In relation to the WACC, nominal variables are deflated using long-term forward-looking CPI forecasts (2%). |
| The business plan should use a consistent base year when forecasting any quantified elements of the plan.  | M                     | Opex and revenue forecasts use 2024 as the consistent base year.   |

**Assurance**

|   | <b>CAA assessment</b> | <b>Explanatory comment</b>  |
|---|-----------------------|---|
| HAL should ensure that its Board reviews and approves the business plan, certifying that it is consistent with this guidance and fully explaining any divergence from it. | M                     | HAL board statement included in the business plan satisfies this criterion. |

## Consumer engagement

### General

|   | CAA assessment | Explanatory comment   |
|---|----------------|---|
| The business plan should take account of, and demonstrate, a deep understanding of consumer preferences based on a wide range of engagement and research.   | M              | <p>HAL has identified an extensive body of research, building on that from H7, to support understanding of consumer preferences for inclusion in its H8 business plan, although research is less comprehensive in some areas than others.</p> <p>HAL has also engaged with wider stakeholders (including airlines and the Heathrow Passenger Form) to support its understanding of consumer preferences via Constructive Engagement.</p> <p>From this, we consider that HAL has developed, and substantively demonstrated, a sound understanding of consumer preferences. However, we also consider that HAL has not always articulated well how it has reflected these consumer preferences in its plan (reflected in assessment of other criteria below).</p> |
| The business plan should provide strong evidence that consumers have been fully engaged in developing the outcomes that HAL proposes to deliver. The business plan should be clear about how that consumer engagement has shaped and influenced the proposed outcomes.  | M              | <p>As noted above, HAL has identified an extensive body of research in identifying consumer preferences in terms of their priorities, themes, needs and outcomes. Furthermore, it has engaged with airlines through Constructive Engagement sessions and with the Heathrow Passenger Forum.</p> <p>HAL's consumer research and engagement has shaped its articulation of needs and priorities. However, we consider that the overall outcomes and benefits to consumers from the wider business plan are not always clear.</p>  |
| In addition to robust engagement with consumers, HAL should engage extensively with airlines throughout the process (see separate guidance in relation to Constructive Engagement). Airlines have a vital role to play in helping to deliver service quality and identify potential business plan priorities. So, HAL should develop a coordinated approach to service provision with them. | M              | <p>As noted above, airlines have been engaged through the Constructive Engagement process, which included two rounds of engagement undertaken prior to the preparation of the Business plan. This included "Customer" as a theme in Round 1 of Constructive Engagement with airlines, including the sources of consumer insight of which direct consumer research is a key one. HAL and airlines worked jointly across Constructive Engagement sessions and MTI Working Group meetings and Deep Dives to inform development of the service provision, which was, in part, evident throughout the business plan.</p>   |

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| <p>HAL should share with airlines, the CAA and other interested stakeholders, all relevant underlying information in relation to the consumer engagement and research activities which have been used to inform its business plan. It should make clear where and how this information has been taken into account.</p> | <p>M</p> | <p>The Business plan and Appendices (although with some redactions for the public domain versions) include details of HAL's consumer research activities. This includes details of how HAL has used the outcome of these activities to inform the identification of consumer needs, priorities, themes and objectives.</p> |
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### Approach to consumer engagement

|   | CAA assessment | Explanatory comment   |
|---|----------------|---|
| <p>The business plan should demonstrate that it includes robust assumptions, that possible options have been carefully considered (including any the trade-off between, for example, affordability and service quality), that strategic choices have been made, and that the options proposed are best designed to achieve maximum value for money for consumers.</p> | <p>FTM</p>     | <p>It is not clear that trade-offs have been fully considered. For example, there is no explicit mention of the potential conflict between e.g. customer preference for 'affordable' or lower charges and their preference for shorter queue times and fewer delays. However, we note the high-level presentation of alternative capital plan scenarios in the plan.</p> <p>At a more detailed level, examples of trade-offs having not been fully considered include: (a) HAL discusses options for changing capex governance, but focuses on reduction in regulatory burden, not benefits for consumers; (b) HAL identifies gross costs of lower credit ratings, but not potential benefits; and (c) one-third of the 489 capex projects/initiatives have insufficient optioneering and / or best option selection (see further below under capex).</p> |
| <p>In ensuring that the business plan is fully informed by consumers' core needs, priorities and preferences. HAL should:</p> <ul style="list-style-type: none"> <li>▪ consider which elements of its existing consumer research and engagement are relevant to the business plan;</li> </ul>   | <p>M</p>       | <p>HAL has:</p> <ul style="list-style-type: none"> <li>▪ synthesised an extensive body of research, which builds on H7, which has then been used in specific research commissioned for H8, alongside reference to 3rd party research;</li> <li>▪ used its body of research to support understanding of consumer preferences and to identify main themes for inclusion in its H8 business plan;</li> </ul>   |

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| <ul style="list-style-type: none"> <li>▪ refine and build on its existing consumer evidence base with emerging intelligence and, where appropriate and practicable, through new research and engagement;</li> <li>▪ update its existing consumer research and engagement strategy, setting out how it intends to engage with consumers to understand their core needs, priorities and preferences;</li> <li>▪ consider airlines' consumer research and insights; and</li> <li>▪ follow the principles of good consumer engagement.</li> </ul> |     | <ul style="list-style-type: none"> <li>▪ updated its Consumer Engagement Strategy which includes its principles for good consumer engagement;</li> <li>▪ approached its consumer research in a broadly robust manner; and</li> <li>▪ provided the opportunity for airlines to share research and insight.</li> </ul>   |
| <p>In doing the above, HAL should consult the CAA and airlines on its future research and engagement plans and reflect the feedback it receives in its work on the business plan.</p>   | M   | <p>HAL satisfies this criterion within the Consumer Engagement Strategy, where it sets out future research plans.</p>  |
| <p>HAL should consider what the implications of its future scenarios might be for the service quality that consumers and airlines will expect and should receive.</p>   | M   | <p>It is noted that in developing service quality proposals, HAL has stated that it has been cognisant of consumer priorities and preferences (see further below) and seeks to maintain service standards for a higher number of forecast passengers across the H8 period.</p> <p>In respect of traffic forecasting scenarios, HAL has stated that its base passenger forecast projections would impact on the service quality unless there is additional capital investment.</p> <p>In the business plan, HAL has specified where lower levels of service were proposed and gave the option of additional cost/investment to maintain service levels, implying a focus on maintaining service levels for increased passenger volumes.</p> |
| <p>To the extent practicable, HAL should demonstrate a clear link between its consumer insights and</p>   | FTM | <p>HAL has sought to demonstrate links between the six areas of consumer outcomes it identified, key priorities under these and the associated initiatives in the business</p>   |

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| <p>future plans under the range of scenarios being assessed, drawing on existing consumer insights, new intelligence and research to support these scenarios where possible.</p>  |          | <p>plan. There are also evident high-level links between aspects of its consumer insight on other elements of the plan (e.g., with business cases identifying customer needs addressed, and MTIs categorised by consumer need).</p> <p>However, as already noted, the extent to which insights are directly used in informing the content of the business plan is less clear.</p>  |
| <p>HAL should develop an outcomes and MTI strategy over the short term and longer term. As a minimum, this should focus on delivering consumers' and airlines' core needs and priorities so that they continue to receive an appropriate level of service over this time.</p> | <p>M</p> | <p>HAL has proposed a development of the existing Outcomes and MTI scheme with changes to key measures such as passenger Security, and increased incentives for baggage and PRM satisfaction. HAL also proposes to broaden the scope of OBR to include other stakeholders in key areas (including security, baggage, and PRM service) where it does not solely control consumer outcomes. Overall we consider that HAL has reasonably focused on the core needs and priorities of airlines and passengers within the scope of the outcomes and MTI strategy.</p> |

**Assurance**

|   | <p><b>CAA assessment</b></p> | <p><b>Explanatory comment</b></p>  |
|---|------------------------------|--|
| <p>HAL should specify what assurance of its own consumer research and engagement to support the development of its business plan it has put in place and the outcome of this assurance.</p> | <p>M</p>                     | <p>HAL's Consumer Engagement Strategy specifies its approach to assurance of its consumer research and engagement, comprising:</p> <ol style="list-style-type: none"> <li>1. Self-assurance by its agency partners</li> <li>2. Independent peer review</li> <li>3. Internal triangulation by insight team</li> <li>4. External triangulation</li> <li>5. Exec and Board assurance</li> </ol> <p>Aside, potentially, from the independent peer reviews, the absence of independence across the elements of HAL's assurance and the lack of documented outcomes appear to undermine the value of the assurance activity.</p> |

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| <p>We expect HAL to take careful account of the challenge and other feedback HAL receives from this assurance exercise and, where its approach does not fully align with the outcome of the assurance, HAL should explain and justify its reasoning.</p>   | <p>FTM</p> | <p>The relative lack of documented outcomes from the HAL's assurance of consumer research and engagement results in limited visibility of assurance findings and responses.</p> <p>We have identified independent peer reviews for two consumer research studies commissioned by HAL. Peer review comments (and changes made in response) were provided in an ICS study, for the pilot stage only, regarding H8 Quantitative priorities. Details of the outcomes of the other peer review, of an Accent study on willingness to pay for a premium airport experience, were not evident.</p> |
| <p>Part of the outcome of HAL's assurance activities should be the provision of information within its business plan which clearly allows CAA to identify the extent to which it has appropriately drawn on all available and relevant consumer research to identify consumer priorities and to align the content of its business plan submission with these priorities.</p> | <p>FTM</p> | <p>There is no assurance within the business plan on the extent to which HAL has aligned the content of its business plan with consumer priorities identified.</p>  |

## Traffic

### Traffic forecast

|  | <p><b>CAA assessment</b></p> | <p><b>Explanatory comment</b></p>  |
|--|------------------------------|--|
| <p>HAL and airlines should work together to reach a joint view on a reasonable range of forecasts for the H8 period. Doing so will require transparency and engagement and, therefore, HAL and airlines should explore how best to achieve this during Constructive Engagement at the start of the H8 process.</p> | <p>M</p>                     | <p>There is not a single jointly agreed view in the Business plan. However, the range in the level of forecasts between the airlines and HAL'S BP forecast is sufficiently narrow for us to consider as within "meeting expectations" of reaching a joint view on a reasonable range of forecasts for the purposes of this assessment.</p> |

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| In its business plan, HAL should present a traffic forecast which includes three scenarios (high, low and base case), and explain how it has consulted and engaged airlines on this forecast, and how it has taken airlines' views into account.                                       | M | HAL has presented 3 scenarios for its BP forecasts. The HAL forecast has developed from the original numbers presented, taking into account airline feedback from CE, and has moved closer to the airline forecast. |
| HAL should provide sufficient detail to allow for its traffic scenarios to be properly scrutinised and understood. It should make clear the information and assumptions used to develop these scenarios and make these available where possible subject to commercial confidentiality. | M | Information and assumptions were included in the plan and accompanying appendices.  |

### Traffic scenario

|   | CAA assessment | Explanatory comment  |
|---|----------------|--|
| <p>Jointly agreed scenarios should take account of a range of factors, which should be discussed and agreed between HAL, airlines and the CAA's independent consultants. Indicative factors, which should be clarified and agreed in due course, could include:</p> <ul style="list-style-type: none"> <li>▪ scenarios or forecasts of economic activity, both for the UK economy as a whole and for the economies of the key passenger destinations served by air transport services from Heathrow airport; and</li> </ul> | M              | <p>There was agreement on which factors should influence the scenarios (PATMs, seats/movement, load factors), however the variance in the level of those assumptions is what drives the differences for the 3 scenarios presented by HAL and the airlines.</p> <p>However as noted elsewhere the resulting ranges are relatively narrow.</p> |

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| <ul style="list-style-type: none"> <li>relevant capacity constraints at the airport, and interventions designed to address these constraints during the H8 period and long-term airline capacity growth plans.</li> </ul>   |   |   |
| <p>Jointly agreed scenarios should be developed in a way that presents integrated outcomes for passenger numbers, capex, opex and commercial revenues in the business plan at a suitable level of disaggregation. Scenario analysis should be disaggregated, as a minimum, into key geographic markets.</p> | M | <p>As noted above, there is not a single jointly agreed view in the Business plan. However, the range in the level of forecasts between the airlines and HAL is relatively narrow.</p> <p>Assumptions underpinning the forecast scenarios which have been presented are set out at the level required.</p> <p>Passenger forecast data was presented at an aggregate level in the data tables provided to the CAA, but was not initially split by geographic market. However, this did not have a material impact on the analysis conducted.</p> |

### Traffic risk sharing (TRS)

|   | CAA assessment | Explanatory comment  |
|---|----------------|--|
| <p>HAL should set out its views around any changes needed to the design and/or calibration of the TRS for H8, and where appropriate provide an updated calibration of TRS arrangements.</p> | N/A            | <p>HAL has not suggested changes to the TRS design.</p>  |
| <p>HAL should provide evidence to show that the TRS mechanism provides a balanced set of risk protection and provides benefits to consumers.</p>  | FTM            | <p>HAL did not state any considerations on the TRS mechanism (other than in relation to the TRS adjustment to the WACC, which is a separate policy). It therefore did not provide evidence to support that the TRS mechanism both provides a balanced set of risk protection and provides benefits to consumers.</p> |

## Service quality and resilience

### Service quality: general

|   | CAA assessment | Explanatory comment   |
|---|----------------|---|
| Following the introduction of an Outcome-Based Regulation approach to service quality for consumers in H7 the framework of Outcomes and Measures, Targets and Incentives (“MTI”) should be reviewed and updated for the H8 period.  | M              | HAL has provided a comprehensive review of the existing H7 OBR measures and proposed updates.   |
| Our expectation is that we will take a similar approach in H8 with the existing framework continuing to operate following the extensive programme of work undertaken to introduce the framework in H7.  | M              | HAL’s approach is consistent with the H7 OBR framework while updating elements and proposing some further development.  |
| We would not expect significant changes to Outcomes unless there is clear evidence that consumer priorities have changed significantly since H7. Measures, targets and incentives should cover the elements of operational performance that are important to consumers, including those passengers requiring assistance, while supporting the business plan priorities. | M              | HAL notes that its refreshed consumer engagement for H8 continues to support the six consumer outcomes identified for the H7 OBR framework and that these are aligned with their H8 approach. It identifies its view of the key consumer priorities including a need to focus on how passenger assistance service meets the needs of PRM and PRS consumers.   |
| Updates should take into account any HAL and airline consumer research and engagement that informs the business plan and that HAL should work with airlines to understand their own consumer engagement and to review and agree updates to the framework where possible.  | M              | Update takes account of HAL consumer research. It also reflects the views of HAL’s H8 consumer representatives, the Heathrow Passenger Forum, and airlines views, informed by consumer engagement, expressed throughout Constructive Engagement Rounds 1 and 2. The Blue Marble Synthesis of Consumers Wants and Needs fifth stage report also included a limited number of IATA and airline reports. |

**Service quality: approach to outcomes and MTI scheme framework review and updates**

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
|--|-----------------------|--|
| HAL should outline its high-level proposals to continue and further develop the framework of Outcomes and the MTI scheme for the H8 period. This should include how its broad approach will enable service improvement both during H8 (the short and medium term) and beyond into the next price control period (the long term).   | M                     | <p>HAL has outlined its proposals for Outcomes framework and MTI scheme.</p> <p>It has suggested strengthening incentives and stakeholder focus across key measures including baggage and security. On the whole targets are maintained at H7 levels with proposed security targets reduced versus H7 but set at a daily rather than monthly basis. Overall the proposals maintain the service proposition for the H8 projected passenger growth anticipated within the current capacity constraints, whilst improving incentives for key passenger areas such as baggage and PRM, and maintaining the service proposition ahead of the next price control period.</p> |
| In making its proposals, HAL should demonstrate how it has taken account of consumer insights, feedback from airlines and other developments in the sector including comparator airport service quality measures. It should also demonstrate the links between service levels and value for money, and remain responsive to consumers' and airlines evolving needs throughout the H8 period.   | M                     | <p>HAL provide an ICS report detailing how proposed MTI financial incentives for rebates and bonuses have been developed based on consumer research, stakeholder feedback (Airline/Heathrow Passenger Forum), wider business plan view and past performance, and airport benchmarking.</p> <p>Our view is that it has met this criterion but we discuss our reservations with the approach that has been used to inform incentive allocations in the chapter on service quality.</p>   |
| <p>If HAL proposes updated Outcomes for the H8 period, it should provide supporting evidence. Outcomes should be high level and should reflect consumers' and airlines' core needs and priorities. HAL should:</p> <ul style="list-style-type: none"> <li>▪ review existing Outcomes and update on progress to date on H7 Outcomes to date and forecast to end period position;</li> <li>▪ explain any proposed updates to existing Outcomes;</li> </ul> | M                     | <p>No updates, new outcomes, or discontinued outcomes proposed.</p> <p>Existing outcomes retained but no explicit update or summary as to how the end position for each outcome and its H7 MTI inputs look. However, latest position can be inferred from monthly MTI performance reports.</p>   |

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| <ul style="list-style-type: none"> <li>▪ propose any new Outcomes with rationale and supporting evidence; and</li> <li>▪ explain any proposed discontinuation of existing Outcomes.</li> </ul>   |          |   |
| <p>HAL should also propose updated MTI for the H8 period. These should focus on elements of operational service performance that are important to consumers, including those passengers requiring assistance, and airlines and cover areas both within HAL's control and where HAL can play a broader coordinating role with other service providers (for example, airlines, UKBF, NATS, special assistance services, other transport providers). HAL should:</p> <ul style="list-style-type: none"> <li>▪ review the existing MTI and performance to date and consider whether they continue to be appropriate and suitable to inform proposals for H8;</li> <li>▪ outline any proposed updates to existing MTI;</li> <li>▪ propose any new MTI with rationale and supporting evidence;</li> <li>▪ explain any proposed discontinuation of existing MTI including any that are no longer needed; and</li> <li>▪ explain how measures align with proposed Outcomes.</li> </ul> | <p>M</p> | <p>HAL's Business Plan (Appendix A1 – Chapter 9) sets out MTI review covering existing MTI measures and proposed updates. No new measures proposed but updates to metrics, targets and incentives proposed for measures seen as consumer priorities.</p> <p>BP MTI updates reflect consumer research and airline views from CE. No commentary around other partner performance including UKBF and NSL but do note NSL contractual arrangements.</p> |
| <p>In proposing new or updated measures, these should be accompanied by HAL's view of the</p>  | <p>M</p> | <p>Business plan details HAL's views on the appropriate targets and incentives in Appendix A1.</p>  |

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| appropriate target for each measure during H8 and the type of incentive associated with each, together with supporting evidence justifying the MTI.   |   |  |
| Where HAL has discussed and agreed KPIs with airlines or other airport users, it should set out details of these arrangements and how these are taken into account in proposed MTI updates. | M | Business plan details proposed airline eligibility criteria which would act as KPI's and cover areas of airline and other airport users activity that impact HAL performance on MTI measures. However, these proposals have not been agreed with airlines/other airport users and detailed arrangements and investments to support monitoring of airline and other airport user activity are not detailed. |
| Any modifications to MTI should be coordinated with HAL's approach/suggestions on outcomes.   | M | Limited change does not require significant changes to existing alignment with existing outcomes.  |

**Resilience: general**

|   | CAA assessment | Explanatory comment  |
|---|----------------|--|
| Resilience during H8 and beyond will be an important priority. With passenger numbers back above 80 million per year, and HAL developing plans to expand the capacity within the existing two-runways, it will be essential to both maintain and improve operational and asset resilience and surface access to and from the airport. As an operator of critical national infrastructure, HAL should also consider what actions are needed to ensure that the airport is resilient to climate change. | M              | Business plan details HAL's approach to resilience and the choices it needs to make between capacity and resilience in H8 where it looks to balance capacity between resilience and growth, allowing some airline growth rather than prioritising either resilience or growth.<br><br>HAL adopts a high-level strategic approach focused on operational responses and noting the challenges it faces.<br><br>It covers the role of asset resilience and resilience to climate impacts. |
| HAL should consider how the Outcomes and MTI scheme framework could help maintain and improve operational and asset resilience during the H8 period.  | M              | MTI updates including move to daily security queue measurement and baggage delivery financial incentive which HAL considers should provide greater level of service with some resilience benefit. Option for reduced MTI target on lifts, escalators and travelators was rejected by airlines and is proposed to be maintained at 99%. While no changes proposed to runway operational resilience measure and no new   |

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|  |  | resilience measures proposed HAL outline how a range of MTI measures either maintain or improve resilience including daily security measurement, baggage financial incentive and maintained asset availability targets. |
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## Resilience: approach to resilience

HAL should set out:

|   | CAA assessment | Explanatory comment  |
|---|----------------|--|
| An assessment of operational and asset resilience in H7 and how the business plan will contribute to the maintenance, improvement and increase of resilience levels in H8.  | M              | Assessment of resilience levels today are narrative (i.e. qualitative assessment) rather than quantitative.<br><br>Business plan identifies challenge of maintaining operational resilience in a capacity-constrained growth environment with improvement focused on the role of capex investment and operational improvements with the aim of increasing declared capacity from 82 mppa to 90 mppa. While it is challenging to understand what specific additional resilience is delivered versus the planned additional growth the business plan articulates the objective of maintaining resilience levels and increasing them to keep pace with increased passenger volumes. |
| Whether any new measures, increased financial incentives or changes to incentives are necessary as part of the MTI scheme with supporting evidence.   | M              | Focus is on capital expenditure which maintains and improves service levels and increases resilience levels rather than driving resilience directly through MTI changes. HAL's BP also proposes that the baggage incentive is moving to financial and daily security measurement.  |
| How operational and asset resilience proposals are integrated with capital and operational expenditure plans for the H8 period, and if and how any proposed surface access improvements support increased resilience. | M              | Plan details asset base investment to catch-up from Q6 and H7 and also sets out capex and opex programme investment but integration between the two seems more implicit than explicit. A number of capex programmes note that they are replacing life-expired assets, e.g. T2 baggage replacing the T1 baggage system<br><br>MTI on population within 3 hours of LHR dropped but T4 Short Stay car park and Tunnels & Surface Access capex projects are referenced.  |

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| What consumer resilience plans are already in place and what additional planning is needed. | FTM | Plan notes role of HAL in managing crisis response across stakeholders but focuses more on the existing plans and processes rather than what additional planning is needed. |
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## Environmental sustainability

### Environmental sustainability: transition to Net-Zero

Recognising that the transition to net zero is a priority area for the aviation sector, HAL's H8 business plan should clearly set out the journey that it is making to achieve net zero emissions by 2050:

|   | CAA assessment | Explanatory comment   |
|---|----------------|---|
| HAL should set out the progress that it has already made in this area, including any significant projects and the outcomes that have been delivered as a result of environmental sustainability investment during H7.   | M              | HAL has set out its progress of environmental sustainability projects including those discussed during H7.  |
| HAL should clearly set out the overarching statutory environmental obligations (in relation to net zero) that it has considered when developing its plan for H8. HAL should clearly demonstrate whether it plans to meet these statutory obligations or whether it plans to go beyond them. | M              | HAL has listed its own goals as well as CAA and UK Government obligations. It is clear where HAL is meeting these obligations although not clear if and where they are exceeding.                         |
| HAL should demonstrate how it plans to work with stakeholders at the airport to support the sector to achieve sustainability outcomes.  | M              | HAL has considered and set out its approach to stakeholder engagement for environmental sustainability proposals, as well detailing this separately in its publicly available People and Planet strategy. |
| HAL should clearly set out its environmental objectives and the plans it intends to take to address those obligations and objectives during H8 to support its transition to net zero.   | M              | HAL has met expectations in setting out its environmental objectives, demonstrating how investments will deliver environmental benefit and setting out its statutory environmental obligations.           |

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| We also expect HAL to set out its longer-term environmental targets (up to 2050) and provide evidence on how its proposals for H8 are linked to these long-term targets, supporting future delivery in this area. | FTM | HAL has set out its vision of reaching Net-Zero by 2050 and separately the initiatives that it plans to deliver during H8 in support of such environmental targets. However, the plan provides limited detail as to what extent these initiatives contribute to achieving longer-term targets and the progress towards the overall goal of Net-Zero. |
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HAL should ensure that its approach to achieving net zero is joined up across the business plan. We expect the plan to include evidence to explain and support HAL's proposals in the following areas:

|  | CAA assessment | Explanatory comment  |
|--|----------------|--|
| <p>Environmental objectives and targets to transition to net zero. For example, HAL should consider whether:</p> <ul style="list-style-type: none"> <li>▪ the proposed H7 reputational measure relating to Heathrow's carbon footprint remains appropriate for H8; and</li> <li>▪ new environmental objectives could be included under the MTI framework.</li> </ul> | M              | HAL has outlined its intention to retain the reputational carbon emissions measure for H8, based on the introduction of this measure in the H7 OBR Mid-Term Review responding to the priority that consumers place on sustainability.  |
| <p>Its plans for investment to support its transition to net zero:</p> <ul style="list-style-type: none"> <li>▪ we expect HAL to provide evidence to demonstrate that it has considered a range of options to deliver net zero and that it has considered the costs and benefits of each option;</li> </ul>  | FTM            | HAL has set out plans for investment related to environmental sustainability, though the quality of optioneering and demonstration of value for money in these plans has been mixed. HAL details the environmental benefits associated with these proposed investments but does not provide the appropriate context for us to assess the extent to which these investments support the overall transition to net-zero. |

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| <ul style="list-style-type: none"> <li>▪ evidence to demonstrate that HAL has considered the trade-offs between the investment to support the transition to net zero and affordability during the H8 period, including evidence that these projects are needed during H8 and that they represent value for money for consumers; and</li> <li>▪ the objectives (environmental benefits) that this investment is expected to deliver.</li> </ul> |  |  |
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In terms of capex incentive framework and HAL-airline governance arrangements:

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>  |
|--|-----------------------|---|
| <p>If HAL considers that a bespoke approach to capex efficiency is important and justified for sustainability investments, it should propose this as part of its H8 business plan so that we can carefully consider this as part of our initial proposals. We expect to see evidence that HAL has worked together with airlines to agree any bespoke arrangements and HAL will need to demonstrate that the proposed approach does not compromise the overarching criteria of investment being well evidenced and justified.</p> | <p>N/A</p>            | <p>HAL has not proposed changes to capex governance for sustainability investments.</p> |

## Costs, revenues and cost incentives

### Opex

|  | CAA assessment | Explanatory comment   |
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| <p>Opex for each year of Q6, H7 and H8 should be provided, split by each category of opex set out in the opex and revenues data tables. Actual data should be provided up to and including the 2024 financial year: forecast data should be provided for 2025 financial year onwards.</p> <p>If HAL considers any alternative categorisation of opex to be appropriate for H8 to that set out in the opex and revenues data tables, this should be discussed and agreed with the CAA prior to submission of the business plan.</p> | FTM            | <p>Historical data is provided between 2014-2024, mostly with the level of granularity requested, and forecast data is provided between 2025-2031. However, forecasts across all opex categories have less granularity than requested and several cost items (for example, IT &amp; computer services and rents) have been reclassified into different cost categories, resulting in inconsistent level of information between the 2024 baseline year (and latest outturn year) and the forecasts from 2025 onwards. Data consistency between baseline year and forecasts is important for us to be able to properly develop our view of opex costs for H8.</p> |
| <p>HAL should provide all opex data in both nominal terms and in real terms. Real values should be presented in 2024 prices using the Consumer Price Index ("CPI") for the 12 months ending 31 December 2024.</p>  | M              | <p>Opex data is provided in consistent 2024 CPI for the 12 months ending 31 December 2024, both in the Excel-based data tables and in the corresponding sections of the business plan documentation. Opex in nominal terms is also provided where requested in the Excel-based data tables.</p>   |
| <p>We expect HAL to explain the assumptions it makes on inflation and to document in the business plan the basis/source for future inflation forecasts.</p>  | M              | <p>The CPI assumption, both historical and forecast, and corresponding basis/source are set out and documented in the Excel-based data tables.</p>  |
| <p>As set out in the opex and revenue data tables, opex forecasts should be provided as follows:</p> <ul style="list-style-type: none"> <li>▪ For each of the "high", "low" and "base" case traffic forecast scenarios discussed in the Traffic section of this guidance;</li> </ul>   | M              | <p>Opex forecasts are provided in the Excel-based data tables in accordance with each of the requirements listed here.</p> <p>We note, however, that opex forecasts are not provided at the level of granularity requested in the Excel-data tables, which we assess in the criterion above.</p>  |

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| <ul style="list-style-type: none"> <li>▪ Before and after real price effects and ongoing efficiency assumptions;</li> <li>▪ Where real price effects are assumed in the opex forecasts, the index alternative to CPI assumed in the opex forecasts should be used consistently across the forecasts of the item it applies to, the assumptions should be clearly stated, and the basis/source for such assumptions should be clearly explained; and</li> <li>▪ Where ongoing efficiencies are assumed in the opex forecasts, the assumptions should be clearly stated and the basis/source for such assumptions should be clearly explained.</li> </ul>  |            |   |
| <p>The opex and revenues data tables specify a base level of cost information that HAL should provide to us as part of the H8 process. We expect HAL to provide further information to the extent that it considers that this would reasonably further the interests of consumers or that such information is reasonably required to fully understand its opex data. Examples of further information include:</p> <ul style="list-style-type: none"> <li>▪ Stating what is included in each cost item; when categorisation has changed and in what way; when changes from outsourcing to in-house or vice-versa have happened; and which cost items were impacted by these changes.</li> </ul> | <p>FTM</p> | <p>The further information provided in the Excel-based data tables and in the business plan documents is insufficient for us to understand the reasons for variations in outturn data, variations between 2024 baseline year and forecasts, and the key assumptions underpinning the opex forecasts.</p> <p>The business plan does not explain the data implications of changes in insourcing or outsourcing, despite confirmation in meetings that at least two operational staffing areas –security and trolleys – were outsourced during 2023–24.</p> <p>The information about third party contracts and outsourcing contracts in the data tables and in the business plan document is insufficient for us to form a view on whether the 2024 baseline value is cost efficient and how the contractual terms were taken into account when forecasting the cost of such contracts.</p> <p>The explanations in the business plan document lack sufficient detail to test the robustness of underlying forecasting assumptions.</p> |

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| <ul style="list-style-type: none"> <li>▪ Evidence that cost projections are robust and efficient. For example, we expect costs to have been benchmarked or market tested. For third party contracts and outsourcing contracts, we expect to see evidence of competitive tendering.</li> <li>▪ Explanation and evidence supporting the assumptions used in opex forecasts.</li> <li>▪ Where future opex (either in aggregate or for individual opex elements) varies across the traffic scenarios, the assumed relationship between opex and traffic (and/or passenger numbers) should be clearly stated and explained.</li> <li>▪ Explanation of how the opex forecasts take account of past performance and assumptions about future operational efficiency gains from past capex investments.</li> <li>▪ Evidence that opex forecasts are consistent with planned capital investment. HAL should quantify the impact on opex of any changes it is proposing to its capitalisation policy.</li> <li>▪ Evidence that opex forecasts are linked to anticipated operational activity (for example, increased use of a particular terminal by passengers) and changes in service quality during the H8 period.</li> </ul> |  | <p>The business plan does not explain whether and how opex efficiencies expected from past capex investments and operational improvements are taken into account in the opex forecasts.</p> <p>Although the business plan quantifies the opex improvements expected from proposed capital investment, it does not explain whether and how opex forecasts take account of such expected benefits. For example, staff FTE numbers are not provided for future years, despite certain capex project business cases citing specific FTE increases or savings. It is therefore unclear whether and how such expected FTE changes have been reflected in the opex forecasts, and their impact is not transparent in aggregate.</p> |
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**Commercial and other revenues**

|   | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
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| <p>Commercial and other revenues for each year of Q6, H7 and H8 should be provided, split by each category of revenue set out in the opex and revenues data tables, plus any additional revenue categories HAL expects to receive during H8. Actual data should be provided up to and including the 2024 financial year, forecast data should be provided for the 2025 financial year onwards.</p> <p>If HAL considers any alternative categorisation of revenues to be appropriate for H8 to that set out in the opex and revenues data tables, this should be discussed and agreed with the CAA before submission of the business plan.</p> | FTM                   | <p>Historical data is provided between 2014-2024, mostly with the level of granularity requested, and forecast data is provided between 2025-2031. However, nearly all revenue categories are forecasted at lower level of granularity than requested and several revenue items (for example, advertising) have been reclassified into different revenue categories, resulting in inconsistent level of information between the 2024 baseline year (and latest outturn year) and the forecasts from 2025 onwards. Data consistency between baseline year and forecasts is important for us to be able to properly develop our view of revenues for H8.</p> |
| <p>HAL should provide commercial and other revenue data in both nominal terms and in real terms. Real values should be presented in 2024 prices using the Consumer Price Index ("CPI") for the 12 months ended 31 December 2024.</p>  | M                     | <p>Commercial and other revenue data is provided in consistent 2024 CPI for the 12 months ending 31 December 2024, both in the Excel-based data tables and in the corresponding sections of the business plan documentation. Revenue in nominal terms is also provided where requested in the Excel-based data tables.</p>   |
| <p>We expect HAL to explain the assumptions it makes on inflation and to document in the business plan the basis/source for future inflation forecasts.</p>   | M                     | <p>The CPI assumption, both historic and forecast, and corresponding basis/source are set out and documented in the Excel-based data tables.</p>   |
| <p>As set out in the opex and revenue data tables, commercial and other revenue forecasts should be provided as follows:</p>  | M                     | <p>Revenue forecasts are provided in the Excel-based data tables in accordance with each of the requirements listed here.</p> <p>We note, however, that revenue forecasts are not provided at the level of granularity requested in the Excel-data tables, which we assess in the first criterion above.</p>   |

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| <ul style="list-style-type: none"> <li>▪ for each of the high, low and base case traffic forecast scenarios discussed in the Traffic section of this guidance;</li> <li>▪ before and after real price effects and management stretch assumptions;</li> <li>▪ where real price effects are assumed in the commercial and other revenue forecasts, the index alternative to CPI assumed should be used consistently across the forecasts of the item it applies; the assumptions should be clearly stated; and the basis/source for such assumptions should be clearly explained; and</li> <li>▪ where management stretch challenge is assumed in the commercial and other revenue forecasts, the assumptions should be clearly stated and the basis/source for such assumptions should be clearly explained.</li> </ul> |            |  |
| <p>The opex and revenues data tables specify a base level of revenue information that HAL should provide to us as part of the H8 process. We expect HAL to provide further information to the extent that it considers that this would reasonably further the interests of consumers or that such information is reasonably required to fully understand its commercial and other revenue data. Examples of further information include:</p>   | <p>FTM</p> | <p>The further information provided in the Excel-based data tables and in the business plan documents is insufficient for us to understand the reasons for variations in outturn data and variations between 2024 baseline year and forecasts.</p> <p>Although detailed information on retail and catering revenues was provided for the period between 2014-2024, this level of detail is not carried forward into the future projections. This change in categorisation between outturn and forecast undermines our ability properly develop our view of revenues for H8.</p> <p>Although the assumptions used to forecast several revenue items are explained in the business plan document, for some important revenue items, for example cargo revenue, the explanation provided is insufficient to understand variations between</p> |

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| <ul style="list-style-type: none"> <li>▪ Stating what is included in each revenue item and when categorisation has changed and in what way and which revenue items were impacted by these changes.</li> <li>▪ Explanation and evidence supporting the assumptions used in commercial and other revenue forecasts. The key driver(s) of each line item of commercial revenues should be identified, with the relationship between those drivers and the commercial revenues clearly specified.</li> <li>▪ Where future commercial revenue varies across the traffic scenarios, the assumed relationship between the commercial revenue item and traffic (and/or passenger numbers) should be clearly stated and explained.</li> <li>▪ Evidence that commercial revenue forecasts are consistent with planned capital investment.</li> </ul> |  | <p>outturns and forecasts and to test the robustness of the underlying forecasting assumptions.</p> <p>The business plan quantifies the revenue improvements expected from proposed capital investment. However, it does not explain whether and how revenue forecasts take account of such expected benefits.</p> |
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**Other regulated charges (ORCs)**

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
|--|-----------------------|--|
| <p>ORCs for each year of H7 and H8 should be provided, split by each Specified Facility set out in the opex and revenues data tables, and split between direct costs, allocated costs and annuity.</p> | <p>FTM</p>            | <p>HAL has not provided H8 ORC forecasts split by Specified Facility.</p> <p>HAL has not provided forecasts of H8 ORC fixed costs (allocated costs and annuities).</p> |

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|   |     | HAL has not provided forecast for its proposed additional Specified Facility (CUSS/check-in desks) for which 'Other' category in data table could have been used. |
| Direct costs, allocated costs and annuity for each Specified Facility should each be further broken down into airline amounts and non-airline amounts, for each year of H7 and H8. This level of detail is necessary to assess alternative potential options for the recovery of ORC costs in H8.   | FTM | No breakdown by Specified Facility is provided for H8.  |
| Actual data should be provided up to and including the 2024 financial year: forecast data should be provided for the 2025 financial year onwards.   | M   | Where data is provided, HAL has met this requirement.   |
| An explanation of the assumptions used to develop ORC forecasts, including the key drivers of future costs for each Specified Facility, the basis for calculation of direct costs, allocated costs and annuity, the assumptions made regarding business rates, and the basis for cost allocation to users, should be provided. HAL should also set out what it is assuming about the unit pricing for ORC services over H8. | FTM | Driver forecasts, forecasts of H8 ORC fixed costs (allocated costs and annuities) and information on unit pricing over H8 has not been provided.                  |
| The relationship of the ORC forecasts to traffic and passenger forecasts should be explained and separate ORC forecasts provided for each of the traffic forecast scenarios.  | FTM | HAL has provided no explanation of the relationship of the ORC forecasts to traffic and passenger forecasts.  |

**Capex: price base, real price effects and ongoing efficiency**

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>  |
|--|-----------------------|---|
| HAL should provide all capex data in both nominal terms and in real terms. Real values should be presented in 2024 prices using the Consumer Price Index (CPI) for the 12 months ended 31 December 2024. | M                     | Capex data is provided in consistent 2024 CPI for the 12 months ending 31 December 2024, both in the Excel-based data tables and in the corresponding sections of the business plan documentation. Capex in nominal terms is also provided where requested in the Excel-based data tables.  |
| We expect HAL to explain the assumptions it makes on inflation and to document in the business plan the basis/source for future inflation forecasts.   | M                     | The Business Case Framework specifies the price index used to adjust capital costs for inflation.<br><br>The CPI assumption, both historic and forecast, and corresponding basis/source are set out and documented in the Excel-based data tables.  |
| Where real price effects and ongoing efficiency are assumed in the capex forecasts, the assumptions should be clearly stated and the basis/source for such assumptions should be clearly explained.      | FTM                   | The Excel-based capex data tables do not reflect the capex efficiency assumption of 5% across the H8 period. Even when combined with the explanation provided in the business plan documentation, the basis for the capex efficiency assumption is unclear. The year-on-year profile of the capex efficiency challenge is also unclear. |
| Capex forecasts should be provided before and after real price effects and ongoing efficiency assumptions.   | M                     | Capex forecasts are provided before and after real price effects in the Excel-based data tables.<br><br>Capex forecasts are provided before and after the 5% efficiency assumption in the business plan documentation, albeit in the data table the capex forecasts are only presented before the 5% efficiency assumption.             |
| HAL should state the capitalisation policies it has adopted in its capex forecasts and, if applicable, identify, explain and quantify any changes from the capitalisation policies adopted for H7.       | M                     | The business plan provides some explanation for the proposed change in the classification of vortex and noise insulation costs from opex to capex, starting in H8. The outturn opex costs presented in the plan are adjusted to exclude vortex and noise insulation and allow a consistent comparison with opex forecasts.              |

**Capex: total capex**

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
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| As set out at the start of this business plan guidance, the business plan should focus on the operation of a two runway airport and capex related to significant capacity expansion of terminals and the third runway will be dealt with separately.   | M                     | The capex plan proposed in the business plan is consistent with a two-runway airport.  |
| Total capital expenditure for each year of Q6, H7 and H8 should be provided, with historical information reconciled to HAL's regulatory accounts. Actual data should be provided up to and included the 2024 financial year: forecast data should be provided for the 2025 financial year onwards.   | M                     | Historical capex data is provided between 2014-2024 which reconciles with HAL's regulatory accounts.<br><br>Forecast data is provided between 2025-2031. |
| HAL should provide forecast total capex for each of the high, low and base case traffic forecast scenarios as discussed in the Traffic section of this guidance. Where future total capex varies across the scenarios, the assumed relationship between total capex and traffic (and/or passenger numbers) should be clearly stated and explained. | N/A                   | HAL has informed us ahead of business plan submission that capex forecasts do not vary with passenger traffic scenarios.                                 |

**Capex: capex by category and by project**

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
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| The business plan should contain detail on the overall capex portfolio and all the capex projects within this portfolio. | M                     | The Excel-based data tables detail the overall capex portfolio and all capex projects within each portfolio. |

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|   |            | <p>For each project, the gateway stage as of July-25 is provided and the reference to the business case is clearly stated.</p> <p>The year-on-year expenditure profile is presented making it clear how much expenditure was already incurred in each project; how much it is planned to incur in H8; and how much will be spent beyond H8. This whole life cost profile is critical for our assessment of efficiency.</p>   |
| <p>The business plan should include HAL's views on the breakdown of project costs between "core" and "development" capex.</p>   | <p>M</p>   | <p>Where applicable, the capital business cases provide a breakdown of capex between 'core' and 'development' capex in line with the definition of 'core' and 'development' capex set out in the Capital Governance Handbook.</p>  |
| <p>Each capex project should be described in detail including the work that has supported the development of the project. For each capex project, we expect to receive the following information:</p> <ul style="list-style-type: none"> <li>▪ Evidence that the investment is required ('need case').</li> <li>▪ Evidence that the investment does not overlap or duplicate capex projects already under way.</li> <li>▪ Evidence that an appropriate number of options was considered, including 'do nothing' and opex solutions ('optioneering'), showing how the best and most efficient options have been selected.</li> </ul> | <p>FTM</p> | <p>HAL proposes 488 capex projects/initiatives with spend incurred in H8, which are organised in 20 business cases. Each business case has dedicated sections where it discusses, for each project/initiative, the types of information listed in this criterion.</p> <p>For each project at gateway stage of maturity at or beyond P2 tranche (P2T) we have received detailed project cost sheets. The granularity of the narratives in the project cost sheets were fundamental for us to ascertain the type, level of impact and likelihood of the impact on consumers. These narratives were critical for our need assessment of projects at a reasonable level of maturity.</p> <p>However, the same project cost sheets fail to include basic cost information key for our assessment of cost efficiency. For projects at this P2T level of maturity, we would expect to see standard cost information on cost build-up, such as quantities and unit cost rates, and evidence of how the costs have been benchmarked. The lack of such information failed to meet our expectations and has led us to rely on the narratives to infer and make assumptions on quantities implied in each project and use our own independent benchmarks, where available and practicable, to assess the efficiency of the costs. This approach is a more time consuming and imperfect substitute for scrutinising the reasonableness of HAL's own quantity and cost benchmarking assumptions.</p> <p>For projects at an earlier level of maturity than P2T, the detail and quality of the information provided is insufficient for us to be able to properly develop our views on the need case and on the efficiency of costs. Although we accept that information about projects at an earlier stage of maturity is necessarily more high-level, we expected to see some compelling justification of why the investment is required</p> |

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| <ul style="list-style-type: none"> <li>▪ Indication of expected outputs and benefits for consumers associated with each project. The business plan should set out how the capex programme delivers value for money, on a whole life cost basis, for customers and consumers during H8. This should include an estimation of measurable benefits.</li> <li>▪ Expected impacts on opex savings and/or revenue increases.</li> <li>▪ Cost disaggregation by key drivers of costs with indication of cost and design maturity. For each project at a sufficiently advanced stage of maturity, HAL should identify key categories of costs, including:             <ul style="list-style-type: none"> <li>(i) Direct project costs, with further breakdown at a sufficiently detailed level of disaggregation;</li> <li>(ii) 'leadership and logistics' mark-up;</li> <li>(iii) 'risk and contingency' mark-up; and</li> <li>(iv) other mark-ups.</li> </ul> </li> <li>▪ HAL should explain how project costs have been estimated and what steps it has taken to ensure the estimated costs represent an efficient level of costs. We expect to see evidence that the costs estimates are efficient by, for example:             <ul style="list-style-type: none"> <li>(i) using similar scheme outturn data as benchmarks;</li> </ul> </li> </ul> |  | <p>('need case') and how HAL has derived the estimated high-level costs of these projects submitted in the plan. The lack of such information failed to meet our expectations.</p> |
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| <p>(ii) industry and/or external cost benchmarking;</p> <p>(iii) third party assurance of the robustness of cost estimates; and/or</p> <p>(iv) evidence that costs have been market-tested.</p>  |   |  |
| <p>For projects in excess of £5 million total spend over the course of the project for which any capital expenditure is to be incurred during any year of H8 (including schemes currently underway or expected to start before H8 but which are expected to continue into H8), in addition to the individual project data set out above, we expect to see the following information:</p> <ul style="list-style-type: none"> <li>▪ costs for each year of the project;</li> <li>▪ a business case explaining the driver(s) and setting out the impact on capex, opex, revenues and service quality, by year; and</li> <li>▪ clear identification of project outputs.</li> </ul> | M | <p>For each project in excess of £5m total spend with costs incurred in H8, the information provided in the data tables and in the business case in in line with the expectations we set out in the criterion.</p> |
| <p>For capital projects for which expenditure is expected to be incurred during H8 which fall below the £5 million total spend threshold, in addition to the individual project data set out above, we expect to see a narrative breaking down the overall amount of such capital expenditure in each year into appropriate headings and explaining the main sources and key drivers of such expenditure.</p>  | M | <p>For each project under £5m total spend with costs incurred in H8, the information provided in the data tables and in the business case in in line with the expectations we set out in the criterion.</p>        |

**Capex: reconciliation of individual capital project data to total capex forecast**

|   | <b>CAA assessment</b> | <b>Explanatory comment</b>  |
|---|-----------------------|---|
| For each year of the forecast period, the sum of capital expenditure on projects above and below the £5 million total spend threshold should equal the total forecast capital expenditure in that year. | M                     | In the Excel-based data tables, the sum of the capital expenditure by project for each year of the forecast period matches the total forecast capex in that year. |

**Capex: general**

|   | <b>CAA assessment</b> | <b>Explanatory comment</b>  |
|---|-----------------------|---|
| The business plan should contain an assessment of the level of confidence that HAL has in the capex data, both at aggregate and at project level, and a description of the steps HAL has taken to provide assurance of its forecasts. | M                     | The Business Case Framework explains the level of confidence at each level of project maturity as determined by the stage of the capital gateway process. For each project/initiative, the business cases identify the stage of the gateway process the project/initiative is as of July-25 and the corresponding maturity of the cost estimates.   |
| Evidence should be provided that alternative approaches, such as opex solutions, have been considered to achieve maximum value for money in delivering outcomes for consumers.  | M                     | Each business case provides sufficient evidence of optioneering to allow us to perform our need assessment.   |
| HAL should clearly identify risk, contingency and efficiency assumptions in its capex proposals, both: <ul style="list-style-type: none"> <li>▪ at the project level; and</li> <li>▪ at the overall level.</li> </ul>                 | M                     | The Business Case Framework explains the overall approach to risk management and each business case sets out the specific programme and strategic risks applicable to the projects/initiatives included in the business case.<br><br>We note that the business case does not explain the basis for the capex efficiency assumption of 5% across the H8 period, which we assess in a separate criterion under 'Capex – Price base, real price effects and ongoing efficiency'. |

**Cost incentives: overall balance of incentives**

|   | <b>CAA assessment</b> | <b>Explanatory comment</b>  |
|---|-----------------------|---|
| HAL should set out its views on the overall balance of incentives during H7, and how any issues around the balance of incentives should be addressed, including through changes to individual incentive mechanisms. | FTM                   | The Business plan contains no clear statement on the overall balance of incentives. |

**Cost incentives: capex efficiency incentives**

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
|--|-----------------------|--|
| HAL should set out its views on how the <i>ex ante</i> capex efficiency framework has been operating in H7.  | M                     | HAL sets out its views on the H7 <i>ex ante</i> capex efficiency framework within its business plan. |
| This should include information and data on: <ul style="list-style-type: none"> <li>▪ how many projects have gone through G3 in H7 to date under the new <i>ex ante</i> capex efficiency framework, and what total level of spend has been approved as part of the baseline for those projects;</li> </ul> | M                     | As above, and with the relevant information provided.  |
| <ul style="list-style-type: none"> <li>▪ how many of those projects have reached G5, and HAL's view of whether the DOs for the projects that have reached G5 were met. If any DO adjustments need to be applied, HAL should set out the total DO-related adjustments to date; and</li> </ul>               | M                     | HAL has provided this information in capex data tables.  |

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| <ul style="list-style-type: none"> <li>what percentage of the budgets for those projects relate to development (pre-G3) spend;</li> </ul> |   |  |
| HAL should set out its views on any improvements it thinks should be made to the <i>ex ante</i> capex efficiency framework for H8.        | M | HAL sets out its views on the H7 <i>ex ante</i> capex efficiency framework within its business plan. |

## Financial issues

### Requirement to assess financeability

|   | CAA assessment | Explanatory comment   |
|---|----------------|---|
| HAL should provide robust evidence that its business plan is financeable across a range of plausible scenarios. This assessment should also be undertaken with reference to the CAA's statements on financeability policy in the method statement, including assessing financeability on the basis of notionally efficient gearing. | M              | HAL clarified that 60% gearing was used for all scenarios.<br><br>Credit metrics are shown for a few downside scenarios.  |
| We would expect HAL to examine the same credit metrics as were used in the H7 Final Proposals and Final Decision. Where HAL uses different credit metrics from those used in the H7 Final Proposals and Final Decision, the selection of credit metrics should be justified and supported by evidence.                              | M              | Analysis presented using FFO/debt and net debt to EBITDA as per H7. The price control model ("PCM") also included the regulatory asset ratio ("RAR") and post-maintenance interest cover ratio ("PMICR"). |

**Target credit rating**

|   | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
|---|-----------------------|--|
| In forming its assessment of whether its business plan is financeable, HAL should clearly state and, with reference to its investment program, justify the credit rating that it is targeting, including for a notionally efficient level of gearing. In doing so, HAL should describe the relative costs and benefits of different credit rating levels. | FTM                   | Does not consider the costs of different credit rating levels. There is assessment of different rating levels and it does consider the capital requirements briefly but it does not link the specific quantum of the capital program to the quantum of debt and thereby the credit rating. |
| To the extent that HAL considers that structural and/or regulatory changes would better support the credit rating it targets in the business plan, these should be clearly stated and justified as being consistent with the interests of consumers.  | M                     | Proposed changes to regulatory regime are clearly stated with description of how consumers will benefit.   |
| The assessment of the targeted credit rating for each relevant scenario should consider the net impact of having a higher or lower credit rating.   | FTM                   | This is not considered. The benefits of a higher rating are considered but not the costs.  |

**Notional gearing**

|   | <b>CAA assessment</b> | <b>Explanatory comment</b>                    |
|---|-----------------------|---|
| HAL should consider the appropriate notional financial structure starting from the assumption that the notional gearing will be 60%, as was used for H7. Any change from the 60% level should be reasoned and justified with reference to evidence. | M                     | The PCM shows a net debt to RAB ratio of 60%. |

|   |     |  |
|---|-----|--|
| Analysis should include an evaluation of the advantages and disadvantages of different notional financial structure options developed by HAL. | N/A | HAL has not considered different notional financial structure options therefore there is no need to present the analysis referred to here. |
|---|-----|--|

### Financial modelling

|   | CAA assessment | Explanatory comment  |
|---|----------------|--|
| Analysis of financeability should include a baseline assessment using the CAA's price control model ("PCM") on the basis of notionally efficient gearing. If assumptions are not detailed in the business plan itself, a data book detailing the rationale for the assumptions adopted in the business plan should be provided. | M              | HAL has provided PCM and contains baseline financeability assessment.              |
| HAL should discuss with the CAA any structural and formula changes required to the PCM in advance of submitting the business plan to agree a version of the PCM for HAL for use in the submission.  | M              | HAL engaged with CAA on certain proposed amends to the PCM.                        |
| If HAL also uses models other than the PCM in the business plan, they should be accompanied with commentary and analysis reconciling the results to those of the PCM.   | N/A            | HAL did not use other models for calculating charges or financeability assessment. |

**Regulatory depreciation**

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
|--|-----------------------|--|
| HAL should clearly state the assumptions it has made in respect of regulatory depreciation. Where the assumed regulatory depreciation differs from the expected accounting depreciation in any year, the reasons for this difference should be clearly presented and justified with reference to evidence.   | M                     | HAL has clarified how the depreciation charge is calculated based upon the accounting records and grossed up to ensure depreciation of elements of the RAB that have no direct equivalent in the accounting records. |
| The assessment of the appropriate regulatory depreciation assumptions for the H8 period should include analysis of the impact of regulatory depreciation on the level of charges and on the RAB. In considering the impact on the RAB, HAL should assess options over a planning horizon of at least 30 years and comment on the appropriateness of the overall trend in the RAB over that period. | FTM                   | HAL states that it has considered the impact of depreciation on charges but not on the RAB.  |

**Tax**

|  | <b>CAA assessment</b> | <b>Explanatory comment</b>                              |
|--|-----------------------|---|
| HAL can propose an approach to the setting of a regulatory allowance for tax which is different from that adopted in H7. Where HAL does propose a different approach, it should clearly explain the rationale for the change and justify, with reference to evidence, how this is in consumers' interests. | N/A                   | Approach proposed (pre-tax WACC) is consistent with H7. |
| The full calculation of the regulatory allowance for tax that HAL includes within its business plan  | N/A                   | Not relevant as HAL is proposing a pre-tax WACC.        |

|   |     |  |
|---|-----|--|
| should be clearly presented in Microsoft Excel. The source of all assumptions should be clearly stated.   |     |  |
| Whichever approach HAL adopts to determining the tax allowance included within its business plan, it should also present a forecast of its tax liabilities for the H8 period assuming a notional capital structure. HAL should explain all assumptions underlying this calculation. | FTM | This information was not presented in the business plan.             |
| Where the amount that HAL proposes in respect of the regulatory allowance for tax is different from the amount shown in its forecast of tax liabilities, HAL should explain and justify the difference.   | FTM | As noted above HAL has not presented information on tax liabilities. |

**RAB**

|   | <b>CAA assessment</b> | <b>Explanatory comment</b>   |
|---|-----------------------|--|
| HAL should present a full calculation showing its view of the evolution of the RAB over the H7 period together with any adjustments which HAL considers are appropriate to be made to the opening RAB for H8. | FTM                   | In the HAL PCM submitted alongside the H8 business plan, HAL provided only a hard-coded figure of the H7 closing RAB without showing any calculation of the H7 RAB roll-forward as per this requirement.   |
| This calculation should reconcile to the figures presented in Appendix H of the H7 Final Decision.  | FTM                   | HAL did not provide any reconciliation to the figures presented in Appendix H of the H7 Final Decision.  |
| The H8 opening RAB and annual RAB roll-forward figures presented in the business plan should assume that the RAB is subject to CPI inflation, as described in this guidance.                                  | M                     | In the HAL PCM submitted alongside the H8 business plan, the H8 opening RAB and annual RAB roll-forward figures assume that the RAB is subject to CPI inflation. Although this meets our requirements, we would like to see also the source of CPI inflation forecast. |

### The treatment of and compensation for traffic risk

|  | CAA assessment | Explanatory comment  |
|--|----------------|--|
| We expect HAL to clearly specify in its business plan whether it has included an asymmetric risk allowance and/or an adjustment to the WACC to reflect the impact of the TRS mechanism, how it has calibrated these allowances and why these are in the interest of consumers. | M              | HAL has provided updated proposals for the asymmetric risk allowance and its position on adjustments to the WACC to reflect the TRS mechanism. |
| We also expect it to be clear from HAL's business plan how it has applied the TRS mechanism under alternative traffic scenarios.   | M              | Maintained H7 TRS mechanism calibration.   |

### Cost of capital

#### WACC

|  | CAA assessment | Explanatory comment  |
|--|----------------|--|
| HAL's proposal for the WACC should be consistent with efficient financing and its assumptions on risks and incentives.   | M              | Since HAL has based its assessment on what it considers to be efficient financing, and linked this assessment to its view of risks and incentives, this is sufficient.                                       |
| HAL should assume a cost of capital for H8 no more than the efficient level necessary to compensate HAL for the business and regulatory risks it faces.  | M              | As above.  |
| In estimating the efficient cost of capital for its business plan, we expect HAL to demonstrate that its cost of capital takes account of and broadly aligns with the following types of evidence: | M              | HAL has departed from precedent and our H8 early view in various places. However, in each case, it has provided a generally clear and transparent explanation as to why it considers this to be appropriate. |

|   |            |  |
|---|------------|--|
| <ul style="list-style-type: none"> <li>▪ the precedent from the CMA's decision on the H7 appeals and other recent regulatory decisions on the approach and estimates for components of the cost of capital. For example, we would expect HAL to provide a cost of capital that is estimated using market wide components (such as total market return and risk-free rate) that are consistent with recent regulatory/CMA publications, for example, from the water and energy sectors;</li> <li>▪ assessment of developments in calculation of the cost of capital in other regulated sectors, and the advantages and disadvantages of applying these to HAL's price control. For example, this should include use of nominal cost of debt, cost of debt indexation, equity financeability;</li> <li>▪ an early view on the range for the cost of capital for H8 set out in the FTI Consulting report, which is 3.97% to 5.30% (pre-tax, CPI/CPIH-real), based on updates to the approach and market data used for H7;</li> <li>▪ market evidence on cost of capital parameters; and</li> <li>▪ information on the business risks it faces</li> </ul> |            | <p>HAL has adequately explained why it has not applied a nominal cost of debt.</p> <p>HAL has not commented on the use of cost of debt indexation. This is relatively minor omission, and does not materially impede our assessment of the WACC.</p> <p>HAL has adequately explained its approach to equity financeability.</p> <p>HAL has adequately set out its views on FTI's work.</p> <p>HAL has adequately explained how it has taken account of market evidence business risks.</p> |
| <p>In respect of the equity beta, we expect HAL to make clear:</p> <ul style="list-style-type: none"> <li>▪ the choice of comparators;</li> </ul>   | <p>FTM</p> | <p>HAL has adequately set out its choice of comparators.</p> <p>For ADP, HAL has adequately explained the following:</p> <ul style="list-style-type: none"> <li>▪ The period over which beta is estimated;</li> </ul>  |

|  |          |   |
|--|----------|---|
| <ul style="list-style-type: none"> <li>▪ the basis for comparator equity beta estimation, including the period over which the beta is estimated; data frequency; whether net or gross debt has been used to estimate comparator gearing levels; the stock market index used; and whether trailing averages have been used where appropriate.</li> <li>▪ an assessment of the relative risk of comparator airports compared with Heathrow;</li> <li>▪ the impact of the capacity constraint at Heathrow, in addition to any capacity constraints it identifies at comparator airports;</li> <li>▪ the impact of any Traffic Risk Sharing arrangements for HAL that it includes in its business plan on the asset beta.</li> </ul> |          | <ul style="list-style-type: none"> <li>▪ Data frequency;</li> <li>▪ Comparator gearing levels; and</li> <li>▪ Whether trailing averages have been used.</li> </ul> <p>However, HAL did not initially provide its calculations for the other comparator airports on which it based its assessment.</p> <p>HAL has commissioned a report setting out the relative risk of comparator airport compared with Heathrow.</p> <p>HAL has adequately explained its view of the impact of the capacity constraint at Heathrow, in addition to any capacity constraints it identifies at comparator airports.</p> <p>HAL has adequately explained its view of the impact of TRS arrangements for HAL on the WACC.</p> |
| <p>In respect of the cost of debt, we expect HAL to make clear:</p> <ul style="list-style-type: none"> <li>▪ the notional gearing level used to estimate the cost of capital, and why this is appropriate;</li> <li>▪ the inflation forecasts that have been used to deflate the nominal cost of debt (if applicable);</li> <li>▪ detail in respect of how any issuance and liquidity costs have been estimated;</li> <li>▪ assumptions it is making and its approach to index linked debt.</li> </ul>   | <p>M</p> | <p>HAL has set out the level of notional gearing used to estimate the cost of capital, and justified this based on its use in H7.</p> <p>HAL uses CPI to deflate the nominal cost of debt.</p> <p>HAL has adequately set out how it has estimated issuance and liquidity costs.</p> <p>HAL provided a report by KPMG setting out their proposed treatment of index-linked debt.</p>   |

|  |   |   |
|--|---|---|
| <p>In respect of HAL's actual cost of debt, we expect HAL to provide information on its debt securities, including its foreign currency bonds and swap instruments. In respect of its Class A and Class B bonds, this should include:</p> <ul style="list-style-type: none"> <li>▪ the instrument's International Securities Information Number (ISIN);</li> <li>▪ the date of issuance</li> <li>▪ the maturity date;</li> <li>▪ the currency denomination;</li> <li>▪ the coupon rate;</li> <li>▪ whether there are any embedded options, and what kind; and</li> <li>▪ whether the debt instrument is an amortising or bullet bond.</li> </ul> | M | HAL has provided all required information on its actual cost of debt.   |
| <p>We expect HAL to provide its estimate of the cost of capital and underlying calculations in a clearly presented and signposted Microsoft Excel workbook. Any data that is confidential and not for publication should be clearly identified.</p>  | M | HAL has provided all required information.  |
| <p>Where HAL provides cost of capital parameters and/or an overall cost of capital that do not align with some or all of the items above, we expect HAL to provide a clear and thorough explanation of why this is the case and provide compelling evidence for its proposed cost of capital.</p>  | M | HAL's cost of capital estimate either aligns with the items above, or an explanation is provided as to why it does not. |

|   |          |  |
|---|----------|--|
| <p>We expect to move from the RPI to CPI indexation of the RAB for H8. We expect HAL to propose a change in indexation of the RAB from RPI to CPI and to apply a consistent approach to calculation of the real WACC. It should also estimate the RPI-deflated real WACC to illustrate the comparison with H7. We expect HAL to set out how it proposes to manage any consequential impacts of this change on charges and financeability.</p> | <p>M</p> | <p>HAL has complied with this criterion.</p> |
|---|----------|--|

## APPENDIX G

## Cargo movement forecasts

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### Introduction

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- G1 Cargo Air Traffic Movements (“cargo ATMs”) refer to the number of flights, including arrivals, departures, and transit movements, dedicated to the transportation of freight and/or mail.
- G2 Cargo ATMs are the key driver of cargo revenue. Incentivising HAL to optimise the level of cargo revenue it generates benefits consumers by reducing the airport charges. Within the “single till”, cargo revenue is deducted from the efficient operating costs that HAL recovers through charges.
- G3 We set our initial proposals for cargo revenue in Chapter 5 (Commercial revenues), where we explain that we have estimated our proposed cargo revenue as the product of the forecast number of cargo ATMs and cargo yield per ATM.
- G4 This appendix sets out:
- the method we have used;
  - our proposed cargo ATM forecasts for the H8 period; and
  - next steps and implementation.

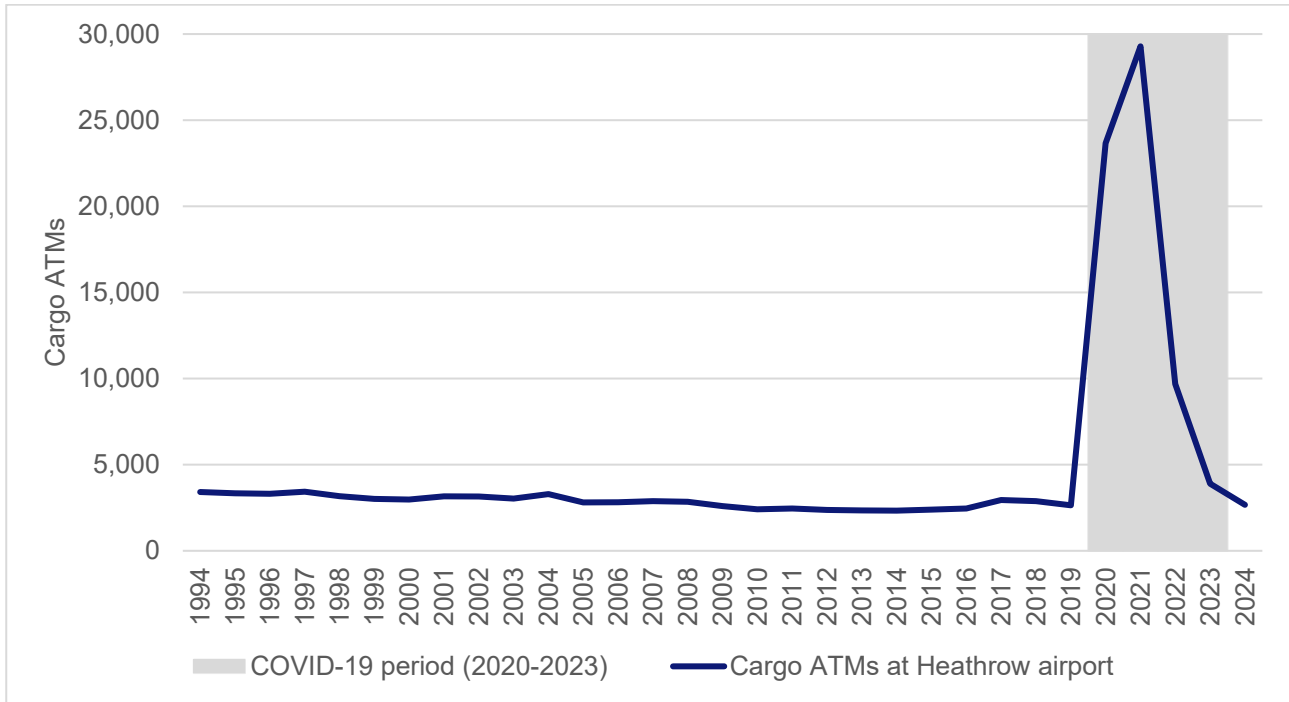
### Our method

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#### Overall approach

- G5 We have forecast cargo ATMs for the H8 period using a time-series econometric model. Figure G.1 shows the number of cargo ATMs between 1994 and 2024 at Heathrow airport. Excluding the covid-19 period, cargo ATMs have historically followed a steady pattern, which we would expect to continue in H8. This provides a reasonable basis for using time-series modelling.

**Figure G.1: Historical cargo ATMs at Heathrow airport, 1994 – 2024**



Source: CAA analysis of CAA's cargo ATMs data (available at [UK airport data | UK Civil Aviation Authority](#) - Table 06 Air Transport Movements)

**Data**

- G6 We have used the CAA cargo ATMs data for Heathrow airport publicly available as part of the CAA UK airport statistics.<sup>3</sup> Our data set covers the period from 1994 to 2024, the latest full year of data available at the time of writing.
- G7 We have compared the CAA cargo ATM data for Heathrow airport with the cargo ATMs that HAL reported in its H8 business plan data tables, for the 2014 to 2024 period, and concluded that there were no material discrepancies between the two sources. We have used the CAA data as it is publicly available and covers a longer period.
- G8 As Figure G.1 shows, cargo ATMs at Heathrow airport have gradually declined from around 3,400 in the mid-1990s to 2,600 movements in 2024. This downward trend is likely a reflection of prioritising passenger services within the overall annual 480,000 ATM cap for Heathrow Airport; limited slot availability; and increased use of belly hold cargo capacity on widebody aircraft.
- G9 During the covid-19 pandemic, cargo ATMs temporarily increased, reaching over 29,000 in 2021. This was driven by the collapse in passenger services and the urgent demand for air freight capacity, which led to the temporary conversion of

<sup>3</sup> [UK airport data | UK Civil Aviation Authority](#) - Table 06 Air Transport Movements.

commercial aircraft to carry cargo. Cargo ATMs returned to pre-pandemic levels in 2024.

## Model

G10 The choice of model specification that is most appropriate for a particular time series is informed by two features, which we discuss in turn below:

- stationarity: whether the series remains relatively flat over time (“stationary”); or whether it shows trend, seasonality, or one-off spikes or dips (“non-stationary”); and
- autocorrelation: whether values in a time series are correlated with past values.

## Stationarity

G11 A visual inspection of cargo ATMs at Heathrow airport over time, plotted in Figure G.1, suggests a slight downward trend from mid-1990s to 2024 with a spike during the covid-19 years (2020-2023). This indicates that the cargo ATMs time series is non-stationary.

G12 We have confirmed the findings from our visual inspection through the Augmented Dick-Fuller (“ADF”) statistical test for stationarity. Table G.1 shows the test results, which confirm that Heathrow airport’s cargo ATM series is non-stationary.<sup>4</sup>

**Table G.1: Augmented Dick-Fuller data stationarity test results**

| Time series data             | p-value* | AIC     | BIC     |
|------------------------------|----------|---------|---------|
| Cargo ATMs from 1994 to 2024 | 0.5491   | 13.3003 | 13.3971 |

Source: CAA analysis. Notes: \* a p-value greater than 0.05 means that the series is non-stationary at the 5% confidence level. AIC – Akaike Information Criterion. BIC – Bayesian Information Criterion. AIC and BIC are metrics used to automatically select the optimal model fit when performing the ADF test.

G13 We will account for the non-stationarity of the cargo ATM data by including a time trend and covid-19 dummy variables in the model (more details later in this section).

## Autocorrelation

G14 The type of time-series econometric model that best fits the cargo ATMs data depends on:

- whether cargo ATMs correlate over time:

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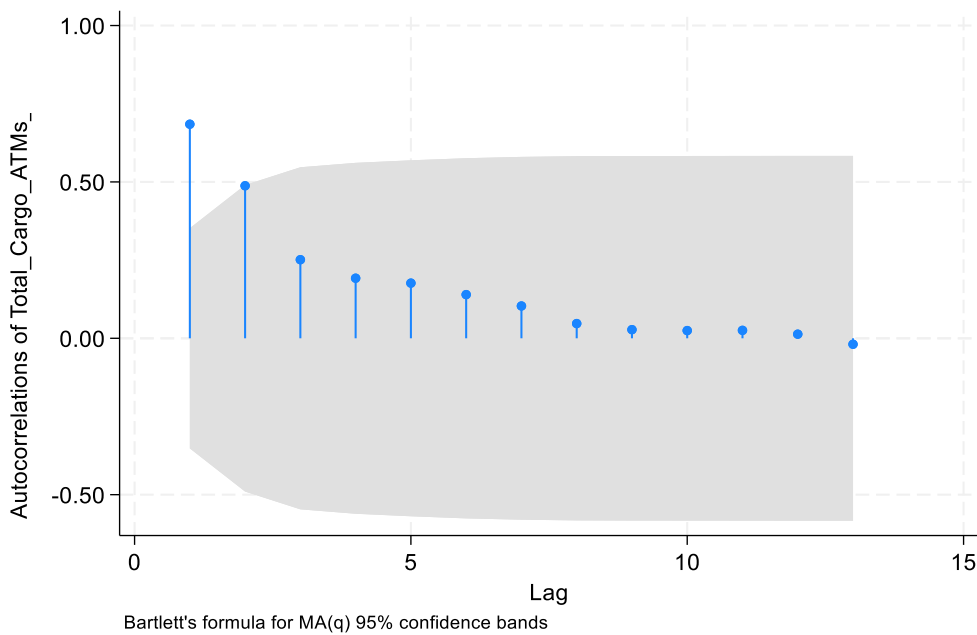
<sup>4</sup> The null hypothesis of the ADF test is that the time series is non-stationary. Failing to reject the null hypothesis (that is, p-value greater than 0.05) indicates that the time series is non-stationary at the 5% significance level.

with their own past values (autoregressive or “AR” models),  
 with past forecast errors (moving average or “MA” models), or  
 with both past values and past forecast errors (“ARMA” models); and

- the number of past values (or lag structure) that most strongly correlates with current cargo ATMs:
  - lags of the series itself (lag order “p”), and/or
  - lags of past forecast errors (lag order “q”).

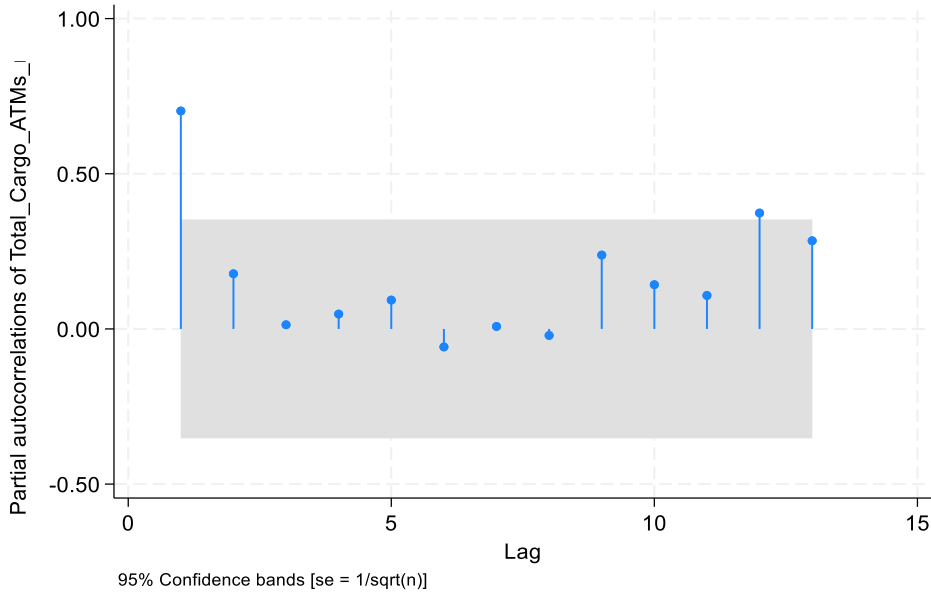
G15 We have conducted autocorrelation function (“ACF”) and partial autocorrelation function (“PACF”) tests to inform our choice of both the type of time-series econometric model and corresponding lag order at which the model should be estimated.

**Figure G.2: ACF of cargo ATMs at Heathrow airport (1994 to 2024)**



Source: CAA analysis. Notes: Te ACF test excludes data for the covid-19 years from 2020 to 2023. Autocorrelations within the grey bands are statistically insignificant at the 5% significance level.

**Figure G.3: PACF plot of cargo ATMs at Heathrow airport (1994 to 2024)**



Source: CAA analysis. Notes: The PACF test excludes data for the covid-19 years from 2020 to 2023. Autocorrelations within the grey bands are statistically insignificant at the 5% significance level.

G16 The ACF test (Figure G.2) shows two statistically significant autocorrelations, at lag 1 and 2, with subsequent autocorrelations insignificant and showing an exponential decay. The PACF test (Figure G.3) shows one statistically significant partial autocorrelation at lag 1, followed by a sharp drop in the value of the subsequent partial autocorrelations. These patterns are characteristic of a first-order autoregressive time-series model (“AR (1)”), indicating that each year’s cargo ATMs are highly correlated with their value in the previous year.

**Estimation**

G17 We have forecasted cargo ATMs at Heathrow airport using an AR (1) time-series econometric model, with time trend and covid-19 year dummies from 2020 to 2023. Our model is expressed as follows:

**Equation 1: Model specification for forecasting cargo ATMs at Heathrow airport**

$$y_t = \alpha + \beta_t + \phi y_{t-1} + \delta_{2020} D_{2020,t} + \delta_{2021} D_{2021,t} + \delta_{2022} D_{2022,t} + \delta_{2023} D_{2023,t} + \varepsilon_t$$

Where:

- $y_t$  represents the value of cargo ATMs at time  $t$ ;
- $\alpha$  is the intercept;
- $\beta_t$  is the time trend component;
- $\phi$  is the AR (1) coefficient;
- $\delta_{2020} D_{2020,t}$  is the covid-19 impact of 2020 when  $D_{2020,t} = 1$  or else 0;
- $\delta_{2021} D_{2021,t}$  is the covid-19 impact of 2021 when  $D_{2021,t} = 1$  or else 0;

- $\delta_{2022}D_{2022,t}$  is the covid-19 impact of 2022 when  $D_{2022,t} = 1$  or else 0;
- $\delta_{2023}D_{2023,t}$  is the covid-19 impact of 2023 when  $D_{2023,t} = 1$  or else 0; and
- $t \in [1994,2024]$

G18 Table G.2 shows that our AR (1) model with time trend and covid year dummies explains 99.9% of the total variation in historical cargo ATMs at Heathrow airport, indicating a very strong fit.<sup>5</sup> The AR (1) coefficient is highly significant, indicating that cargo ATMs are significantly determined by previous year’s movements. The time trend is statistically significant with a negative coefficient, indicating a downward trend in cargo ATMs over time. All covid-19 dummies are statistically significant, capturing the elevated levels of cargo activity observed during the pandemic period.

**Table G.2: Econometric model estimation for cargo ATMs at Heathrow airport**

| Model                  | Constant    | AR (1) coefficient | Time trend | Year dummies# | N  | Pseudo R <sup>2</sup> |
|------------------------|-------------|--------------------|------------|---------------|----|-----------------------|
| AR (1) with time trend | 3370.603*** | 0.8784***          | -27.18**   | Sig.          | 31 | 0.9992                |

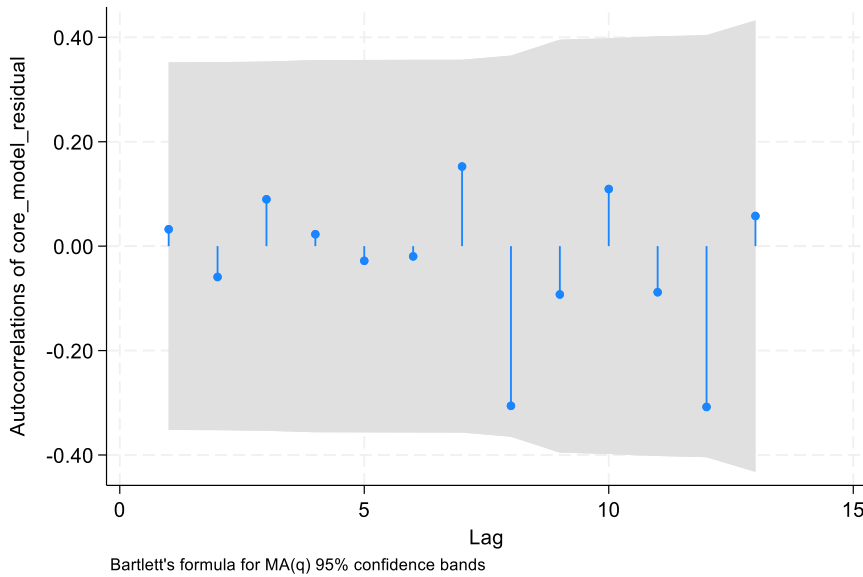
Source: CAA analysis. Notes: N=number of observations. \*, \*\*, \*\*\* denote statistical significance at 10%, 5% and 1% respectively. # Coefficients of covid-19 year dummies are: 2020 dummy: 21038.66\*\*\*, 2021 dummy: 26673.79\*\*\*, 2022 dummy: 7075.023\*\*\*, 2023 dummy: 1263.665\*\*\*.

G19 The residuals of our model indicate that it fully captures the systematic patterns in the data and further confirms its robustness and appropriateness for forecasting. As Figure G.4 shows, the temporal correlations of the model residuals are all statistically insignificant and the pattern is consistent with white noise.<sup>6</sup>

<sup>5</sup> We have assessed the model fit using the pseudo R<sup>2</sup> statistic, which is calculated as the proportion of total variation in the dependent variable (cargo ATMs) that is explained by the model, analogous to the R<sup>2</sup> measure in classical regression. We have calculated it as follows: pseudo R<sup>2</sup> = 1- (sum of squared residuals / sum of squared differences between each observed cargo ATM and the overall mean).

<sup>6</sup> We have also conducted a more formal white noise test, the Portmanteau test, to assess whether the model residuals were uncorrelated over time. We specified the test using one lag to ensure consistency with our AR (1) specification. The test produced a p-value of 0.8502, which is well above the conventional 5% significance threshold. This indicates that there is no statistically significant autocorrelation in the residuals at lag 1, at the 5% significance level.

**Figure G.4: ACF plot of residuals (1994 to 2024)**



Source: CAA analysis. Note: Autocorrelations within the grey bands are statistically insignificant at the 5% significance level.

## Cargo movement forecasts

G20 Table G.3 shows our forecast cargo ATMs at Heathrow airport for the H8 period. We have used this forecast to estimate our proposed cargo revenue, as we explain in Chapter 5 (Commercial revenues). Our model uses data up to 2024, the latest year for which data is available at the time of writing. We, therefore, forecast cargo ATMs from 2025 onwards, noting that only forecasts for the H8 period are relevant for our initial proposals.

**Table G.3: Forecast of cargo ATMs at Heathrow airport for H8**

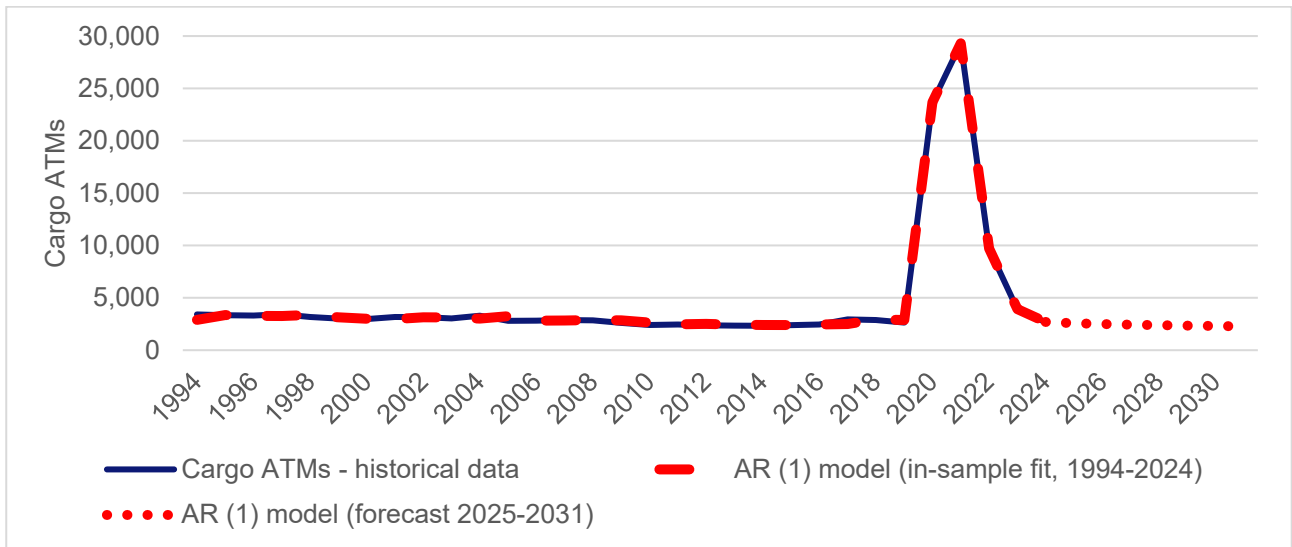
|                   | H7 period |       | H8 Period |       |       |       |       |
|-------------------|-----------|-------|-----------|-------|-------|-------|-------|
|                   | 2025      | 2026  | 2027      | 2028  | 2029  | 2030  | 2031  |
| <b>Cargo ATMs</b> | 2,573     | 2,500 | 2,440     | 2,390 | 2,347 | 2,309 | 2,274 |

Source: CAA analysis

G21 Figure G.5 shows the historical cargo ATMs at Heathrow airport plotted against the model’s in-sample fit and its forecasts. The model closely tracks cargo ATMs from 1994 to 2024, capturing both the pre-covid downward trend and the temporary pandemic surge. The 2025-2031 forecast reflects the return to the pre-covid pattern, with cargo ATMs declining gradually from 2,667 in 2024 to 2,274 by 2031.

G22 Our proposed cargo ATMs for the H8 period combined with the passenger ATMs implicit in our proposed passenger forecasts remain within the 480,000 annual movement cap at Heathrow airport.

**Figure G.5: Historical and forecast cargo ATMs at Heathrow airport, 1994 to 2031**



Source: CAA analysis

## Next steps and implementation

- G23 We welcome the views of stakeholders on any issue raised in this appendix and will consider these carefully as part of our work to develop our final proposals.
- G24 More broadly, in developing our final proposals, we will continue to refine our projections of cargo ATMs, which is an important input in our estimated cargo revenue, as we set out in Chapter 5 (Commercial revenues). This work will be informed by stakeholders’ responses to this consultation and our updated analysis.

## APPENDIX H

## Indicative set of projects in the capex envelope

H1 In this appendix we present the results of our H8 capex assessment, by business case and by project.

H2 Table H.1 shows the summary of our need assessment scoring by business case and the percentage of each business case's capex that our capex envelope of £5.9bn (2024 CPI) accommodates.

**Table H.1: Summary of our capex assessment by business case**

| Business case  | Weighted score | Weighted score (as a % of maximum score of 54) | HAL H8 capex (£ million, 2024 CPI) | % of capex in the envelope |
|--|----------------|--|------------------------------------|----------------------------|
| <b>Projects Post-G3</b>                              |                |  |                                    |                            |
| BC01.00 Security Programme                           | -              | -  | 28                                 | 100%                       |
| BC02.00 T2 Baggage Programme                         | -              | -  | 5                                  | 100%                       |
| BC03.01 Asset Management & Compliance Programme      | -              | -  | 94                                 | 100%                       |
| BC08.00 Carbon and Sustainability Programme          | -              | -  | -5                                 | 100%                       |
| BC12.00 Commercial Programme                         | -              | -  | 5                                  | 100%                       |
| BC16.00 Efficient Airport programme                  | -              | -  | 2                                  | 100%                       |
| <b>Projects Pre-G3</b>                               |                |  |                                    |                            |
| BC02.00 T2 Baggage Programme                         | 38             | 71%  | 488                                | 100%                       |
| BC03.02 Terminal 4 Front Door and Car Park           | 37             | 69%  | 316                                | 100%                       |
| BC03.03 T3 Hold Baggage Screening replacement (T3IB) | 33             | 61%  | 92                                 | 100%                       |
| BC01.00 Security Programme                           | 32             | 59%  | 320                                | 91%                        |
| BC03.04 T5 Pilz Obsolescence                         | 31             | 57%  | 113                                | 100%                       |
| BC05.00 Electrical network                           | 22             | 41%  | 568                                | 91%                        |
| BC11.00 Occupancy infrastructure                     | 20             | 37%  | 394                                | 100%                       |
| BC08.00 Carbon and Sustainability Programme          | 18             | 34%  | 373                                | 74%                        |
| BC16.00 Efficient Airport programme                  | 16             | 29%  | 210                                | 100%                       |
| BC15.00 T5 Early Bag Store front door                | 14             | 26%  | 50                                 | 100%                       |
| BC03.01 Asset Management & Compliance Programme      | 14             | 26%  | 1,942                              | 76%                        |
| BC04.00 H8 new asset renewal scope                   | 12             | 23%  | 1,185                              | 63%                        |
| BC12.00 Commercial Programme                         | 12             | 22%  | 224                                | 57%                        |
| BC13.00 H8 new - commercial scope                    | 11             | 21%  | 567                                | 26%                        |
| BC14.00 Digital                                      | 11             | 20%  | 455                                | 35%                        |
| BC06.00 Heat decarbonisation                         | 9              | 16%  | 319                                | 15%                        |

| Business case  | Weighted score | Weighted score (as a % of maximum score of 54) | HAL H8 capex (£ million, 2024 CPI) | % of capex in the envelope |
|--|----------------|--|------------------------------------|----------------------------|
| BC09.00 People and Planet                                | 8              | 14%  | 207                                | 30%                        |
| BC17.00 H8 new - Passenger Experience                    | 8              | 14%  | 310                                | 21%                        |
| BC10.00 Modernising Heathrow Programme                   | 3              | 6%   | 1,783                              | 13%                        |
| BC07.00 Noise mitigation                                 | 0              | 0%   | 241                                | 0%                         |
| <b>HAL H8 capex plan prior phasing and efficiency</b>    |                |  | <b>10,287</b>                      | <b>58%</b>                 |
| People and Planet prioritisation adjustment*             | -              | -  | -112                               |                            |
| Phasing adjustment                                       | -              | -  | -176                               |                            |
| <b>HAL H8 capex plan prior efficiency</b>                |                |  | <b>9,999</b>                       |                            |
| Efficiency   | -              | -  | -497                               |                            |
| <b>HAL H8 capex plan post adjustments and efficiency</b> |                |  | <b>9,502</b>                       |                            |

Source: Steer.

H3 Table H.2 lists the 488 projects ranked by the strength of their need case, as measured by the need case scores reflective of the information available for these initial proposals, as follows:

- Dark green projects: the indicative set of projects that the capex envelope of £5.9 billion (2024 CPI) we propose for H8 accommodates.
- Red projects: the indicative set of projects not accommodated by our H8 capex envelope.

**Table H.2: H8 projects ranked by the strength of their need case (£m, 2024 CPI prices)**

| Rank  | ID   | Project name   | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|---|------|--|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| Dark Green: indicative set of projects that our capex envelope accommodates |      |  |            |                |                   |                                |                                      |
| 1   | G015 | PRJ-001800 - B73-015.00 - Tr3 - T1 Backbone Phase 2          | T2 Baggage | Post-G3        | Post-G3           | 5                              | 5                                    |
| 2   | G08  | PRJ-001717 - B73-008.00 - Tr3 - T1 Backbone Phase 1          | T2 Baggage | Post-G3        | Post-G3           | 0                              | 5                                    |
| 3   | G06  | PRJ-001713 - B73-006.00 - Tr3 - IT ICS Asset Refresh Phase 1 | T2 Baggage | Post-G3        | Post-G3           | 0                              | 5                                    |
| 4   | C025 | PRJ-001868 - B7680.24 Major Equipment Procurement            | Security   | Post-G3        | Post-G3           | 7                              | 12                                   |
| 5   | C014 | PRJ-001716 - B7680.11 – T5 CSA                               | Security   | Post-G3        | Post-G3           | 12                             | 24                                   |
| 6   | C012 | PRJ-001701 - B7680.08 - T2 CSA, CS & T2B                     | Security   | Post-G3        | Post-G3           | 7                              | 31                                   |

| Rank | ID   | Project name  | Programme    | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|---|--------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 7    | H022 | PRJ-001895 - B76-006.02 - Passenger Flow Monitoring (PFM) Deployment Wave 2 | Efficient A. | Post-G3        | Post-G3           | 2                              | 33                                   |
| 8    | K037 | PRJ-001683 - B75-037.00 - ULEZ Park & Ride Car Park                         | Commercial   | Post-G3        | Post-G3           | 0                              | 33                                   |
| 9    | K013 | PRJ-001856 - B75-058.00 CI Existing Products 2024-2026                      | Commercial   | Post-G3        | Post-G3           | 4                              | 37                                   |
| 10   | K02  | PRJ-001043 - B6611.05 – GRD Replacement – MRI Horizon                       | Commercial   | Post-G3        | Post-G3           | 0                              | 37                                   |
| 11   | T08  | PRJ-001654 - B74-005.01 ATM Efficiencies – Pairwise Departures (PWS)        | C&S          | Post-G3        | Post-G3           | 0                              | 37                                   |
| 12   | A156 | PRJ-001755 - B71-079.00 - Commercial Minor Works 2026 – Property            | AMC          | Post-G3        | Post-G3           | 1                              | 39                                   |
| 13   | A150 | PRJ-001749 - B71-071.03 - Central Minor Works                               | AMC          | Post-G3        | Post-G3           | 14                             | 52                                   |
| 14   | A149 | PRJ-001748 - B71-071.02 - Central Minor Works 2025                          | AMC          | Post-G3        | Post-G3           | 19                             | 72                                   |
| 15   | A137 | PRJ-001672 - B71-059.00 - Technology Capital Purchase H7                    | AMC          | Post-G3        | Post-G3           | 2                              | 74                                   |
| 16   | A135 | PRJ-001669 - B71-056.00 - Commercial Minor Works 2023 - Property            | AMC          | Post-G3        | Post-G3           | -0                             | 74                                   |
| 17   | A126 | PRJ-001644 - B71-041.00 - T4 HBS – Right Hand Side (RHS)                    | AMC          | Post-G3        | Post-G3           | 21                             | 96                                   |
| 18   | A111 | PRJ-001600 - B71-030.00 - T4 Emergency Lighting CBUs                        | AMC          | Post-G3        | Post-G3           | 1                              | 97                                   |
| 19   | A110 | PRJ-001596 - B71-029.00 - T4 Sewage Chamber Refurbishment                   | AMC          | Post-G3        | Post-G3           | 1                              | 98                                   |
| 20   | A096 | PRJ-001573 - B71-007.00 - T2 Landside PRS Host Area Expansion               | AMC          | Post-G3        | Post-G3           | 1                              | 99                                   |
| 21   | A073 | PRJ-001422 - B7209.03 - MSCP4 Urgent Structural Works                       | AMC          | Post-G3        | Post-G3           | 1                              | 99                                   |
| 22   | A068 | PRJ-001409 - B7231.01 - CP24A & Spout Lane                                  | AMC          | Post-G3        | Post-G3           | 1                              | 101                                  |
| 23   | A067 | PRJ-001408 - B7232 - Western Campus Baggage Obsolescence                    | AMC          | Post-G3        | Post-G3           | 2                              | 103                                  |
| 24   | A062 | PRJ-001331 - B7227.00 Terminals Critical Asset Management and Compliance    | AMC          | Post-G3        | Post-G3           | 2                              | 105                                  |
| 25   | A045 | PRJ-000743 - B6361.02 Western Campus Logistics and Compliance               | AMC          | Post-G3        | Post-G3           | 0                              | 105                                  |
| 26   | A026 | PRJ-000465 - B6206.13 Rail OTN & PLC Replacement                            | AMC          | Post-G3        | Post-G3           | 10                             | 115                                  |
| 27   | A014 | PRJ-000206 - Main Tunnel  | AMC          | Post-G3        | Post-G3           | 8                              | 124                                  |
| 28   | A012 | PRJ-000181 - B7216 AGL Reinforcement  | AMC          | Post-G3        | Post-G3           | 1                              | 125                                  |

| Rank | ID   | Project name  | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|---|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 29   | T01  | PRG-000074 - B74-000.00 - H7 Carbon Programme: Programme Initiation and Scoping | C&S        | NA             | NA                | -5                             | 120                                  |
| 30   | C01  | PRG-000072 - B7680 - Security Transformation Programme                          | Security   | 49             | 91%               | 15                             | 135                                  |
| 31   | C016 | PRJ-001719 - B7680.13 - T4 CSA & CS   | Security   | 49             | 91%               | 34                             | 170                                  |
| 32   | J01  | Electricity network 11KV and 33KV upgrades                                      | AMC        | 45             | 83%               | 174                            | 343                                  |
| 33   | G01  | PRG-000073 - B7233 - T2 Baggage - Strategy and Scoping                          | T2 Baggage | 41             | 76%               | 32                             | 375                                  |
| 34   | G011 | PRJ-001789 - B73-011.00 - Tr4 - Demolitions North                               | T2 Baggage | 41             | 76%               | 6                              | 382                                  |
| 35   | G017 | PRJ-001816 - B73-017.00 Tr5 T2A Baggage System                                  | T2 Baggage | 41             | 76%               | 282                            | 663                                  |
| 36   | G021 | PRJ-001884 - B73-021.00 Shell & Core  | T2 Baggage | 41             | 76%               | 53                             | 716                                  |
| 37   | G022 | PRJ-001890 - B73-022.00 T2A Office and Welfare                                  | T2 Baggage | 41             | 76%               | 2                              | 719                                  |
| 38   | G023 | Decommission T1 baggage system  | T2 Baggage | 41             | 76%               | 0                              | 719                                  |
| 39   | G024 | Baggage P2 R&O's  | T2 Baggage | 41             | 76%               | 25                             | 744                                  |
| 40   | D03  | PRJ-001901 - B71-152 Terminal 4 Front Door and Car Park - Tranche 34            | AMC        | 37             | 69%               | 295                            | 1,039                                |
| 41   | C024 | PRJ-001864 - B7680.23 T5 BA crew L20 & Royal Suite                              | Security   | 36             | 67%               | 6                              | 1,046                                |
| 42   | C041 | In airport Cargo, OAA Upgrade to Southside CPSRA & Control Post 25 Phase 2      | Security   | 34             | 63%               | 61                             | 1,107                                |
| 43   | E01  | T3 Standard 3 HBS Replacement   | AMC        | 33             | 61%               | 86                             | 1,193                                |
| 44   | M06  | H8 Shell & Core x 45 (all terminals)  | Commercial | 33             | 61%               | 45                             | 1,238                                |
| 45   | C031 | PRJ-001920 - B7680.30 – High Complexity Control Posts                           | Security   | 32             | 59%               | 26                             | 1,264                                |
| 46   | C039 | PRJ-002005 - B7680.38 T5 BA Crew L20  | Security   | 32             | 59%               | 3                              | 1,267                                |
| 47   | F02  | PRJ-001903 - B7320.01 Project 1 – T5 Pilz Obsolescence Phase 1                  | AMC        | 31             | 57%               | 4                              | 1,271                                |
| 48   | F03  | PRJ-001903 - B7320.01 Project 2   | AMC        | 31             | 57%               | 6                              | 1,277                                |
| 49   | F04  | PRJ-001903 - B7320.01 Project 3   | AMC        | 31             | 57%               | 10                             | 1,287                                |
| 50   | F05  | PRJ-001903 - B7320.01 Project 4   | AMC        | 31             | 57%               | 32                             | 1,318                                |
| 51   | F06  | PRJ-001903 - B7320.01 Project 5   | AMC        | 31             | 57%               | 55                             | 1,373                                |
| 52   | C037 | PRJ-001956 - B7680.36 CPC   | Security   | 31             | 57%               | 79                             | 1,452                                |
| 53   | C015 | PRJ-001718 - B7680.12 T3 Non-Pax Search – Arrivals                              | Security   | 30             | 56%               | 3                              | 1,455                                |

| Rank | ID   | Project name   | Programme | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|--|-----------|----------------|-------------------|--------------------------------|--------------------------------------|
| 54   | C026 | PRJ-001869 - B7680.25 T3 Non-Pax Search – Departures                               | Security  | 30             | 56%               | 9                              | 1,464                                |
| 55   | C027 | PRJ-001897 - B7680.27 – Control Posts 12 & 18                                      | Security  | 30             | 56%               | 20                             | 1,484                                |
| 56   | A169 | PRJ-001770 - B7228.03 - Northern Runway  | AMC       | 27             | 50%               | 28                             | 1,512                                |
| 57   | A172 | PRJ-001793 - B71-097.00 - FIDS and Media Screens - Low Complexity                  | AMC       | 27             | 50%               | 1                              | 1,514                                |
| 58   | A192 | PRJ-001827 - B71-120 Airside Specialist Vehicles                                   | AMC       | 27             | 50%               | 41                             | 1,554                                |
| 59   | T03  | PRJ-001605 - B7239 - Airspace Modernisation – Airspace Change                      | C&S       | 27             | 50%               | 9                              | 1,564                                |
| 60   | T04  | PRJ-001606 - B7239 - Airspace Modernisation – Easterly Alternation Infrastructure  | C&S       | 27             | 50%               | 102                            | 1,666                                |
| 61   | T023 | PRJ-001809 - B74-005.02 – ATM Efficiencies – Reduction of Departure Spacing (RODS) | C&S       | 27             | 50%               | 2                              | 1,668                                |
| 62   | T024 | PRJ-001810 - B74-005.03 ATM Efficiencies – Departure Management (DMAN)             | C&S       | 27             | 50%               | 2                              | 1,670                                |
| 63   | T025 | PRJ-001941 - B74-022.00 Easterly Alternation Airspace Change Proposals (EA-ACP)    | C&S       | 27             | 50%               | 1                              | 1,671                                |
| 64   | T030 | Airspace Change noise mitigation + minor G2 increase                               | C&S       | 27             | 50%               | 22                             | 1,693                                |
| 65   | T034 | B74-023.00 Intelligent Integrated Queue Project (IIQP)                             | C&S       | 27             | 50%               | 1                              | 1,694                                |
| 66   | P03  | T5 Capacity Optimisation Phase 1   | MH        | 25             | 46%               | 214                            | 1,908                                |
| 67   | A125 | PRJ-001642 - B7231.02 - Waste Areas Incl Landside Sweeper Tip                      | AMC       | 23             | 43%               | 3                              | 1,911                                |
| 68   | A147 | PRJ-001736 - B71-030.01 - Rail UPS   | AMC       | 23             | 43%               | 13                             | 1,924                                |
| 69   | A190 | PRJ-001822 - B71-115 FIDS and Media Screens - High Complexity                      | AMC       | 23             | 43%               | 10                             | 1,933                                |
| 70   | C035 | PRJ-001933 - B7680.34 - Tranche 2: Advanced Screening Algorithms                   | Security  | 22             | 41%               | 11                             | 1,944                                |
| 71   | A066 | PRJ-001337 - B7226 T2 chilled water  | AMC       | 21             | 39%               | 17                             | 1,961                                |
| 72   | A193 | PRJ-001831 - B71-124 T4 Level Transfers  | AMC       | 21             | 39%               | 5                              | 1,966                                |
| 73   | A194 | PRJ-001837 - B71-130 Airside Water Treatment Project                               | AMC       | 21             | 39%               | 3                              | 1,969                                |
| 74   | A198 | PRJ-001854 - B71-003.01 Wave 1 - Airside Roads Renewal                             | AMC       | 21             | 39%               | 6                              | 1,975                                |
| 75   | A202 | PRJ-001872 - B71-098.01 Stands 303/305/334   | AMC       | 21             | 39%               | 8                              | 1,983                                |

| Rank | ID   | Project name   | Programme | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|--|-----------|----------------|-------------------|--------------------------------|--------------------------------------|
| 76   | A203 | PRJ-001873 - B71-098.02 T5 Stand Replacements                                  | AMC       | 21             | 39%               | 22                             | 2,005                                |
| 77   | A204 | PRJ-001874 - B71-098.03 Stands 307/336   | AMC       | 21             | 39%               | 2                              | 2,007                                |
| 78   | A205 | PRJ-001875 - B71-098.04 Stand Entry Guidance System Replacement                | AMC       | 21             | 39%               | 5                              | 2,012                                |
| 79   | A206 | PRJ-001876 - B71-098.05 T5 Stand Refurbishment                                 | AMC       | 21             | 39%               | 3                              | 2,016                                |
| 80   | A234 | Asset Management & Compliance P2 R&O's   | AMC       | 21             | 39%               | 48                             | 2,063                                |
| 81   | A236 | At height safety for Terminals and car parks - Suicide and accident prevention | AMC       | 21             | 39%               | 41                             | 2,104                                |
| 82   | A275 | Manchester Arena Inquiry   | AMC       | 21             | 39%               | 6                              | 2,110                                |
| 83   | N01  | Occupancy Infrastructure   | None      | 20             | 37%               | 368                            | 2,478                                |
| 84   | A033 | PRJ-000498 - B7205 M1/14 Firemain Controls                                     | AMC       | 19             | 35%               | 1                              | 2,479                                |
| 85   | A038 | PRJ-000512 - B7221.00 PFOS (Trace contaminants – Fluorosurfactants (PFOS))     | AMC       | 19             | 35%               | 37                             | 2,516                                |
| 86   | A114 | PRJ-001603 - B71-033.00 - Heart System Renewal                                 | AMC       | 19             | 35%               | 20                             | 2,537                                |
| 87   | A119 | PRJ-001618 - B71-036.00 - CPSRA Strengthening                                  | AMC       | 19             | 35%               | 1                              | 2,538                                |
| 88   | A142 | PRJ-001692 - B6214.09 - Southern Catchment                                     | AMC       | 19             | 35%               | 45                             | 2,583                                |
| 89   | A163 | PRJ-001764 - B71-086.00 Cyber for Assurance - 2023                             | AMC       | 19             | 35%               | 6                              | 2,589                                |
| 90   | A189 | PRJ-001821 - B71-114 UPS & Vesda Systems Replacement                           | AMC       | 19             | 35%               | 14                             | 2,603                                |
| 91   | A207 | PRJ-001877 - B71-143 HRMS Replacement  | AMC       | 19             | 35%               | 5                              | 2,608                                |
| 92   | A278 | Border Security Enhancement  | AMC       | 19             | 35%               | 0                              | 2,608                                |
| 93   | B03  | Per and Polyfluoroalkyl Substances Remediation                                 | AMC       | 19             | 35%               | 37                             | 2,645                                |
| 94   | B04  | Cyber Security Mitigation - Operational Technology and End Devices             | AMC       | 19             | 35%               | 9                              | 2,655                                |
| 95   | T06  | PRJ-001619 - B74-003.00 PCA Improvements on Served Stands - Phase 1            | C&S       | 18             | 33%               | 12                             | 2,667                                |
| 96   | T011 | PRJ-001703 - B74-008.00 Carbon - Data and insights                             | C&S       | 18             | 33%               | 2                              | 2,669                                |
| 97   | T026 | PRJ-001992 - B74-003.01 PCA Improvements on Served Stands - Phase 2            | C&S       | 18             | 33%               | 26                             | 2,695                                |
| 98   | T027 | PRJ-001993 - B74-003.02 PCA Improvements on Served Stands - Phase 3            | C&S       | 18             | 33%               | 80                             | 2,775                                |

| Rank | ID   | Project name   | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|--|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 99   | R01  | PRJ-001686 - B74-006 - Decarbonisation of Heat   | C&S        | 18             | 33%               | 44                             | 2,818                                |
| 100  | Q01  | Next-Gen Passenger Services - Passenger Automation   | Commercial | 18             | 33%               | 149                            | 2,968                                |
| 101  | G020 | PRJ-001883 - B73-020.00 Essential Asset Replacement  | T2 Baggage | 18             | 33%               | 55                             | 3,023                                |
| 102  | A085 | PRJ-001531 - B71-069.00 - Minimum Energy Efficiency Standards (MEES) - EPC Compliance Property | AMC        | 17             | 31%               | 1                              | 3,024                                |
| 103  | A092 | PRJ-001569 - B71-003.00 Wave 1 - Landside Roads and Perimeter Fence Renewal                    | AMC        | 17             | 31%               | 12                             | 3,036                                |
| 104  | A104 | PRJ-001589 - B71-022.00 - T5 BMS Upgrade   | AMC        | 17             | 31%               | 30                             | 3,067                                |
| 105  | A105 | PRJ-001590 - B71-023.00 - T4 BMS Upgrade   | AMC        | 17             | 31%               | 24                             | 3,091                                |
| 106  | A145 | PRJ-001698 - B71-035.01 - Wave 1 NATS Asset Replacement Phase 2                                | AMC        | 17             | 31%               | 1                              | 3,092                                |
| 107  | A146 | PRJ-001700 - B71-064 - Runway Approach Lighting Renewal  | AMC        | 17             | 31%               | 9                              | 3,100                                |
| 108  | A213 | PRJ-001893 - B71-150 Baggage Data Analytics  | AMC        | 17             | 31%               | 2                              | 3,103                                |
| 109  | A214 | PRJ-001916 - B71-151.01 T3 LV Switchboard Replacement (Phase 2)                                | AMC        | 17             | 31%               | 25                             | 3,128                                |
| 110  | A215 | PRJ-001917 - B71-151.02 T4 LV Switchboard Replacement (Phase 1)                                | AMC        | 17             | 31%               | 10                             | 3,138                                |
| 111  | A216 | PRJ-001918 - B71-151.03 Estates LV Switchboard Replacement (Phase 1)                           | AMC        | 17             | 31%               | 12                             | 3,150                                |
| 112  | A218 | PRJ-001923 - B71-154.02 Airfield Pavements Rolling Lifecycle – Concrete 2026                   | AMC        | 17             | 31%               | 19                             | 3,169                                |
| 113  | A219 | PRJ-001924 - B71-154.03 Airfield Pavements Rolling Lifecycle – Asphalt                         | AMC        | 17             | 31%               | 34                             | 3,203                                |
| 114  | A220 | PRJ-001925 - B71-154.04 Airfield Pavements Rolling Lifecycle – Life Extension                  | AMC        | 17             | 31%               | 6                              | 3,209                                |
| 115  | A245 | Rail Stations - Tunnel Vent Fan, Dampers, Fan Drives & Rotork Valves                           | AMC        | 17             | 31%               | 7                              | 3,216                                |
| 116  | A274 | Street Lighting Renewals   | AMC        | 17             | 31%               | 9                              | 3,225                                |
| 117  | B012 | Pedestrian crossings (airside phase 2)   | AMC        | 17             | 31%               | 7                              | 3,232                                |
| 118  | B015 | Terminal Buildings EPC (Energy Efficiency Compliance)  | AMC        | 17             | 31%               | 15                             | 3,247                                |

| Rank | ID   | Project name   | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|--|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 119  | B020 | HAL owned HV Network Renewals  | AMC        | 17             | 31%               | 1                              | 3,248                                |
| 120  | B021 | Rolling renewal of HV cabling  | AMC        | 17             | 31%               | 1                              | 3,249                                |
| 121  | B022 | CTA Sanitation Block   | AMC        | 17             | 31%               | 4                              | 3,253                                |
| 122  | B028 | T4 Chilled Water Pipework Renewals                                     | AMC        | 17             | 31%               | 1                              | 3,254                                |
| 123  | B031 | Pump Renewals - T5 Fire Main Pump Renewals (Energy Centre)             | AMC        | 17             | 31%               | 1                              | 3,255                                |
| 124  | B052 | Calorifier Renewals  | AMC        | 17             | 31%               | 1                              | 3,256                                |
| 125  | B058 | Replace 1km of network per year - Surface Water and Pollution          | AMC        | 17             | 31%               | 3                              | 3,259                                |
| 126  | B06  | T4/5 HBS (Hold Baggage Screening) Bearing Replacement Phase 2          | AMC        | 17             | 31%               | 3                              | 3,262                                |
| 127  | B085 | T4 Smoke Control - Replacement of Smoke Detection Equipment and Panels | AMC        | 17             | 31%               | 0                              | 3,262                                |
| 128  | B09  | HV Resilience Renewals (2025 Power Incident Review)                    | AMC        | 17             | 31%               | 9                              | 3,271                                |
| 129  | B092 | T5 Check-In Renewals   | AMC        | 17             | 31%               | 1                              | 3,271                                |
| 130  | B096 | T4/T5 HBS (Hold Baggage Screening) Replacement                         | AMC        | 17             | 31%               | 5                              | 3,277                                |
| 131  | B104 | T4 Safe Walking Route  | AMC        | 17             | 31%               | 0                              | 3,277                                |
| 132  | K01  | PRJ-001563 - B75-019.00 - Cargo Southside Transformation               | Commercial | 17             | 31%               | 55                             | 3,332                                |
| 133  | L08  | Additional changing places (accessible washrooms) provision            | Commercial | 17             | 31%               | 5                              | 3,337                                |
| 134  | L09  | Additional accessible toilets  | Commercial | 17             | 31%               | 9                              | 3,346                                |
| 135  | L10  | Terminal 3 arrivals Baggage reclaim buggy route                        | Commercial | 17             | 31%               | 23                             | 3,370                                |
| 136  | L13  | Terminal 4 accessible route for remote operations                      | Commercial | 17             | 31%               | 5                              | 3,374                                |
| 137  | L17  | Additional lift access for EMA handling                                | Commercial | 17             | 31%               | 19                             | 3,393                                |
| 138  | A249 | MSCP4 - Repair   | AMC        | 16             | 30%               | 27                             | 3,420                                |
| 139  | A250 | MSCP5 Expansion Joints   | AMC        | 16             | 30%               | 10                             | 3,430                                |
| 140  | B118 | Airport Noise and Operations Monitoring (ANOMS)                        | AMC        | 16             | 30%               | 8                              | 3,438                                |
| 141  | B125 | Airport Operating to Plan (AOP)  | AMC        | 16             | 30%               | 2                              | 3,440                                |
| 142  | B126 | TMS Stand Planning system  | AMC        | 16             | 30%               | 2                              | 3,442                                |
| 143  | B131 | Crisplant Sort Controller (CSC) baggage platform and products          | AMC        | 16             | 30%               | 9                              | 3,450                                |

| Rank | ID   | Project name  | Programme    | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|---|--------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 144  | B132 | Baggage desktop and laptop client operating systems and hardware                        | AMC          | 16             | 30%               | 4                              | 3,454                                |
| 145  | B133 | Bag messaging for compliance with IATA 1755   | AMC          | 16             | 30%               | 4                              | 3,458                                |
| 146  | B136 | Tech. component of refurb - Airport Ops Ctrl Centre, STAR & Compass Centers             | AMC          | 16             | 30%               | 5                              | 3,463                                |
| 147  | B144 | Lighting Control System (LCS)   | AMC          | 16             | 30%               | 1                              | 3,463                                |
| 148  | B146 | Archway Metal Detector (AMD Net)  | AMC          | 16             | 30%               | 2                              | 3,465                                |
| 149  | B155 | Microsoft platform and connectors   | AMC          | 16             | 30%               | 0                              | 3,465                                |
| 150  | B158 | Essential maintenance for Heathrow's ageing data centres                                | AMC          | 16             | 30%               | 19                             | 3,485                                |
| 151  | B164 | Counter Unmanned Aerial systems (C-UAS) and Perimeter Intrusion Detection system (PIDS) | AMC          | 16             | 30%               | 14                             | 3,499                                |
| 152  | B172 | Governance, risk and compliance solutions   | AMC          | 16             | 30%               | 2                              | 3,501                                |
| 153  | B185 | Policy  | AMC          | 16             | 30%               | 1                              | 3,502                                |
| 154  | M16  | Land optimisation - decking (LS 2 and LS4) - replace Pex/N4                             | Commercial   | 16             | 30%               | 75                             | 3,577                                |
| 155  | M18  | Perimeter parking opportunities   | Commercial   | 16             | 30%               | 19                             | 3,595                                |
| 156  | H01  | PRG-000076 - B76-004.00 - Efficient Airport Programme: Programme Initiation and Scoping | Efficient A. | 16             | 30%               | 3                              | 3,598                                |
| 157  | H06  | PRJ-001614 - B76-003 - Border Force Holding Rooms - T2, T4 and T5                       | Efficient A. | 16             | 30%               | 1                              | 3,600                                |
| 158  | H010 | PRJ-001726 - B76-008 - PAX ID (Biometrics)  | Efficient A. | 16             | 30%               | 8                              | 3,607                                |
| 159  | H021 | PRJ-001894 - B76-006.00 - Passenger Flow Monitoring (PFM) - Futures                     | Efficient A. | 16             | 30%               | 18                             | 3,625                                |
| 160  | H025 | PRJ-001936 - B76-019.00 Seating Improvements  | Efficient A. | 16             | 30%               | 11                             | 3,636                                |
| 161  | H026 | PRJ-001937 - B76-020.00 Digital Screen Optimisation                                     | Efficient A. | 16             | 30%               | 1                              | 3,637                                |
| 162  | H028 | PRJ-001945 - B76-003.01 - Border Force Holding Rooms - T3                               | Efficient A. | 16             | 30%               | 0                              | 3,637                                |
| 163  | H040 | PRJ-001985 - B76-033.00 Additional Coaching Gate T5                                     | Efficient A. | 16             | 30%               | 6                              | 3,643                                |
| 164  | H043 | EA P2 R&O's   | Efficient A. | 16             | 30%               | 54                             | 3,697                                |
| 165  | A083 | PRJ-001525 - B6672.04 - Blast Protection - Terminals                                    | AMC          | 15             | 28%               | 21                             | 3,718                                |
| 166  | A191 | PRJ-001825 - B71-118 Airside Pedestrian Crossings                                       | AMC          | 15             | 28%               | 11                             | 3,729                                |

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|------|------|--|-----------|----------------|-------------------|--------------------------------|--------------------------------------|
| 167  | A195 | PRJ-001838 - B71-131 External Potable Water Project  | AMC       | 15             | 28%               | 40                             | 3,769                                |
| 168  | A243 | T5D Attenuators Overhaul   | AMC       | 15             | 28%               | 6                              | 3,775                                |
| 169  | A246 | TTS Train Control - (Regional Automatic Train Operation & Regional Automatic Train Protection) | AMC       | 15             | 28%               | 10                             | 3,785                                |
| 170  | A266 | Traffic Signals (Urban Traffic Control) - Systems  | AMC       | 15             | 28%               | 13                             | 3,799                                |
| 171  | B016 | Rolling programme for pavements and stands   | AMC       | 15             | 28%               | 51                             | 3,850                                |
| 172  | B02  | Continued Passive Fire Protection Renewals   | AMC       | 15             | 28%               | 1                              | 3,851                                |
| 173  | B034 | Installation and renewal of UPS for Critical Assets  | AMC       | 15             | 28%               | 3                              | 3,854                                |
| 174  | B036 | T5 Fuel Farm Fire Water Deluge Pumping Station Renewals (Pumps and Valves)                     | AMC       | 15             | 28%               | 2                              | 3,856                                |
| 175  | B038 | Control Tower Refurbishment  | AMC       | 15             | 28%               | 24                             | 3,880                                |
| 176  | B044 | Potable Water Network Renewals (1km of network per year)                                       | AMC       | 15             | 28%               | 3                              | 3,883                                |
| 177  | B05  | Airfield Stand Flood Towers  | AMC       | 15             | 28%               | 19                             | 3,901                                |
| 178  | B055 | AGL DC Cable Replacement   | AMC       | 15             | 28%               | 1                              | 3,902                                |
| 179  | B061 | T2 - Internal Potable Renewal  | AMC       | 15             | 28%               | 0                              | 3,902                                |
| 180  | B062 | T4 - Internal Potable Renewal  | AMC       | 15             | 28%               | 0                              | 3,902                                |
| 181  | B064 | T3 - Internal Potable Renewal  | AMC       | 15             | 28%               | 0                              | 3,902                                |
| 182  | B065 | T5 - Internal Potable Renewal  | AMC       | 15             | 28%               | 0                              | 3,902                                |
| 183  | B067 | UPS Renewals – roads, baggage tunnels  | AMC       | 15             | 28%               | 0                              | 3,903                                |
| 184  | B068 | T5 UPS Renewals  | AMC       | 15             | 28%               | 0                              | 3,903                                |
| 185  | B069 | T2 UPS Renewals  | AMC       | 15             | 28%               | 0                              | 3,903                                |
| 186  | B073 | APPROACH 27L Renew of LEDs   | AMC       | 15             | 28%               | 1                              | 3,904                                |
| 187  | B076 | Computer Room Air Conditioning Unit Renewals (CRAC)  | AMC       | 15             | 28%               | 1                              | 3,904                                |
| 188  | B078 | T5 Chilled Water Pipework Renewals   | AMC       | 15             | 28%               | 1                              | 3,905                                |
| 189  | B080 | Low Voltage Network Distribution Board Renewals  | AMC       | 15             | 28%               | 1                              | 3,906                                |
| 190  | B081 | Baggage PLC Replacement - Eastern Campus S7-400  | AMC       | 15             | 28%               | 2                              | 3,908                                |
| 191  | B082 | T3 Baggage - Controls replacement  | AMC       | 15             | 28%               | 3                              | 3,911                                |

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|------|------|--|--------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 192  | B084 | TTS - UPS Equipment Rooms                                      | AMC          | 15             | 28%               | 0                              | 3,911                                |
| 193  | B087 | Fire Detection Equipment and Panel Renewals                    | AMC          | 15             | 28%               | 0                              | 3,911                                |
| 194  | B095 | Cooling Towers Renewals  | AMC          | 15             | 28%               | 3                              | 3,915                                |
| 195  | B098 | Stand Infrastructure Renewals                                  | AMC          | 15             | 28%               | 17                             | 3,932                                |
| 196  | B100 | Heavy Rail Tunnel - Re-Railing Rolling Lifecycle               | AMC          | 15             | 28%               | 0                              | 3,932                                |
| 197  | B103 | Copper 50 Pair Network Cable Migration                         | AMC          | 15             | 28%               | 0                              | 3,932                                |
| 198  | B106 | Cargo Tunnel Renewals  | AMC          | 15             | 28%               | 1                              | 3,934                                |
| 199  | B110 | Potable water tanks and plant rooms renewals                   | AMC          | 15             | 28%               | 2                              | 3,936                                |
| 200  | B112 | Main Tunnel Renewals   | AMC          | 15             | 28%               | 3                              | 3,939                                |
| 201  | B115 | Property: T3 Interior  | AMC          | 15             | 28%               | 9                              | 3,948                                |
| 202  | H04  | PRJ-001608 - B76-001.00 - Airfield Optimisation                | Efficient A. | 15             | 28%               | 2                              | 3,950                                |
| 203  | H013 | PRJ-001733 - B76-015 - TMS Stand Planning integration          | Efficient A. | 15             | 28%               | 1                              | 3,952                                |
| 204  | H016 | PRJ-001865 - B76-017.00 - Manual Handling Aids                 | Efficient A. | 15             | 28%               | 3                              | 3,955                                |
| 205  | H017 | PRJ-001885 - B76-016.02: T2 LED Replacement                    | Efficient A. | 15             | 28%               | 3                              | 3,958                                |
| 206  | H027 | PRJ-001943 - B76-021.00 VCF Enhancements                       | Efficient A. | 15             | 28%               | 20                             | 3,978                                |
| 207  | H029 | PRJ-001950 - B76-022.00 EDM T4 LED Replacement                 | Efficient A. | 15             | 28%               | 0                              | 3,978                                |
| 208  | H031 | PRJ-001952 - B76-024.00 EDM T5 LED Replacement Wave 2          | Efficient A. | 15             | 28%               | 0                              | 3,978                                |
| 209  | H032 | PRJ-001953 - B76-025.00 - EDM Estates and Rail LED Replacement | Efficient A. | 15             | 28%               | 0                              | 3,979                                |
| 210  | H033 | PRJ-001954 - B76-026.00 EDM IE5 Motor Upgrade (Phase 1)        | Efficient A. | 15             | 28%               | 4                              | 3,983                                |
| 211  | H034 | PRJ-001955 - B76-027.00 EDM Phase 2 Futures                    | Efficient A. | 15             | 28%               | 11                             | 3,994                                |
| 212  | H041 | APOC Systems, Tools and Processes inc Punctuality              | Efficient A. | 15             | 28%               | 9                              | 4,002                                |
| 213  | H042 | Baggage Improvement Scope                                      | Efficient A. | 15             | 28%               | 40                             | 4,043                                |
| 214  | A244 | Heavy Rail Tunnel - Re-Railing                                 | AMC          | 14             | 26%               | 4                              | 4,047                                |
| 215  | B137 | HEART infrastructure monitoring system                         | AMC          | 14             | 26%               | 3                              | 4,050                                |
| 216  | B142 | Stand Entry Guidance system (SEGS)                             | AMC          | 14             | 26%               | 8                              | 4,058                                |
| 217  | B145 | Urban Traffic Control (UTC)                                    | AMC          | 14             | 26%               | 2                              | 4,060                                |
| 218  | B154 | Health and Safety Incident Management system                   | AMC          | 14             | 26%               | 8                              | 4,068                                |
| 219  | B157 | Security technology replacements and upgrades                  | AMC          | 14             | 26%               | 16                             | 4,083                                |
| 220  | B159 | Secure data and file transfer solution upgrade                 | AMC          | 14             | 26%               | 23                             | 4,107                                |

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|------|------|--|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 221  | B174 | Zero trust identity and access management  | AMC        | 14             | 26%               | 9                              | 4,116                                |
| 222  | B175 | Embed security awareness and training into culture of org                                | AMC        | 14             | 26%               | 2                              | 4,117                                |
| 223  | B186 | Immutable Backups  | AMC        | 14             | 26%               | 3                              | 4,121                                |
| 224  | B187 | Cyber resilience and recoverability  | AMC        | 14             | 26%               | 9                              | 4,130                                |
| 225  | K021 | PRG-000075 - B75-035.00 - Commercial Revenue Programme: Programme Initiation and Scoping | Commercial | 14             | 26%               | 2                              | 4,132                                |
| 226  | K047 | PRJ-001899 - B75-042.01 - Land Opt - Long Stay 2/3                                       | Commercial | 14             | 26%               | 9                              | 4,141                                |
| 227  | K065 | Commercial P2 R&O's  | Commercial | 14             | 26%               | 51                             | 4,193                                |
| 228  | V01  | T5 Early Bag Store   | None       | 14             | 26%               | 47                             | 4,239                                |
| 229  | A056 | PRJ-001254 - B7651.00 Safety & Resilience  | AMC        | 13             | 24%               | 1                              | 4,240                                |
| 230  | A176 | PRJ-001802 - B71-100 H7 Main Tunnel Renewals   | AMC        | 13             | 24%               | 24                             | 4,264                                |
| 231  | A183 | PRJ-001812 - B71-106 - LEPC Rolling Lifecycle Phase 1                                    | AMC        | 13             | 24%               | 12                             | 4,277                                |
| 232  | A184 | PRJ-001813 - B71-107 - LEPC Rolling Lifecycle Phase 2                                    | AMC        | 13             | 24%               | 20                             | 4,297                                |
| 233  | A186 | PRJ-001817 - B71-110 Landside Safety Project   | AMC        | 13             | 24%               | 11                             | 4,307                                |
| 234  | A187 | PRJ-001818 - B71-111 Longford Link Bridge Project  | AMC        | 13             | 24%               | 0                              | 4,308                                |
| 235  | A188 | PRJ-001819 - B71-112 Colleague Car Parking Project                                       | AMC        | 13             | 24%               | 1                              | 4,309                                |
| 236  | A227 | PRJ-001960 - B71-163 LifeX Test System and Mobile Data Terminals                         | AMC        | 13             | 24%               | 0                              | 4,309                                |
| 237  | A238 | T4 PAVA System   | AMC        | 13             | 24%               | 2                              | 4,311                                |
| 238  | A251 | Airside Roads Renewal  | AMC        | 13             | 24%               | 18                             | 4,329                                |
| 239  | A276 | Landside Roads Renewal   | AMC        | 13             | 24%               | 9                              | 4,338                                |
| 240  | B010 | Airside/Landside Security Fencing - Rolling Renewals                                     | AMC        | 13             | 24%               | 10                             | 4,348                                |
| 241  | B011 | Substation Roofs   | AMC        | 13             | 24%               | 4                              | 4,352                                |
| 242  | B013 | RAAC Structural Elements   | AMC        | 13             | 24%               | 8                              | 4,360                                |
| 243  | B014 | West Ramp Coach Park- Renewal Work   | AMC        | 13             | 24%               | 9                              | 4,368                                |
| 244  | B017 | Western Campus Inter-Terminal Baggage Transport Asset Replacement (DCV)                  | AMC        | 13             | 24%               | 78                             | 4,446                                |
| 245  | B018 | RAAC External Cladding   | AMC        | 13             | 24%               | 14                             | 4,460                                |
| 246  | B019 | Engineering Spares and Emergencies   | AMC        | 13             | 24%               | 22                             | 4,482                                |
| 247  | B023 | Pioneer Data Centre power supply, UPS and support facilities                             | AMC        | 13             | 24%               | 1                              | 4,483                                |

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|------|------|--|-----------|----------------|-------------------|--------------------------------|--------------------------------------|
| 248  | B024 | NATS - DME FERNAU 2020 - South   | AMC       | 13             | 24%               | 1                              | 4,484                                |
| 249  | B025 | NATS - EFPS Hardware & Software refresh HATCT & VCF  | AMC       | 13             | 24%               | 1                              | 4,484                                |
| 250  | B026 | NATS - UPS HATCT   | AMC       | 13             | 24%               | 1                              | 4,485                                |
| 251  | B027 | NATS - SIM Upgrade   | AMC       | 13             | 24%               | 1                              | 4,485                                |
| 252  | B029 | NATS - SMR Terma 2000 N/S/E/W  | AMC       | 13             | 24%               | 1                              | 4,487                                |
| 253  | B030 | NATS - SENSIS MLAT   | AMC       | 13             | 24%               | 1                              | 4,488                                |
| 254  | B032 | Rolling Maid Reader Asset Renewal 610e & 620 (2000 units across 6 years)                                     | AMC       | 13             | 24%               | 1                              | 4,489                                |
| 255  | B033 | NATS - Instrument Landing System Indra Navia   | AMC       | 13             | 24%               | 2                              | 4,492                                |
| 256  | B035 | NATS - SDPS HATCT & VCF  | AMC       | 13             | 24%               | 4                              | 4,495                                |
| 257  | B037 | Southern Runway - Western Section Resurfacing  | AMC       | 13             | 24%               | 15                             | 4,510                                |
| 258  | B039 | T3 Overhead height barriers to protect external RAAC cladding  | AMC       | 13             | 24%               | 1                              | 4,511                                |
| 259  | B040 | T4 Cladding Replacement (airside)  | AMC       | 13             | 24%               | 5                              | 4,517                                |
| 260  | B041 | MSCP5 Expansion Joints phase 2   | AMC       | 13             | 24%               | 9                              | 4,526                                |
| 261  | B042 | TTS - Train Control - RATP (Regional Automatic Train Protection) & RATO (Regional Automatic Train Operation) | AMC       | 13             | 24%               | 21                             | 4,546                                |
| 262  | B047 | Main Tunnel North Plant Room Sump  | AMC       | 13             | 24%               | 0                              | 4,546                                |
| 263  | B048 | T4 Public Address Voice Alarm Replacement  | AMC       | 13             | 24%               | 0                              | 4,546                                |
| 264  | B056 | Fire Main Valve Replacement Strategy   | AMC       | 13             | 24%               | 1                              | 4,547                                |
| 265  | B057 | Traffic Signals  | AMC       | 13             | 24%               | 2                              | 4,550                                |
| 266  | B059 | Heavy Rail Tunnel - Mobile Communication System (GSM-R) Battery (UPS) Replacement                            | AMC       | 13             | 24%               | 0                              | 4,550                                |
| 267  | B060 | Internal Potable Renewal - Non Terminal Buildings  | AMC       | 13             | 24%               | 0                              | 4,550                                |
| 268  | B063 | TTS - Power Distribution System PLC and Controls   | AMC       | 13             | 24%               | 0                              | 4,550                                |
| 269  | B066 | Airside Generator change over panels renewals  | AMC       | 13             | 24%               | 0                              | 4,550                                |
| 270  | B07  | Fire Main Network and System Renewals  | AMC       | 13             | 24%               | 15                             | 4,565                                |
| 271  | B071 | Rail Stations - T5 Fire System Replacement   | AMC       | 13             | 24%               | 0                              | 4,565                                |
| 272  | B072 | Western Interface Building Baxorter M&E Renewal  | AMC       | 13             | 24%               | 0                              | 4,565                                |
| 273  | B074 | T3IB 4 x Pre and Final Sorter Renewal  | AMC       | 13             | 24%               | 1                              | 4,566                                |

| Rank | ID   | Project name  | Programme | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|---|-----------|----------------|-------------------|--------------------------------|--------------------------------------|
| 274  | B077 | T5 DCV (Destination Coded Vehicle) Unloader EOL and Track Replacement                                     | AMC       | 13             | 24%               | 1                              | 4,567                                |
| 275  | B08  | Pump Renewals – M1-14 Fire Main Pumping Station   | AMC       | 13             | 24%               | 6                              | 4,572                                |
| 276  | B086 | TTS - Power Distribution System Switch Gear   | AMC       | 13             | 24%               | 0                              | 4,573                                |
| 277  | B089 | Fire Damper Replacements  | AMC       | 13             | 24%               | 0                              | 4,573                                |
| 278  | B090 | Heavy Rail Tunnel - Replacement of Overhead Wires   | AMC       | 13             | 24%               | 0                              | 4,573                                |
| 279  | B091 | Heavy Rail Tunnel - Switches and Crossings  | AMC       | 13             | 24%               | 0                              | 4,574                                |
| 280  | B094 | Radio System (emergency)  | AMC       | 13             | 24%               | 1                              | 4,574                                |
| 281  | B099 | BA - Renewal Work   | AMC       | 13             | 24%               | 0                              | 4,574                                |
| 282  | B102 | CCR (Constant Current Regulators) replacement (12 to 6.6 AMPs)  | AMC       | 13             | 24%               | 0                              | 4,575                                |
| 283  | B109 | UKPNS NAMP Works (H8)   | AMC       | 13             | 24%               | 2                              | 4,576                                |
| 284  | B113 | MSCP (all) Fire Detection and Evacuation Systems  | AMC       | 13             | 24%               | 5                              | 4,581                                |
| 285  | B135 | Handheld baggage scanners and location codes used by VIBES and BRS scanners                               | AMC       | 13             | 24%               | 2                              | 4,583                                |
| 286  | B139 | Lift renewal  | AMC       | 13             | 24%               | 6                              | 4,589                                |
| 287  | B147 | Flight Information Display Systems (FIDS)   | AMC       | 13             | 24%               | 6                              | 4,595                                |
| 288  | A112 | PRJ-001601 - B71-031.00 - Wave 1 Tunnel Improvements in ART, SAR, NAR                                     | AMC       | 12             | 22%               | 96                             | 4,691                                |
| 289  | A160 | PRJ-001759 - B71-060.02 - HV NAMP 2024  | AMC       | 12             | 22%               | 1                              | 4,692                                |
| 290  | A162 | PRJ-001761 - B71-060.04 - HV NAMP 2026  | AMC       | 12             | 22%               | 4                              | 4,696                                |
| 291  | A231 | B71-138 - T3 Pier 7 Structural  | AMC       | 12             | 22%               | 98                             | 4,794                                |
| 292  | A232 | T3 Refurbishment of Pier 7 and Connector (EXTERNAL)   | AMC       | 12             | 22%               | 305                            | 5,099                                |
| 293  | A233 | T3 Refurbishment of Pier 7 and Connector (INTERNAL)   | AMC       | 12             | 22%               | 12                             | 5,111                                |
| 294  | A235 | Colleague car parking Access Control  | AMC       | 12             | 22%               | 2                              | 5,113                                |
| 295  | A239 | Passive Fire Protection Renewals  | AMC       | 12             | 22%               | 11                             | 5,124                                |
| 296  | A240 | Fire Station (East & Headquarters Buildings) Uninterruptible Power Supply Communications Room Remediation | AMC       | 12             | 22%               | 1                              | 5,124                                |
| 297  | A252 | Fire Door Renewals  | AMC       | 12             | 22%               | 1                              | 5,126                                |
| 298  | A277 | ATP Enhancements CAA Enforcement and Operational Efficiency   | AMC       | 12             | 22%               | 0                              | 5,126                                |

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|------|------|---|-----------|----------------|-------------------|--------------------------------|--------------------------------------|
| 299  | B163 | CCTV re-fresh   | AMC       | 12             | 22%               | 16                             | 5,141                                |
| 300  | B165 | Physical access control re-fresh  | AMC       | 12             | 22%               | 8                              | 5,149                                |
| 301  | B167 | End user computing, including laptops, desktops, phones and multi-functional devices  | AMC       | 12             | 22%               | 16                             | 5,165                                |
| 302  | B183 | Cyber threat intelligence platform enhancements   | AMC       | 12             | 22%               | 1                              | 5,165                                |
| 303  | B184 | Extended attack surface management  | AMC       | 12             | 22%               | 1                              | 5,166                                |
| 304  | J02  | Electricity network 132KV new network   | AMC       | 12             | 22%               | 310                            | 5,476                                |
| 305  | U02  | Climate Adaptation to Flood risk  | C&S       | 12             | 22%               | 59                             | 5,535                                |
| 306  | A080 | PRJ-001514 - B7237 MSCP3 Intumescent Paint, MSCP3 Civils Rehabilitation and Safety Improvements                                 | AMC       | 11             | 20%               | 20                             | 5,555                                |
| 307  | A091 | PRJ-001568 - B71-002.00 - Wave 1 Non-Terminal Buildings Rehab and Emergency Lighting Renewal                                    | AMC       | 11             | 20%               | 3                              | 5,558                                |
| 308  | A113 | PRJ-001602 - B71-032.00 - T4 PLC and Check-in Asset Replacement   | AMC       | 11             | 20%               | 27                             | 5,585                                |
| 309  | A124 | PRJ-001641 - B7231.03 - UKPNS HVAC System   | AMC       | 11             | 20%               | 2                              | 5,588                                |
| 310  | A262 | Chiller Renewals  | AMC       | 11             | 20%               | 9                              | 5,596                                |
| 311  | A263 | Water Treatment for Cooling Towers  | AMC       | 11             | 20%               | 2                              | 5,599                                |
| 312  | A272 | WeCa Inter Terminal Baggage Transport Asset Replacement DCV   | AMC       | 11             | 20%               | 43                             | 5,642                                |
| 313  | B01  | Continued Chiller Renewals  | AMC       | 11             | 20%               | 3                              | 5,645                                |
| 314  | B053 | Potable Water Pumping Stations Renewal Programme  | AMC       | 11             | 20%               | 1                              | 5,645                                |
| 315  | B101 | Terminal stand-alone toilet facilities  | AMC       | 11             | 20%               | 0                              | 5,646                                |
| 316  | B114 | Terminal Public Toilets and Welfare Rolling Renewals  | AMC       | 11             | 20%               | 12                             | 5,658                                |
| 317  | B117 | Aerodrome Live Fault Reporting (ALFRED)   | AMC       | 11             | 20%               | 8                              | 5,666                                |
| 318  | B130 | Sort Allocation Computer (SAC) and Supervisory Control And Data Acquisition (SCADA) baggage platform and products obsolescence. | AMC       | 11             | 20%               | 39                             | 5,705                                |
| 319  | B140 | DTS Servers   | AMC       | 11             | 20%               | 2                              | 5,707                                |
| 320  | B143 | Common Data Environment (M-Files)   | AMC       | 11             | 20%               | 2                              | 5,709                                |
| 321  | B148 | Operational Performance Measurement (OPM)   | AMC       | 11             | 20%               | 6                              | 5,715                                |
| 322  | B149 | SSBD replacement  | AMC       | 11             | 20%               | 16                             | 5,730                                |

| Rank  | ID   | Project name  | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|---|------|---|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 323   | B156 | Minor Capital Works for corporate systems   | AMC        | 11             | 20%               | 9                              | 5,740                                |
| 324   | B160 | Database standardisation to migrate apps and systems from Oracle to Microsoft SQL         | AMC        | 11             | 20%               | 4                              | 5,743                                |
| 325   | B161 | Network asset re-fresh - access switches, wireless LAN points, firewalls, telephony       | AMC        | 11             | 20%               | 23                             | 5,767                                |
| 326   | B162 | Server estate - incl. op system and database upgrade, plus H/W and virtualisation upgrade | AMC        | 11             | 20%               | 16                             | 5,782                                |
| 327   | B166 | Shared storage re-fresh   | AMC        | 11             | 20%               | 14                             | 5,796                                |
| 328   | B168 | Radio network consolidation   | AMC        | 11             | 20%               | 8                              | 5,804                                |
| 329   | B169 | Centrally held provision for technology equipment not covered by a Capital budget         | AMC        | 11             | 20%               | 6                              | 5,810                                |
| 330   | B170 | End User Compute devices and Identities cloud migration to Entra ID                       | AMC        | 11             | 20%               | 12                             | 5,822                                |
| 331   | B177 | Modernisation of end point protection   | AMC        | 11             | 20%               | 2                              | 5,824                                |
| 332   | B178 | Cloud workload protection platform  | AMC        | 11             | 20%               | 2                              | 5,826                                |
| 333   | B179 | Network microsegmentation for zero trust  | AMC        | 11             | 20%               | 7                              | 5,833                                |
| 334   | B180 | Operational Technology protection   | AMC        | 11             | 20%               | 5                              | 5,837                                |
| 335   | B181 | Multi cloud cloud security posture management solutions                                   | AMC        | 11             | 20%               | 2                              | 5,839                                |
| 336   | Q03  | Intelligent Operations and Optimisation   | Commercial | 11             | 20%               | 89                             | 5,927                                |
| 337   | M08  | T2 Towers Upgrade (Advertising)   | Commercial | 11             | 20%               | 4                              | 5,931                                |
| Red: indicative set of projects not accommodated by our H8 capex envelope |      |   |            |                |                   |                                |                                      |
| 338   | A178 | PRJ-001804 - B71-102 Rail Fire System (2023)  | AMC        | 10             | 19%               | 6                              | 5,938                                |
| 339   | A247 | Building Sustainability and Energy Performance  | AMC        | 10             | 19%               | 19                             | 5,956                                |
| 340   | A248 | Joint and bearing replacement T4 on and off ramp  | AMC        | 10             | 19%               | 10                             | 5,966                                |
| 341   | K027 | PRJ-001529 - B75-068.00 BA Crew Car Park  | Commercial | 10             | 19%               | 18                             | 5,984                                |
| 342   | M01  | T3 Pier 6 Lounge  | Commercial | 10             | 19%               | 37                             | 6,021                                |
| 343   | M02  | T5 Level 30 & 40 Lounge   | Commercial | 10             | 19%               | 99                             | 6,120                                |
| 344   | M14  | VIP Phase 4   | Commercial | 10             | 19%               | 35                             | 6,156                                |
| 345   | M15  | Retail New Scope : T4 IDL   | Commercial | 10             | 19%               | 19                             | 6,174                                |

| Rank | ID   | Project name  | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|---|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 346  | A177 | PRJ-001803 - B71-101 Landside Roads H7 Rolling Life Cycle - Project 1 - 2023 Resurfacing - Tranche 33 | AMC        | 9              | 17%               | 0                              | 6,175                                |
| 347  | A241 | Rehabilitation of non terminal buildings  | AMC        | 9              | 17%               | 49                             | 6,223                                |
| 348  | A259 | B71-139 - T3 Pier 5 Roof  | AMC        | 9              | 17%               | 30                             | 6,254                                |
| 349  | A261 | Water Treatment - Closed loop systems - Terminal 2  | AMC        | 9              | 17%               | 2                              | 6,256                                |
| 350  | B046 | Stations - Switchgear and Transformer replacement (CTA & T4)  | AMC        | 9              | 17%               | 0                              | 6,256                                |
| 351  | B049 | Central Battery Units - Renewals  | AMC        | 9              | 17%               | 0                              | 6,256                                |
| 352  | B051 | AGL Fitting Replacements  | AMC        | 9              | 17%               | 1                              | 6,257                                |
| 353  | B070 | Grooved Type Joints Replacements  | AMC        | 9              | 17%               | 0                              | 6,257                                |
| 354  | B075 | Boiler Renewals   | AMC        | 9              | 17%               | 1                              | 6,258                                |
| 355  | B079 | T5 Switchboard replacement  | AMC        | 9              | 17%               | 1                              | 6,259                                |
| 356  | B088 | TTS - Station Doors Overhaul  | AMC        | 9              | 17%               | 0                              | 6,259                                |
| 357  | B093 | T4 - Sanitation block renewals  | AMC        | 9              | 17%               | 1                              | 6,260                                |
| 358  | B097 | T5 Baggage - Controls Replacement ( S7-400 & Profibus)  | AMC        | 9              | 17%               | 8                              | 6,267                                |
| 359  | B105 | Remote Sites Welfare Toilet Renewals  | AMC        | 9              | 17%               | 1                              | 6,268                                |
| 360  | B108 | T3 Canopy replacement (either side of T3 East Wing)   | AMC        | 9              | 17%               | 2                              | 6,270                                |
| 361  | B111 | T3 Renewal of Pier 5 and 7 Gate Rooms and Stairwells  | AMC        | 9              | 17%               | 2                              | 6,272                                |
| 362  | B121 | Baggage Data Analytics (Merlin & ADMRIS)  | AMC        | 9              | 17%               | 6                              | 6,278                                |
| 363  | B127 | Passenger Flow Monitoring, Xovis  | AMC        | 9              | 17%               | 2                              | 6,280                                |
| 364  | B141 | MAXIMO asset management system  | AMC        | 9              | 17%               | 2                              | 6,282                                |
| 365  | B171 | Asset Lifecycle Management  | AMC        | 9              | 17%               | 9                              | 6,291                                |
| 366  | K028 | PRJ-001534 - B75-005.00 - Car Park Proposition  | Commercial | 9              | 17%               | 1                              | 6,291                                |
| 367  | K039 | PRJ-001688 - B75-040 - T5C Airline Lounge   | Commercial | 9              | 17%               | 4                              | 6,295                                |
| 368  | A237 | Flight Information Display Screens Renewals   | AMC        | 8              | 15%               | 23                             | 6,318                                |
| 369  | A242 | Engineering Female Toilets  | AMC        | 8              | 15%               | 3                              | 6,321                                |
| 370  | A260 | Toilet Block Rolling Refurbishment T2-T5  | AMC        | 8              | 15%               | 32                             | 6,354                                |
| 371  | B123 | Documented Operations Reporting and Information Systems (DORIS)                                       | AMC        | 8              | 15%               | 4                              | 6,358                                |
| 372  | B134 | Vanderlande Trafficlite remote baggage IT monitoring and management system                            | AMC        | 8              | 15%               | 2                              | 6,359                                |

| Rank | ID   | Project name   | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|--|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 373  | B151 | Azure Active Directory Business to Consumer  | AMC        | 8              | 15%               | 2                              | 6,361                                |
| 374  | B153 | BACS payment system  | AMC        | 8              | 15%               | 1                              | 6,362                                |
| 375  | T07  | PRJ-001620 - B74-004.00 - EV Charging Stations                                     | C&S        | 8              | 15%               | 7                              | 6,369                                |
| 376  | T014 | PRJ-001743 - B74-004.02 - EV Back Office   | C&S        | 8              | 15%               | 0                              | 6,370                                |
| 377  | T015 | PRJ-001745 - B74-011.02 - CBS eBus Charging  | C&S        | 8              | 15%               | 9                              | 6,379                                |
| 378  | T016 | PRJ-001746 - B74-011.03 - Bus + Coach eBus Charging                                | C&S        | 8              | 15%               | 3                              | 6,382                                |
| 379  | T038 | eBus Charging Depot (HAL)  | C&S        | 8              | 15%               | 14                             | 6,395                                |
| 380  | U05  | Zero Waste   | C&S        | 8              | 15%               | 43                             | 6,438                                |
| 381  | Q06  | Predictive and Proactive Asset Management  | Commercial | 8              | 15%               | 5                              | 6,443                                |
| 382  | M19  | Onwards travel proposition   | Commercial | 8              | 15%               | 9                              | 6,452                                |
| 383  | A029 | PRJ-000487 - B6214.02 Pollution Infrastructure Renewal                             | AMC        | 7              | 13%               | 11                             | 6,464                                |
| 384  | A093 | PRJ-001570 - B71-004.00 - T3 Roofing structural renewal                            | AMC        | 7              | 13%               | 13                             | 6,477                                |
| 385  | A099 | PRJ-001578 - B71-013.00 - IDAHO Roadmap  | AMC        | 7              | 13%               | 4                              | 6,481                                |
| 386  | A103 | PRJ-001588 - B71-021.00 - Wave 1 Heavy Rail Tunnel Water Ingress & Fire Compliance | AMC        | 7              | 13%               | 1                              | 6,483                                |
| 387  | A108 | PRJ-001594 - B71-027.00 - TTS Switch Overhauls and Replacements                    | AMC        | 7              | 13%               | 1                              | 6,484                                |
| 388  | A182 | PRJ-001808 - B7205.08 T3 Service Subways - remedial works - 2024 works (FINAL)     | AMC        | 7              | 13%               | 2                              | 6,485                                |
| 389  | A271 | B71-164 - TBS SAC Obsolescence   | AMC        | 7              | 13%               | 15                             | 6,500                                |
| 390  | B043 | T3 Cladding Panel Replacement (including East Wing)                                | AMC        | 7              | 13%               | 0                              | 6,501                                |
| 391  | B045 | DTS (Data Transmission System) Servers   | AMC        | 7              | 13%               | 0                              | 6,501                                |
| 392  | B050 | T4 Cladding Replacement (landside)   | AMC        | 7              | 13%               | 1                              | 6,502                                |
| 393  | B054 | Control Post Barrier Renewals  | AMC        | 7              | 13%               | 1                              | 6,502                                |
| 394  | B083 | Engineering Minor Works  | AMC        | 7              | 13%               | 112                            | 6,614                                |
| 395  | B107 | Non-Terminal Buildings - Roofs   | AMC        | 7              | 13%               | 2                              | 6,616                                |
| 396  | B119 | Foreign Object Debris (FOD) application and hardware                               | AMC        | 7              | 13%               | 7                              | 6,623                                |
| 397  | B150 | HEX Enterprise Resource Planning System  | AMC        | 7              | 13%               | 1                              | 6,624                                |
| 398  | B152 | Quantum Treasury system  | AMC        | 7              | 13%               | 1                              | 6,625                                |

| Rank | ID   | Project name  | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|---|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 399  | B173 | Vulnerability management and remediation  | AMC        | 7              | 13%               | 4                              | 6,629                                |
| 400  | B176 | Strengthening of data loss prevention controls  | AMC        | 7              | 13%               | 4                              | 6,633                                |
| 401  | B182 | Next gen Sec Incident & Event Management and Sec Orchestration, Automation & Response modernisation and upgrade | AMC        | 7              | 13%               | 1                              | 6,634                                |
| 402  | T010 | PRJ-001687 - B74-007 - CTA Active Travel Project  | C&S        | 7              | 13%               | 2                              | 6,635                                |
| 403  | T019 | PRJ-001777 - B74-002.09 - Active Travel – East  | C&S        | 7              | 13%               | 12                             | 6,647                                |
| 404  | R02  | Heat Decarbonisation (Energy Hub, Easy wins, Temp Reduction, Energy Hub)  | C&S        | 7              | 13%               | 254                            | 6,901                                |
| 405  | K056 | PRJ-001967 - B75-074.00 Consent Project (Compliance)  | Commercial | 7              | 13%               | 3                              | 6,904                                |
| 406  | B116 | Keyboard Video Monitor (KVM) system in Control Centre   | AMC        | 6              | 11%               | 9                              | 6,913                                |
| 407  | B120 | Automated Public Address system (APA)   | AMC        | 6              | 11%               | 6                              | 6,920                                |
| 408  | B122 | Airport Community APP   | AMC        | 6              | 11%               | 6                              | 6,926                                |
| 409  | B124 | Heathrow Roster Management System (HRMS)  | AMC        | 6              | 11%               | 3                              | 6,929                                |
| 410  | B128 | Telematics System, Journeo  | AMC        | 6              | 11%               | 1                              | 6,930                                |
| 411  | B129 | Better Suite applications, Copenhagen Optimisation  | AMC        | 6              | 11%               | 4                              | 6,934                                |
| 412  | B138 | ArcGIS (Heathrow Explorer)  | AMC        | 6              | 11%               | 3                              | 6,937                                |
| 413  | T036 | Bus Priority  | C&S        | 6              | 11%               | 8                              | 6,945                                |
| 414  | K019 | Public and Private 5G Infrastructure  | Commercial | 6              | 11%               | 16                             | 6,961                                |
| 415  | K044 | PRJ-001771 - B75-018.02 - VIP Diplomatic Product  | Commercial | 6              | 11%               | 16                             | 6,976                                |
| 416  | K045 | PRJ-001892 - B75-059.00 HCC Capacity  | Commercial | 6              | 11%               | 2                              | 6,978                                |
| 417  | K049 | PRJ-001909 - B75-063.00 T2 Space Opt - T2 L20 AS - Retail Units at Connections                                  | Commercial | 6              | 11%               | 2                              | 6,981                                |
| 418  | K051 | PRJ-001911 - B75-065.00 T5 Space Opt - L20 AS - Retail & F&B inc BOH  | Commercial | 6              | 11%               | 3                              | 6,984                                |
| 419  | K052 | PRJ-001912 - B75-066.00 T5 Space Opt - L20 AS- F&B in Ex-Lounge   | Commercial | 6              | 11%               | 4                              | 6,988                                |
| 420  | K053 | PRJ-001913 - B75-067.00 VIP Communal Lounge   | Commercial | 6              | 11%               | 10                             | 6,998                                |
| 421  | K055 | PRJ-001942 - B75-071.00 T2 Space Opt – T2 L10 – LS Retail and F&B Changes                                       | Commercial | 6              | 11%               | 2                              | 7,000                                |

| Rank | ID   | Project name  | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|---|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 422  | Q02  | Next-Gen Passenger Services - Commercial Revenues   | Commercial | 6              | 11%               | 140                            | 7,140                                |
| 423  | M10  | Retail New Scope : T5 IDL   | Commercial | 6              | 11%               | 73                             | 7,213                                |
| 424  | M11  | Retail New Scope : T3 IDL   | Commercial | 6              | 11%               | 37                             | 7,250                                |
| 425  | J03  | National Grid Connection - Connecting Cable   | AMC        | 5              | 9%                | 47                             | 7,297                                |
| 426  | T018 | PRJ-001775 - B74-002.07 - Active Travel - Secure Cycle Parking                              | C&S        | 5              | 9%                | 1                              | 7,298                                |
| 427  | U03  | eGSE  | C&S        | 5              | 9%                | 66                             | 7,364                                |
| 428  | U04  | Nature Positive   | C&S        | 5              | 9%                | 25                             | 7,389                                |
| 429  | L01  | Additional washroom capacity in Terminal 5 and general                                      | Commercial | 5              | 9%                | 15                             | 7,404                                |
| 430  | L02  | Cleaning  | Commercial | 5              | 9%                | 7                              | 7,411                                |
| 431  | L03  | Water refill stations   | Commercial | 5              | 9%                | 2                              | 7,413                                |
| 432  | L04  | Seating and Digital signage   | Commercial | 5              | 9%                | 47                             | 7,460                                |
| 433  | L05  | Multi faith prayer rooms  | Commercial | 5              | 9%                | 7                              | 7,467                                |
| 434  | L06  | Family proposition & provision  | Commercial | 5              | 9%                | 13                             | 7,480                                |
| 435  | L07  | Premium proposition & provision   | Commercial | 5              | 9%                | 17                             | 7,496                                |
| 436  | L11  | Creation of quiet spaces for sensory needs  | Commercial | 5              | 9%                | 9                              | 7,506                                |
| 437  | L12  | Enablement Hub Upgrades   | Commercial | 5              | 9%                | 5                              | 7,510                                |
| 438  | L14  | Support and integration for Air Passenger Assist App  | Commercial | 5              | 9%                | 5                              | 7,515                                |
| 439  | L15  | Autonomous wheelchairs full rollout   | Commercial | 5              | 9%                | 3                              | 7,518                                |
| 440  | L16  | Provision of alternative mobility equipment   | Commercial | 5              | 9%                | 3                              | 7,521                                |
| 441  | L18  | Digital proposition development   | Commercial | 5              | 9%                | 8                              | 7,529                                |
| 442  | L19  | Enhanced border experience  | Commercial | 5              | 9%                | 56                             | 7,585                                |
| 443  | L20  | Connections   | Commercial | 5              | 9%                | 9                              | 7,595                                |
| 444  | L21  | Airport look and feel – Exteriors (painting, cleaning, decorating facades)                  | Commercial | 5              | 9%                | 3                              | 7,598                                |
| 445  | L22  | Airport look and feel – Passenger long distance walkways (decoration, intelligent lighting) | Commercial | 5              | 9%                | 6                              | 7,604                                |

| Rank | ID   | Project name  | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|---|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 446  | L23  | Airport look and feel – Gate areas Terminals 3, 4 and 5   | Commercial | 5              | 9%                | 7                              | 7,611                                |
| 447  | L24  | Airport look and feel – T3 specific targeted improvements (including IDL and Pier flooring)                       | Commercial | 5              | 9%                | 7                              | 7,618                                |
| 448  | C040 | Data Insight – Dashboards & Reporting, Pro-active Service and Support Model & Prescriptive Maintenance Algorithms | Security   | 5              | 9%                | 31                             | 7,648                                |
| 449  | A228 | PRJ-001986 - B71-167 CC Remob - MEP   | AMC        | 4              | 7%                | 7                              | 7,655                                |
| 450  | A229 | PRJ-001987 - B71-168 CC Remob - Working Areas, Meeting Rooms, Safety & Security                                   | AMC        | 4              | 7%                | 2                              | 7,657                                |
| 451  | A230 | PRJ-001988 - B71-169 CC Remob - Welfare   | AMC        | 4              | 7%                | 5                              | 7,662                                |
| 452  | A253 | T3 Facility Asset Plan  | AMC        | 4              | 7%                | 2                              | 7,665                                |
| 453  | A254 | T2 Cladding Remedial Works  | AMC        | 4              | 7%                | 6                              | 7,671                                |
| 454  | A258 | T3 INTERNAL Pier 7 & Connector structural rehabilitation - Stairwell  | AMC        | 4              | 7%                | 4                              | 7,675                                |
| 455  | A268 | Station Digital Mobile Radio Network  | AMC        | 4              | 7%                | 2                              | 7,677                                |
| 456  | A269 | Picopass Card and Card Reader Replacement   | AMC        | 4              | 7%                | 35                             | 7,712                                |
| 457  | A270 | New Integrated Test Facility (ITF) Project  | AMC        | 4              | 7%                | 42                             | 7,754                                |
| 458  | A273 | Surface Movement Radar gearbox  | AMC        | 4              | 7%                | 13                             | 7,767                                |
| 459  | T022 | PRJ-001780 - B74-002.03 - Bus/Coach Waiting Facilities  | C&S        | 4              | 7%                | 3                              | 7,770                                |
| 460  | T029 | Active Travel North   | C&S        | 4              | 7%                | 9                              | 7,779                                |
| 461  | T040 | Hatton Cross Bus Capacity   | C&S        | 4              | 7%                | 7                              | 7,787                                |
| 462  | K09  | PRJ-001696 - B75-043 - Marketing e-commerce (WeChat)  | Commercial | 4              | 7%                | 1                              | 7,787                                |
| 463  | K010 | PRJ-001697 - B75-044 - 3rd Party Distribution (B2B)   | Commercial | 4              | 7%                | 2                              | 7,789                                |
| 464  | K018 | PRJ-001983 - B75-084.00 CI Retail Manager   | Commercial | 4              | 7%                | 0                              | 7,790                                |
| 465  | K020 | Tr7 SSO/Loyalty   | Commercial | 4              | 7%                | 0                              | 7,790                                |
| 466  | K035 | PRJ-001638 - B75-019.01 - Airside Transshipment Centre  | Commercial | 4              | 7%                | 2                              | 7,792                                |
| 467  | K046 | PRJ-001896 - B75-060.00 T5 Luxury   | Commercial | 4              | 7%                | 1                              | 7,793                                |
| 468  | K061 | T5 Satellites Space Optimisation  | Commercial | 4              | 7%                | 2                              | 7,796                                |
| 469  | K063 | Tr7 C&C   | Commercial | 4              | 7%                | 0                              | 7,796                                |

| Rank | ID   | Project name   | Programme  | Score (points) | Score out of 100% | H8 Capex (£ million, CPI 2024) | H8 Cumulative capex (£ million, CPI) |
|------|------|--|------------|----------------|-------------------|--------------------------------|--------------------------------------|
| 470  | K064 | Tr7 VIP  | Commercial | 4              | 7%                | 1                              | 7,797                                |
| 471  | Q08  | Enterprise operational systems and data enablement   | Commercial | 4              | 7%                | 37                             | 7,834                                |
| 472  | M04  | T2 IDL   | Commercial | 4              | 7%                | 9                              | 7,844                                |
| 473  | M07  | Advertising - Interior LED   | Commercial | 4              | 7%                | 5                              | 7,849                                |
| 474  | M09  | Mass Advertising Digitalisation & Removal  | Commercial | 4              | 7%                | 19                             | 7,867                                |
| 475  | M17  | Carpark revolution   | Commercial | 4              | 7%                | 19                             | 7,886                                |
| 476  | M05  | T5 Satellites  | Commercial | 3              | 6%                | 3                              | 7,889                                |
| 477  | T021 | PRJ-001779 - B74-002.02 - Heathrow Travel Wallet   | C&S        | 2              | 4%                | 1                              | 7,889                                |
| 478  | T028 | Taxi + Private Hire  | C&S        | 2              | 4%                | 4                              | 7,893                                |
| 479  | T031 | AVA enhancements   | C&S        | 2              | 4%                | 7                              | 7,900                                |
| 480  | T037 | Colleague Car Parking  | C&S        | 2              | 4%                | 3                              | 7,903                                |
| 481  | M13  | VIP Cars   | Commercial | 2              | 4%                | 2                              | 7,905                                |
| 482  | M21  | Poyle  | Commercial | 1              | 2%                | 21                             | 7,926                                |
| 483  | S01  | Noise Mitigation (linked to capacity restrictions)   | C&S        | 0              | 0%                | 225                            | 8,151                                |
| 484  | Q07  | Modernising Corporate Processes  | Commercial | 0              | 0%                | 5                              | 8,155                                |
| 485  | P02  | Development Consent order  | MH         | 0              | 0%                | 173                            | 8,329                                |
| 486  | P04  | T5 Capacity Optimisation Phase 2   | MH         | 0              | 0%                | 716                            | 9,045                                |
| 487  | P05  | Enabling Modernising Heathrow  | MH         | 0              | 0%                | 322                            | 9,367                                |
| 488  | P06  | Ancillary Projects   | MH         | 0              | 0%                | 239                            | 9,606                                |
| NA   | U01  | People and Planet prioritisation adjustment (labelled as 'carbon programme efficiencies/phasing' in CAA Data Tables) | C&S        | NA             | NA                | -104                           | 9,502                                |

## APPENDIX I

## Application of historical capex incentives

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### Introduction

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- I1 A core part of the CAA's regulation of HAL is ensuring that we provide effective incentives for HAL to develop and maintain its assets efficiently and securing value for money for consumers. This furthers the interests of consumers by:
- ensuring that airport charges are no higher than they need to be to reflect the efficient costs incurred by HAL; and
  - incentivising HAL to carry out its activities in an efficient and economical way.
- I2 Our approach to incentives for capital efficiency changed at the H7 price control when we introduced forward looking (or "ex ante") capex efficiency arrangements. These arrangements have been applied to projects approved at Gateway 3 ("G3") of the HAL-airlines capital governance process from 1 March 2024 onwards.<sup>7</sup>
- I3 In previous price controls, we performed a backward looking (or "ex post") assessment of the capex that HAL had incurred, to determine whether it had been efficiently incurred. Our most recent *ex post* efficiency review covered expenditure up to 31 December 2018.<sup>8</sup>
- I4 *Ex post* efficiency assessments have proved challenging in practice. Nonetheless, in the absence of stronger forward-looking incentives for the period before March 2024, they continue to provide useful incentives for efficiency.
- I5 This capex efficiency review covers capex incurred by HAL from 1 January 2019, which is the cut-off of our last *ex post* review. This means that our initial proposals cover capex incurred under two types of arrangements:

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<sup>7</sup> We worked with HAL and the airlines to update the capex governance arrangements needed for the *ex ante* efficiency framework. To allow time for this work, we set 1 March 2024 as the date when the new *ex ante* capex efficiency arrangements would start, meaning that only projects approved at G3 from that date qualify for *ex ante* review.

<sup>8</sup> CAA, Economic regulation of Heathrow: working paper on the efficiency of HAL's capital expenditure during Q6 (CAP 1964), September 2020.

- the *ex post* arrangements applied to capex incurred in Q6+1 (2019), iH7 (2020 and 2021), and H7 projects that went through G3 approval before 1 March 2024. For these projects, we are undertaking an *ex post* assessment to determine if any adjustment to the RAB is appropriate.
- the *ex ante* incentives apply to capex incurred in projects that went through G3 approval from 1 March 2024 onwards.

16 At this stage, we have used a cut-off date of 31 December 2024 to select projects in scope of our review. This cut-off date aligns with HAL's latest regulatory accounts.

17 Under the *ex ante* capex efficiency framework, the efficiency adjustment is calculated when a project passes gateway 7 ("G7") of the capex governance process, which is when the project reaches financial closure.<sup>9</sup> As of our cut-off date of 31 December 2024, none of the projects with capex incurred under *ex ante* arrangements (that is to say with G3 approval from 1 March 2024) had reached G7.

18 This appendix sets out the:

- the method we have used in our *ex post* capex review;
- the process we have followed to date; and
- next steps and implementation.

## Our method

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### Overall approach

19 We propose to build on the approach to the *ex post* capex review we used to determine the capex adjustment to the H7 opening RAB. That approach was developed through extensive stakeholder consultation<sup>10</sup> and drew on regulatory precedent from aviation and other sectors. Key features of our approach include:

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Under the *ex ante* capex efficiency framework, the capex efficiency adjustment can be negative, if HAL has overspent, or positive, if HAL has underspent, relative to baselines defined at G3 with associated Delivery Obligations. This framework is implemented through HAL-airline capital governance arrangements, including the Capital Efficiency Handbook.

<sup>10</sup> CAA, Economic regulation of Heathrow: working paper on the efficiency of HAL's capital expenditure during Q6 (CAP 1964), September 2020.

CAA, Economic regulation of Heathrow Airport Limited: working paper on Q6 capital expenditure and early expansion costs (CAP 1996), April 2021.

- assessment framework: we retain the Demonstrably Inefficient or Wasteful framework, “DIWE framework” for our efficiency assessment of the sampled projects. The DIWE framework has been used in *ex post* efficiency reviews in other regulated sectors and the CMA accepted the CAA’s DIWE framework in its review of NATS Reference Period 3 price control (for the period January 2020 to December 2024); and
- sampling: we conduct the *ex post* efficiency review on a sample of projects undertaken by HAL.

110 This appendix sets out our approach to making the selection of projects used in our sample, which then are subjected to detailed assessment. Our approach to this prioritisation exercise is explained further below.

### Sample project selection

111 In selecting projects for *ex post* review, we propose to apply a structured method that starts with the full set of projects and filters these down based on materiality and risk of inefficiency. Figure I.1 illustrates our five-step method, which involves:

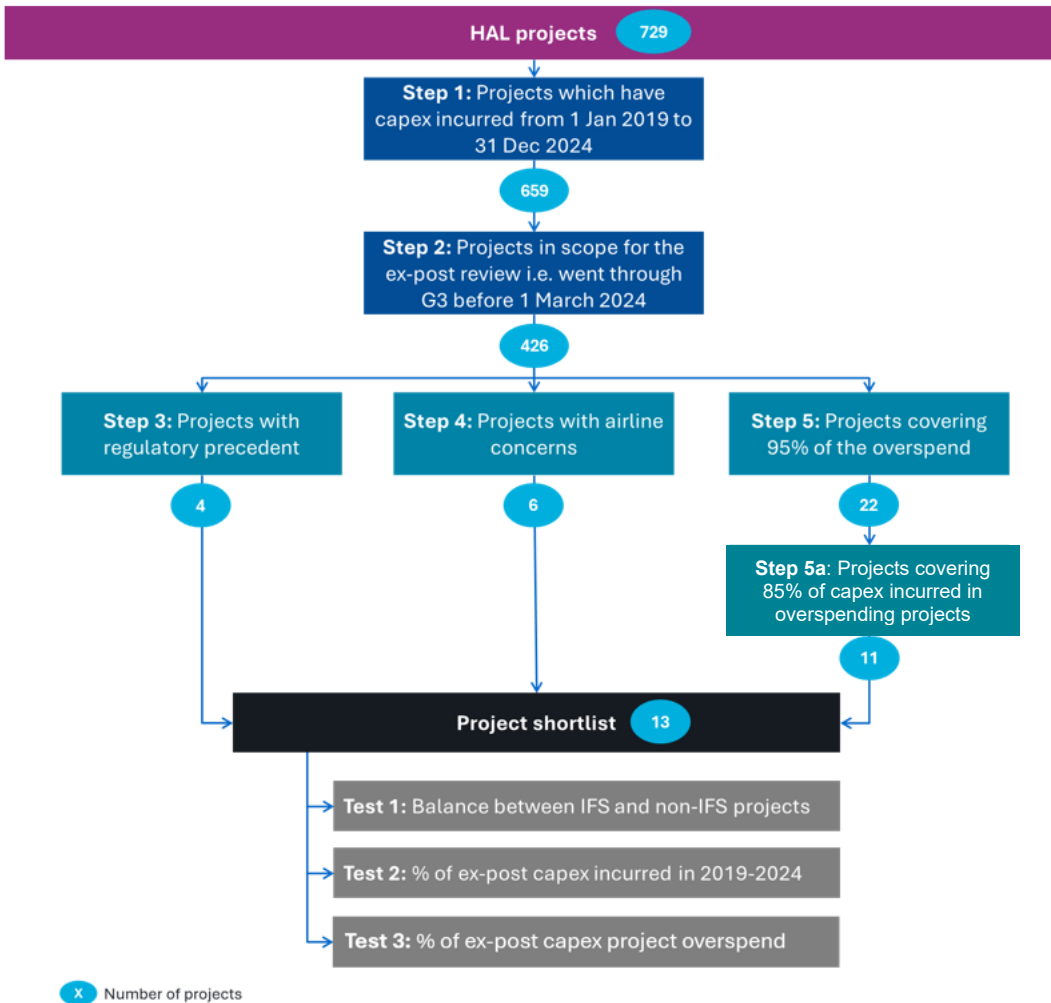
- Step 1: working with HAL, we identified a list of 729 projects in progress from 1 January 2019 to 31 December 2024. This was our starting point. We note that some projects in the list were awaiting financial closure, meaning that albeit listed as ‘in progress’, they did not incur any capex over the reference period 2019-2024. Removing these projects reduced the list to 659 projects which incurred capex from 1 January 2019 to 31 December 2024. The capex incurred in these 659 projects reconciles to the capex reported in HAL’s regulatory accounts for the period from 2019 to 2024.
- Step 2: we identified which of the 659 projects with capex incurred in the 2019 to 2024 period had G3 approval before 1 March 2024. The 426 projects under this category total £2.8 billion of capex (in nominal prices), which is the capex in scope for our *ex post* review.
- Steps 3 to 5 applied a series of risk and materiality filters which resulted in a shortlist of 13 projects:
  - Regulatory precedent (Step 3): In our H7 Final Proposals,<sup>11</sup> we said that our conclusions on the *ex post* efficiency assessment of four projects were interim and we would review the capex incurred in these projects since the last review (that is, capex incurred since 1 January 2019) at the next review. These four projects were: Main Tunnel; Cargo Tunnel; T4 hold baggage system; and Magenta.

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<sup>11</sup> CAA, Economic regulation of Heathrow Airport Limited: H7 Final Proposals Appendices D-K (CAP 2365), June 2022, paragraphs D9, D22, D26.

- Airlines concerns (Step 4): working with our consultants, Steer, we ran a workshop with airlines to understand their priorities for *ex post* review. The airlines indicated six projects where they had concerns regarding cost efficiency: main tunnel; cargo tunnel; magenta; runway resurfacing – southern runway; Compass Centre acquisition; and track transit system enhancements.
- Materiality of overspend (Steps 5): We consider that a project shows overspend when its Estimated At Completion (“EAC”) capex is higher than its Budget At Completion (BAC) capex. Projects that show an overspend have higher risks of having given rise to inefficient and/or wasteful expenditure and are, therefore, the focus of our analysis. Out of the 426 projects in scope for *ex post* review, we identified 22 projects with the highest overspend, covering 95% of the overspend across all 426 projects in scope.
- Materiality of capex incurred in projects that overspent (Step 5a): Many of the 22 projects with the largest overspend amounts are very small and it would be disproportionate to perform an *ex post* review of all of these. Instead, we focused on the subset of 11 largest projects (measured by the capex incurred). These account for 85% of the capex incurred in projects that overspent.

**Figure I.1: Method for sample project selection**



Source: CAA and Steer analysis

112 The result of the 5-step sampling method above is a shortlist of 13 projects that meet one or multiple of the criteria set out in Steps 3 to 5. To provide an additional level of robustness, we applied three tests to the shortlist of 13 projects to ensure that they formed a balanced sample of projects for our *ex post* review:

- Test 1: include both IFS and Non-IFS reviewed projects. Under the capex governance framework, the Independent Funds Surveyor (“IFS”) is responsible for independently scrutinising the progress of the larger and strategically important projects in HAL’s portfolio. Projects that overspent and are not subject to IFS scrutiny carry a higher risk of inefficiency, as they have not benefited from ongoing scrutiny. However, those are generally of lower materiality (typically less than £20 million) and a lower level of complexity, so that potential inefficiencies in non-IFS projects are potentially less detrimental to consumers’ interests. Of the 13 shortlisted projects, nine (69%) were scrutinised by the IFS and four (31%) were not. We are content that our shortlist of 13 projects has a balanced mix of IFS-assured and non-IFS assured projects in furthering the interests of consumers.
- Test 2: proportion of total capex in scope for *ex post* review. We want to ensure that we account for a material portion of the capex incurred by HAL as part of the *ex post* review. The 13 projects shortlisted account for 31% of the £2.8 billion (nominal prices) of capex in scope, and we consider that this is a material share of the capex in scope for *ex post* review.
- Test 3: we want to ensure that we account for most of the overspend incurred in the projects in scope for the *ex post* review. The combination of Steps 3, 4, 5 and 5a mean that the 13 projects shortlisted account for 89% of the overspend across all 426 projects in scope for *ex post* review.

113 Bearing all of the above in mind, we are satisfied that the 13 projects shortlisted form a balanced sample of projects for *ex post* review in furthering the interest of consumers. Also, airlines reviewed this final list and have not raised any significant concerns about project selection. Table I.2 lists the 13 projects we selected for *ex post* review, amount of overspend, and capex incurred over the 2019-2024 period. It also shows the comparison between total overspend and capex for the 13 projects selected and as a proportion of the 426 projects in scope.

**Table I.2: Sample of projects selected for ex post capex efficiency review**

| Project<br>(£m in nominal prices)                                      | EAC<br>(£m)  | BAC<br>(£m) | Overspend<br>=<br>EAC minus<br>BAC (£m) | Overspend/<br>BAC (%) | Regulatory<br>precedent | Airlines<br>concerns | Overspend<br>materiality | IFS      | Capex<br>incurred 2019-<br>2024 (£m) |
|--|--------------|-------------|---|-----------------------|-------------------------|----------------------|--------------------------|----------|--------------------------------------|
| PRJ-000206 - Main Tunnel   | 337          | 85          | 252                                     | 296%                  | ✓                       | ✓                    | ✓                        | ✓        | 106                                  |
| PRJ-000255 - Airside Taxiways - Cul De Sacs Tr6                        | 22           | 17          | 5                                       | 29%                   |                         |                      | ✓                        |          | 22                                   |
| PRJ-000387 - Cargo Tunnel  | 210          | 54          | 156                                     | 287%                  | ✓                       | ✓                    | ✓                        | ✓        | 152                                  |
| PRJ-000533 - B216 T1_T2 HBS  | 170          | 118         | 51                                      | 43%                   |                         |                      | ✓                        | ✓        | 39                                   |
| PRJ-000535 - B216 T4 HBS   | 181          | 96          | 85                                      | 88%                   | ✓                       |                      | ✓                        | ✓        | 78                                   |
| PRJ-000537 - B216 T5 HBS   | 171          | 148         | 24                                      | 16%                   |                         |                      | ✓                        | ✓        | 37                                   |
| PRJ-000742 - B6361.01 Eastern Campus Logistics and Compliance          | 18           | 13          | 5                                       | 36%                   |                         |                      | ✓                        |          | 17                                   |
| PRJ-000776 - B7509 Magenta   | 56           | 41          | 15                                      | 36%                   | ✓                       | ✓                    | ✓                        | ✓        | 56                                   |
| PRJ-001330 - B7228 Runway Resurfacing - Southern Runway                | 132          | 129         | 3                                       | 3%                    |                         | ✓                    | ✓                        | ✓        | 109                                  |
| PRJ-001410 - B7201.08 - Forecourt Health and Safety Works              | 17           | 11          | 6                                       | 59%                   |                         |                      | ✓                        |          | 17                                   |
| PRJ-001524 - B7228 - Runway Resurfacing - Deep Interventions           | 25           | 21          | 4                                       | 17%                   |                         |                      | ✓                        | ✓        | 25                                   |
| PRJ-000800 - B6401 TTS Enhancements                                    | 82           | 82          | 0                                       | 0%                    |                         | ✓                    |                          | ✓        | 57                                   |
| PRJ-001786 - B75-053.00 - Compass Centre Acquisition                   | 127          | 127         | 0                                       | 0%                    |                         | ✓                    |                          |          | 127                                  |
| <b>Total for the 13 projects selected for review</b>                   | <b>1,548</b> | <b>943</b>  | <b>605</b>                              | <b>64%</b>            | <b>4</b>                | <b>6</b>             | <b>11</b>                | <b>9</b> | <b>842</b>                           |
| <b>Total for the 426 projects in scope</b>                             |              |             | <b>680</b>                              |                       |                         |                      |                          |          | <b>2,755</b>                         |
| <b>13 projects selected for review as a % of 426 projects in scope</b> |              |             | <b>89%</b>                              |                       |                         |                      |                          |          | <b>31%</b>                           |

Source: CAA and Steer analysis

## The DIWE framework

- I14 We propose to retain the DIWE framework for the *ex post* efficiency assessment of capex delivered under *ex post* arrangements between 1 January 2019 and 31 December 2024. Specifically, we propose to retain the nine DIWE criteria we applied as part of our H7 review, which we consulted on extensively and were reviewed by the CMA as part of its redetermination of the NATS RP3 price control.
- I15 The DIWE framework has two important features:
- it explicitly recognises that HAL cannot contract out responsibility for project development and delivery, so that inefficiency by one of HAL's contractors on a project is treated in the same way as inefficiency by HAL; and
  - it places the onus on the CAA to demonstrate that HAL has been inefficient in its expenditure. So, the starting point is that expenditure which is potentially subject to disallowance is presumed to have been reasonably incurred, unless we demonstrate inefficient and wasteful expenditure.
- I16 Table I.3 lists the nine DIWE criteria that we use to assess whether capital incurred in each of the 13 projects selected for the *ex post* review can be considered as demonstrably inefficient and wasteful. For ease of reference, we include in the table shorthand labels for each of our DIWE criteria.

**Table I.3: CAA DIWE criteria**

| CAA DIWE criteria   | Criteria in short form |
|---|------------------------|
| a) The extent to which HAL identified and utilised appropriate resources.   | Use of resources       |
| b) The process by which any third-party contract was procured.  | Procurement            |
| c) The extent to which HAL was, or ought to have been, able to control the relevant expenditure, including: <ul style="list-style-type: none"> <li>i. whether HAL had in place appropriate processes to oversee and control its internal costs;</li> <li>ii. whether HAL had in place appropriate contract management processes to oversee and control third-party costs; and</li> <li>iii. to what extent these processes were applied effectively.</li> </ul> | Cost control           |
| d) The information that was reasonably available to HAL and/or its third-party contractors, at the time that it and/or they made any relevant decisions in relation to expenditure or the control of expenditure. This includes information relating to stakeholder views in relation to that expenditure.  | Decision making        |
| e) The extent to which any expenditure involved an unnecessary duplication of activity on the part of HAL and/or its third-party contractors.   | Duplication            |
| f) The extent to which any expenditure was increased by any material error or mistake on the part of HAL and/or its third-party contractors.  | Error                  |
| g) The extent to which any expenditure was increased by any avoidable delay on the part of HAL and/or its third-party contractors.  | Delay                  |

| CAA DIWE criteria   | Criteria in short form |
|---|------------------------|
| h) The extent to which any expenditure was proportionate to the outputs which that expenditure was intended to, and/or did, deliver.  | Value for money        |
| i) The extent to which those outputs were appropriate outputs to be delivered in the context of creating (direct and indirect) benefits for the users of its services or in facilitating HAL's efficient compliance with regulatory or statutory obligations. | Benefits               |

Source: CAA, CAP 1964, p.47-49.

## Process to date

- I17 We appointed consultants, Steer, to provide technical expertise for the *ex post* review of the 13 selected projects. Steer's support has included identifying the information required from airlines, the IFS, and HAL. Steer has also supported us in all "deep dive" sessions held with these stakeholders.
- I18 Table I.5, presented at the end of this document, lists the information that we have reviewed, with support from Steer, in relation to the 13 projects in our sample. For the nine IFS-assured projects, we have considered the wide-ranging and detailed documents produced by the IFS, which we consider an important, robust, and independent source of evidence. We have also held regular deep dives with the IFS, which have assisted our interpretation of the evidence and provided wider context.
- I19 We have also received substantial information from HAL, in response to our requests for information; through a Questions and Answers (Q&A) process managed by the CAA; and through dedicated deep dives. For the four (out of 13) non-IFS assured projects, the information we received from HAL and the airlines are our primary source of evidence, noting that HAL has also provided substantial information related to the IFS-assured projects selected for review.
- I20 Our review is still ongoing. At the time of initial proposals, we were still receiving information from HAL and the airlines, reviewing the information, and following up with further clarifications and requests, through the Q&A process.
- I21 Our preliminary review at the time of these initial proposals indicates that we have not found evidence of demonstrable inefficient or wasteful expenditure in the capex incurred between 1 January 2019 and 31 December 2024 in three (out of the 13) projects selected for review.
- I22 For ten (out of 13) projects selected for review, we have requested substantial additional evidence from HAL following our preliminary analysis, which we received in January and February 2026. We have also received evidence from the airline community in late February 2026. We continue to work with HAL, the IFS, and the airline community to gather further evidence on the projects under review.

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124 Table I.4 lists the status of our analysis at the time of initial proposals and sets out next steps, by project. In three projects we have reached preliminary views while the remaining ten projects are a work in progress.

**Table I.4: Status of our ex post review and next steps, by project**

| Project (£m in nominal prices)                                | Overspend = EAC minus BAC (£m) | Capex incurred 2019-2024 (£m) | Gateway stage as of 31 Dec 24 | Status of review                                   | Next steps   |
|---|--------------------------------|-------------------------------|-------------------------------|--|--|
| PRJ-000206 - Main Tunnel                                      | 252                            | 106                           | G4 – ongoing                  | Work in progress.                                  | <ul style="list-style-type: none"> <li>Review of evidence related to the 2019-2024 period is ongoing.</li> </ul>   |
| PRJ-000255 - Airside Taxiways - Cul De Sacs Tr6               | 5                              | 22                            | G7 – closed                   | No DIWE found in capex incurred from 2019 to 2024. | <ul style="list-style-type: none"> <li>No further steps required for preliminary findings, as we reviewed all the evidence and project has reached financial closure (G7).</li> </ul>                |
| PRJ-000387 - Cargo Tunnel                                     | 156                            | 152                           | G4 – ongoing                  | Work in progress.                                  | <ul style="list-style-type: none"> <li>Review of evidence related to the 2019-2024 period is ongoing.</li> </ul>   |
| PRJ-000533 - B216 T1_T2 HBS                                   | 51                             | 39                            | G7 – closed                   | Work in progress.                                  | <ul style="list-style-type: none"> <li>Review of further evidence related to the 2019-2024 period is ongoing.</li> </ul>   |
| PRJ-000535 - B216 T4 HBS                                      | 85                             | 78                            | G7 – closed                   | Work in progress.                                  | <ul style="list-style-type: none"> <li>Review of further evidence related to the 2019-2024 period is ongoing.</li> </ul>   |
| PRJ-000537 - B216 T5 HBS                                      | 24                             | 37                            | G7 – closed                   | Work in progress.                                  | <ul style="list-style-type: none"> <li>Review of further evidence related to the 2019-2024 period is ongoing.</li> </ul>   |
| PRJ-000742 - B6361.01 Eastern Campus Logistics and Compliance | 5                              | 17                            | G5 - ready for use            | Work in progress.                                  | <ul style="list-style-type: none"> <li>Review of further evidence related to the 2019-2024 period is ongoing.</li> </ul>   |
| PRJ-000776 - B7509 Magenta                                    | 15                             | 56                            | G7 – closed                   | Work in progress.                                  | <ul style="list-style-type: none"> <li>Review of further evidence related to the 2019-2024 period is ongoing.</li> </ul>   |
| PRJ-001330 - B7228 Runway Resurfacing - Southern Runway       | 3                              | 109                           | G4 – ongoing                  | Work in progress.                                  | <ul style="list-style-type: none"> <li>Review of further evidence related to the 2019-2024 period is ongoing.</li> </ul>   |
| PRJ-001410 - B7201.08 - Forecourt Health and Safety Works     | 6                              | 17                            | G6 - in operation             | No DIWE found in capex incurred from 2019 to 2024. | <ul style="list-style-type: none"> <li>No further steps required for preliminary findings, as we reviewed all the evidence and project is operational and near to financial closure (G7).</li> </ul> |
| PRJ-001524 - B7228 - Runway Resurfacing                       | 4                              | 25                            | G7 – closed                   | No DIWE found in capex incurred from 2019 to 2024. | <ul style="list-style-type: none"> <li>No further steps required for preliminary finding, as we reviewed all the evidence and project reached financial closure (G7).</li> </ul>                     |

| Project<br>(£m in nominal<br>prices)                          | Overspend<br>=<br>EAC<br>minus<br>BAC (£m) | Capex<br>incurred<br>2019-<br>2024<br>(£m) | Gateway<br>stage as<br>of 31<br>Dec 24 | Status of review | Next steps   |
|---|--|--|--|------------------|--|
| PRJ-000800 -<br>B6401 TTS<br>Enhancements                     | 0  | 57   | G4 –<br>ongoing                        | Work in progress | <ul style="list-style-type: none"> <li>Review of further evidence related to the 2019-2024 period is ongoing.</li> </ul> |
| PRJ-001786 -<br>B75-053.00 -<br>Compass Centre<br>Acquisition | 0  | 127  | G7 –<br>closed                         | Work in progress | <ul style="list-style-type: none"> <li>Review of further evidence related to the 2019-2024 period is ongoing.</li> </ul> |

Source: CAA and Steer analysis

## Next steps and implementation

- 125 Following the publication of these initial proposals, we will continue our review as explained above, with a focus on the 10 projects indicated in Table I.4 for further assessment. We expect to publish a further update on this work in the summer of 2026, alongside the report from our consultants, to allow stakeholders to comment on these issues. We will take account of those comments in developing our final proposals.
- 126 At final proposals, we will also update the cut-off date for our review of projects under *ex ante* arrangements, to align with the latest published regulatory accounts, which we expect to be for the period ending 31 December 2025. If a RAB adjustment related to *ex ante* arrangements is appropriate, we will explain in our final proposals how this will be implemented in practice.
- 127 We welcome the views of stakeholders on any of the issues discussed in this Appendix and will consider these carefully as part of our work to develop our final proposals.

## Annex: Document register for the *ex post* review

- 128 The table below compiles all the documents that we have reviewed as of 31 December 2024 as part the *ex post* capex efficiency review.
- 129 In addition to the documents listed below, we have also received supplementary information through a Q&A process and through project-specific deep dives held with HAL, the airline community, and the IFS.
- 130 We note that we have received substantial further information in January and February 2026 from HAL and the airlines, which is not listed in the table below as we are still in the process of reviewing this new information.

**Table I.5: List of documents reviewed as of 31 December 2024**

| Project  | Documentation   |
|--|---|
| PRJ-000206 - Main Tunnel                           | <ul style="list-style-type: none"> <li>• IFS Monthly reports</li> <li>• IFS G3 gateway report</li> <li>• IFS Interim close out report</li> <li>• IFS summary report</li> </ul>  |
| PRJ-000255 - Airside<br>Taxiways - Cul De Sacs Tr6 | <ul style="list-style-type: none"> <li>• Project Management Plan Between G3 and G4</li> <li>• Alpha North Tender Programme</li> <li>• Description of the Scope of the Alpha North Project Pre G3</li> <li>• Alpha North Achievement of G3 report</li> <li>• Alpha North Achievement of G3 certificate</li> <li>• Description of the Scope of the Alpha North Project</li> <li>• Schedule Update</li> <li>• Request for approval of the funding for the Alpha North Project</li> <li>• Request for approval of the funding for the Alpha North Project</li> <li>• Alpha North Lessons Learned</li> <li>• Description of the Scope of Block 21 Outer Project</li> <li>• Block 21 Outer Project G3 Risk Register</li> <li>• Block 21 Outer Project G3 Schedule</li> <li>• Block 21 Outer Achievement of G3 report</li> <li>• Block 21 Outer Achievement of G3 certificate</li> </ul> |
| PRJ-000387 - Cargo Tunnel                          | <ul style="list-style-type: none"> <li>• IFS Monthly reports</li> <li>• IFS G3 gateway report</li> <li>• IFS Pseudo-G3 gateway report</li> <li>• CCRS Comments for November 2023 Report (issue 12<sup>th</sup> January 2024)</li> <li>• IFS summary report</li> </ul>   |
| PRJ-000533 - B216 T1_T2<br>HBS                     | <ul style="list-style-type: none"> <li>• IFS Monthly reports (August 2014– September 2021)</li> <li>• IFS Initial review</li> <li>• IFS G3 gateway report</li> <li>• IFS Close out report</li> <li>• IFS Summary report</li> <li>• List of compensation events of the DI</li> <li>• Deed of Amendment 6 with the DI</li> </ul>  |
| PRJ-000535 - B216 T4 HBS                           | <ul style="list-style-type: none"> <li>• IFS Monthly reports (August 2014– September 2021)</li> <li>• IFS Initial review</li> <li>• IFS G3 gateway reports</li> <li>• IFS Close out report</li> <li>• IFS summary report</li> <li>• List of compensation events of the DI</li> <li>• Deed of Amendment 6 with the DI</li> </ul>   |

| Project   | Documentation  |
|---|--|
| PRJ-000537 - B216 T5 HBS  | <ul style="list-style-type: none"> <li>• IFS Monthly reports (August 2014– September 2021)</li> <li>• IFS Initial review</li> <li>• IFS G3 gateway report</li> <li>• IFS Close out report</li> <li>• IFS summary report</li> </ul>   |
| PRJ-000742 - B6361.01<br>Eastern Campus Logistics<br>and Compliance | <ul style="list-style-type: none"> <li>• Business Case describing the project at G3</li> <li>• Project Management Plan at G3</li> <li>• Risk Register at G3</li> <li>• Summarised schedule at G3</li> <li>• Lessons Learned</li> <li>• Benefits Realisation Plan</li> <li>• Business Case Benefits Map</li> <li>• Project Schedule at G5</li> </ul>  |
| PRJ-000776 - B7509<br>Magenta                                       | <ul style="list-style-type: none"> <li>• IFS Monthly reports (May 2020 – October 2021)</li> <li>• IFS G3 Business Case</li> <li>• IFS Gateway reports <ul style="list-style-type: none"> <li>◦ G2</li> <li>◦ G3</li> </ul> </li> <li>• IFS Close out report</li> <li>• IFS summary report</li> </ul>   |
| PRJ-000800 - B6401 TTS<br>Enhancements                              | <ul style="list-style-type: none"> <li>• IFS Monthly reports (June 2021– March 2025)</li> <li>• IFS G3 gateway report</li> <li>• IFS summary report</li> </ul>   |
| PRJ-001330 - B7228<br>Runway Resurfacing -<br>Southern Runway       | <ul style="list-style-type: none"> <li>• IFS Monthly reports (June 2022– March 2025)</li> <li>• IFS G3 gateway reports</li> <li>• IFS Southern Runway – CCRS – IFS comments 27 Jan 2025</li> <li>• IFS G3 gateway presentation</li> <li>• IFS summary report</li> </ul>  |
| PRJ-001410 - B7201.08 -<br>Forecourt Health and Safety<br>Works     | <ul style="list-style-type: none"> <li>• Implementation Schedule</li> <li>• Contract Status Report for T1 and T2 works</li> <li>• Contract Status Report for T4 works</li> <li>• Project Description at G1</li> <li>• Project Schedule with progress up to 17/2/24 (G4)</li> <li>• G3 Cost Plan</li> <li>• Contract Status Report</li> <li>• Change Register up to 16/8/23</li> <li>• Cost breakdown and changes between G7 and G3</li> <li>• Latest Project Schedule</li> <li>• Risk Register</li> <li>• Lessons Learned</li> <li>• Chain of emails confirming the realisation of the benefits</li> <li>• Changes in cost G7 vs G3</li> </ul> |
| PRJ-001524 - B7228 -<br>Runway Resurfacing - Deep<br>Interventions  | <ul style="list-style-type: none"> <li>• IFS Monthly reports (June 2022– May 2023)</li> <li>• IFS G2-G3 gateway reports</li> <li>• IFS summary report</li> </ul>   |
| PRJ-001786 - B75-053.00 -<br>Compass Centre<br>Acquisition          | <ul style="list-style-type: none"> <li>• CBRE UK Full Property Report</li> <li>• Compass Centre Acquisition CPB Sep 2023 presentation</li> <li>• Compass Centre Acquisition Detailed Expenditure Report</li> <li>• Capitalisation of Assets spreadsheet</li> <li>• Signed CC acquisition funding Sep 2023</li> </ul>   |

## APPENDIX J

## Explanation of notional company

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- J1 We and other regulators have traditionally set price controls for HAL based on assumptions in respect of a “notional company”: that is, a hypothetical company that faces broadly the same business risks as the licensee, but whose financial structure is defined based on a series of assumptions in respect of, among things:
- the level of gearing;
  - the types of financial instruments issued, including the proportions of fixed-rate, floating-rate and index-linked instruments;
  - the cost of these instruments;
  - the profile and tenor of issuance; and
  - whether the notional company puts in place any structural features that influence its WACC or risk profile.
- J2 The rationale behind the use of a notional company is that setting maximum allowed charges directly based on the company’s actual financial structure without any adjustments would provide weaker incentives on HAL to finance itself efficiently and responsibly.
- J3 At the same time, it is important to ensure that we define a notional company based on benchmarks that we consider are achievable, financeable and would allow an airport operator subject to HAL’s operating conditions to access debt and equity capital on reasonable terms.
- J4 Defining the notional company in an arbitrary or unbounded manner would not be in the interest of consumers: for example, because it could over-remunerate HAL or because it would undermine access to capital on a cost-efficient basis, leading to higher-than-necessary financing costs<sup>12</sup>. It is therefore important for us to ensure, to the extent that it is practical to do so, that our notional assumptions are internally consistent and realistic.
- J5 The definition of the notional company is an important input into the WACC and our assessment of financeability. We set out the detailed assumptions that we make in respect of the notional company and how these have informed our

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<sup>12</sup> In extreme cases, an excessively low cost of embedded debt could lead to financial distress, the costs of which to consumers could be significant.

assessment have determined these elements of the price control in chapters 9 (Cost of capital), 10 (Financial framework) and 11 (Price cap and financeability).

- J6 The use of the notional company to set price controls does not preclude HAL adopting different decisions in respect of its actual financial structure. Where these decisions enable it to outperform the price control settlement, we generally do not seek to claw back this outperformance, but we also do not compensate HAL where its financing decisions result in underperformance.

APPENDIX K

# RAB roll forward rules

## 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 the purposes of setting the H8 price control.
- K2 The equations set out below are based on the projections made by the CAA in reaching these initial proposals on the charge conditions for the H8 price control period from 1 January 2027 to 31 December 2031.

## Inflation adjustment

- K3 The data used in calculating inflation adjustments is the Consumer Prices Index including owner occupiers' housing costs (CPIH): CPIH INDEX 00: ALL ITEMS 2015=100 (the L522 series) published by the Office for National Statistics. From the CPIH data, we have adopted the following series:
  - (a)  $CPIH_{Dec,t}$  is the CPIH index for December of Regulatory Year t;
  - (b)  $CPIH_{Dec,t-1}$  is the CPIH index for December of Regulatory Year t – 1;
  - (c)  $CPIH_{Annual,t}$  is the arithmetic mean of monthly CPIH index values for each month in Regulatory Year t; and
  - (d)  $CPIH_{Annual,2024}$  is the arithmetic mean of monthly CPIH index values for each month in Regulatory Year 2024.
- K4 From these series we have constructed the following inflation adjustment terms:

| Inflation adjustment                      | Used for  |
|---|---|
| $\frac{CPIH_{Dec,t}}{CPIH_{Dec,t-1}}$     | Annual CPIH growth from December of Regulatory Year t – 1 prices to December of Regulatory Year t prices                      |
| $\frac{CPIH_{Dec,t}}{CPIH_{Annual,t}}$    | CPIH growth from annual average of Regulatory Year t prices to December of Regulatory Year t prices (within year CPIH growth) |
| $\frac{CPIH_{Dec,t}}{CPIH_{Annual,2024}}$ | CPIH growth from 2024 CPIH annual average prices to December of Regulatory Year t prices                                      |

- K5 In each year, the RAB is expressed in December CPIH-real prices of that year. The CAA assumed ordinary depreciation figures are expressed in 2024 CPIH-real annual average prices.
- K6 A value corresponding to a Regulatory Year can be expressed in different price bases and denoted by the subscripts as follows:

| Price base  | Subscript    |
|---|--------------|
| CPIH prices in December of the previous Regulatory Year | Dec, t – 1   |
| CPIH prices in December of that Regulatory Year         | Dec, t       |
| Annual average CPIH prices of that Regulatory Year      | Annual, t    |
| Annual average CPIH prices of Regulatory Year 2024      | Annual, 2024 |

### Composition of the RAB

- K7 The RAB at the end of Regulatory Year t is given by  $RAB(t)_{Dec,t}$ .

### The Opening RAB

- K8 The Opening RAB of Regulatory Year t equals to the Closing RAB of Regulatory Year t – 1, both expressed in CPIH prices in December of Regulatory Year t – 1. That is:

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

- K9 For H8, the Opening RAB of Regulatory Year 2027 expressed in CPIH prices in December of Regulatory Year 2026,  $\text{Opening RAB}(2027)_{Dec,2026}$ , is £21,636.996 million. Detailed calculations are given in chapter 10 Financial framework.

### Annual RAB roll-forward

- K10 The annual RAB roll-forward is given by:

$$\begin{aligned} &\text{Closing RAB}(t)_{Dec,t} \\ &= \text{Opening RAB}(t)_{Dec,t-1} \times \frac{CPIH_{Dec,t}}{CPIH_{Dec,t-1}} \\ &+ [\text{Actual capex}(t)_{Annual,t} - \text{Proceeds from disposals}(t)_{Annual,t} \\ &+ \text{TRSA}(t)_{Annual,t}] \times \frac{CPIH_{Dec,t}}{CPIH_{Annual,t}} \\ &- \text{CAA assumed ordinary depreciation}(t)_{Annual,2024} \times \frac{CPIH_{Dec,t}}{CPIH_{Annual,2024}} \end{aligned}$$

where:

- (a) t represents Regulatory Years 2027, 2028, 2029, 2030 and 2031;

- (b) Closing  $RAB(t)_{Dec,t}$  is the RAB at the end of Regulatory Year t;
- (c) Opening  $RAB(t)_{Dec,t-1}$  is the Opening RAB at the beginning of Regulatory Year t;
- (d) Actual capex $(t)_{Annual,t}$  is the capital expenditure that has been spent in Regulatory Year t;
- (e) Proceeds from disposals $(t)_{Annual,t}$  is the proceeds from disposals in Regulatory Year t;
- (f)  $TRSA(t)_{Annual,t}$  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 H8. It is calculated as follows:
- (i)  $TRSA(2027)_{Annual,2027} = 0.7 \times ARS(2027)_{Annual,2027} \times (1 + RWACC)^{4.5}$ ;
  - (ii)  $TRSA(2028)_{Annual,2028} = 0.8 \times ARS(2028)_{Annual,2028} \times (1 + RWACC)^{3.5}$ ;
  - (iii)  $TRSA(2029)_{Annual,2029} = 0.9 \times ARS(2029)_{Annual,2029} \times (1 + RWACC)^{2.5}$ ;
  - (iv)  $TRSA(2030)_{Annual,2030} = ARS(2030)_{Annual,2030} \times (1 + RWACC)^{1.5}$ ; and
  - (v)  $TRSA(2031)_{Annual,2031} = ARS(2031)_{Annual,2031} \times (1 + RWACC)^{0.5}$ ;

where:

1.  $ARS(t)_{Annual,t}$  is calculated in the same way as  $ARS_t$  in Condition C1.17 of HAL's licence; and
  2. RWACC is the pre-tax CPIH-real weighted average cost of capital which shall have a value of 5.86%; and
- (g) CAA assumed ordinary depreciation $(t)_{Annual,2024}$  is the CAA's assumed ordinary depreciation in Regulatory Year t. The values over H8 in these initial proposals are given by:
- (i) Regulatory Year 2027: £1,046.899 million;
  - (ii) Regulatory Year 2028: £1,104.181 million;
  - (iii) Regulatory Year 2029: £1,173.150 million;
  - (iv) Regulatory Year 2030: £1,215.804 million; and
  - (v) Regulatory Year 2031: £1,253.840 million.

## Adjustments in addition to annual RAB roll-forward

K11 In addition to the annual roll-forward formula set out in in paragraph K10 above, at various points of H8, we may adjust 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 remunerated.

- K12 For 2031, we will adjust the RAB through the Cost of new debt indexation term  $CONDI(2031)_{Dec,2031}$  to true up the difference between forecast and outturn cost of new debt indexation during H8. The calculation of  $CONDI(2031)_{Dec,2031}$  is given by the workbook titled "CAA\_H8\_cost\_of\_new\_debt\_indexation.xls" which is a part of this Appendix.<sup>13</sup>

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<sup>13</sup> To be published as part of the final proposals.

## APPENDIX L

## Credit metric thresholds

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- L1 To assess HAL's arguments in respect of the thresholds that should apply for the net debt to EBITDA margin, we reviewed the Fitch rating methodologies and discussed with the relevant analysts at Fitch. From this, we understand that, where an entity has some features that resemble a corporately financed structure while other features resemble a project finance structure, Fitch would use judgment to determine the threshold. Fitch also identified the list of factors which it would consider in assessing the degree to which an entity is corporate-like or project finance-like.<sup>14</sup>
- L2 We have analysed the degree to which the notional company meets each of the criteria for either a corporate or project financed entity. In conducting this analysis, we considered the ringfence licence conditions that would apply to a licensee were that licensee not already bound by the restrictions of a whole business securitisation as HAL has been. We have previously taken a stance of not imposing licence conditions which would cut across HAL's financing arrangements and have noted that the restrictions in HAL's financing documents serve to protect consumers even if that is not their original intent.<sup>15</sup>
- L3 Consequently, we can infer that the notional company, by virtue of not having whole business securitisation, would likely have a more comprehensive set of ringfence licence conditions. We would expect that the notional company's ringfence conditions might resemble those of energy networks as those licence conditions were created without being restricted by the existence of a single licensee that already had in place a whole business securitisation.
- L4 Our analysis of the restrictions that would apply for the notional company showed that, for four of the five criteria, the notional company more closely resembles a project financed entity. We have then interpolated between the different criteria as shown in Table L.1 below:

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<sup>14</sup> The list of factors is set out in appendix E of Fitch's transportation infrastructure credit rating methodology: [Transportation Infrastructure Rating Criteria](#)

<sup>15</sup> For example, we noted that "bondholders and consumers have a common interest in HAL remaining financially robust" in [CAP1832](#)

**Table L.1: Analysis of rating threshold**

|   | Project finance like | Corporate finance like |
|---|----------------------|------------------------|
| Threshold for A rating                                    | 8x                   | 4x                     |
| Threshold for BBB rating                                  | 11x                  | 5.5x                   |
| Threshold for BBB rating                                  | 11x                  | 5.5x                   |
| Implied threshold for BBB+ rating                         | 10x                  | 5x                     |
| CAA-assessed weighting for notional company               | 80%                  | 20%                    |
| Implied threshold level for BBB+ for the notional company | 9x                   | 9x                     |

Source: Fitch transport infrastructure rating criteria and CAA analysis

- L5 We have considered the issues of whether to apply a one notch differential between the thresholds that are relevant for the notional company compared to those that apply to HAL. In considering the issue we reviewed our position from the H7 price control.
- L6 Our position for the H7 price control was that there was some merit in the argument that a whole business securitisation would produce a one notch uplift in rating but that other factors were also relevant. The other factors we noted for the H7 price control were that the notional company would still be financeable with a BBB rating and that some regulated companies, such as South Staffordshire Water Plc, benefit from a degree of rating uplift by virtue of the regulatory ring fence.<sup>16</sup>
- L7 As noted above, HAL's financing requirement for the H8 period is comparable to that for the H7 period and, therefore, we conclude that a BBB rating would still be likely to be sufficient for the notional company to be able to finance its activities. And, in respect of South Staffordshire Water Plc, the only change has been that S&P moved it to negative outlook in November 2024<sup>17</sup> due to sectoral concerns only to later reaffirm the BBB+ rating as 'stable'.<sup>18</sup>
- L8 We have, therefore, applied a one notch differential in determining the threshold levels though interpret the findings considering the above commentary.

<sup>16</sup> The regulatory ring fence refers to the set of licence conditions which exist to safeguard consumers. These licence conditions include, for example, restrictions on the disposal of assets and include requirements for HAL's ultimate controller to provide a written undertaking to the CAA.

<sup>17</sup> See [12nov2024spratingactionon8ukwatercompanies.pdf](#)

<sup>18</sup> See [Annual Performance Report 2024/25](#)