

**Consultation Document  
Heathrow and Gatwick Airports  
CAA proposals following service quality audit**

**November 2009**

***Civil Aviation Authority  
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## Executive Summary

### Background

1. In April 2009, the CAA commissioned Steer Davies Gleave to conduct an audit of the service quality rebate scheme that applies to Heathrow and Gatwick Airports for the year ending 31 March 2009. The objective of the audit was to provide a transparent, independent assessment of the measurement of service standards in the CAA's service quality rebates scheme rather than a fundamental review of the form or intensity of the scheme itself. The auditors reported back to the CAA in July 2009 and their report is published on the CAA's website.
2. This paper sets out the CAA's own assessment of what it proposes should be done in response to the auditors' findings and recommendations for consultation with interested parties. It also takes the opportunity to consider some additional issues with the scheme that have been drawn to the attention of the CAA by interested parties.
3. The audit made significant findings with respect to the calculation of rebates and security queuing and more minor findings in respect of the other three subsets of quality metrics: asset availability, passenger perception elements measured by a passenger survey (the Quality of Service Monitor (QSM)) and the Aerodrome Congestion Term (ACT).

### Calculation of Rebates

4. The most significant findings related to errors in the calculation of the scheme in the relevant year. At Heathrow landing and parking charges (including the ANS element) had been omitted from the airport charge base to which percentage rebates had been applied. At Gatwick the charges for ANS had been omitted from the ANS base. As soon as the CAA received the draft findings of the auditors it wrote to both airports requesting that they repay the outstanding rebates, including interest, before the end of July. The CAA also asked for a full explanation of how these errors had occurred, and what steps were being taken to ensure that these, or similar failures, would not occur in the future. The airports subsequently repaid the amounts that they calculated to be outstanding and explained to the CAA the circumstances in which the miscalculations had occurred.
5. The CAA proposes to address these issues through a combination of an annual audit and the requirement for each airport to produce an action plan, with timescales, setting out what the airports plan to do to prevent errors in future calculations. Such action plans will also encompass the airports' plans to address some of the issues with the scheme as identified below.

## Security Queuing

6. In respect of security queuing the audit made significant recommendations on the way that queues should be measured (to enable the transition to automatic measurement) and on how more complex queuing procedures should be dealt with where there is more than one security area in a terminal. These were:
- the Statement of Standards and Rebates should be redrafted to reflect the delay imposed by the security queue, rather than the time in the queue;
  - at search areas where there are multiple entrances, security queuing data should be gathered for each entrance and ideally a weighted average should be taken to reflect the passenger experience;
  - Heathrow Airport should ensure that staff responsible for data capture are free from distractions whilst undertaking this function;
  - progress towards automation of passenger and vehicle data capture should be a priority; and
  - the CAA should develop a common set of requirements and standards for automated queue measurement installations.
7. The CAA is minded to revise the Statement of Standards and Rebates to reflect these recommendations but it proposes that these changes will be contingent on further work by the airports and users to validate the detail of the revised standards. It also requests an action plan from the airports on the introduction of automatic measurement.
8. The CAA is also considering issues raised by British Airways around the closure of staff search points and whether the amount at risk for staff search at Heathrow should be split between the performance of individual staff points, as at Gatwick.

## Asset Availability Measures

9. The audit did not identify any major systematic shortcomings in asset availability measures. It did, however, find some minor inconsistencies. The airports' action plans should address these findings.

## QSM Measures

10. The audit gave the QSM measures a relatively strong endorsement. It did, however recommend that:
- the scores should be weighted by terminal passengers;

- BAA should investigate the significance of under sampling late gate arrivals; and
  - in the longer term, consideration should be given to make the measures more sensitive to changes in performance and extending the schemes to include additional QSM measures, based on customer priorities.
11. The CAA expects the first bullet to be complied with going forward as it conforms to the current requirement. The CAA has decided not to require retrospective recovery for 2008/9, as there may have been some potential sources of misunderstanding in the drafting of the scheme. The CAA expects the second bullet to be addressed by the airports in their action plans and the CAA is open to any comments or evidence on the third point although it would not expect to make any changes until the start of Q6.

### **Aerodrome Congestion Terms**

12. The audit concluded that the Aerodrome Congestion Term (ACT) at each of Heathrow and Gatwick, although different, were robust and fit for purpose. The auditors made recommendations relating to improving the consultation and information process with users and the adjustment of the standard level of rebates from 2007 prices to current year prices.
13. The CAA intends to monitor progress on improving consultation and information through the airports' action plans and is also proposing to modify the statement of standards and rebates so that the annual uplift in prices is based upon a fixed known level of inflation and does not require subsequent revision after rebates have been paid.
14. The CAA has also taken the opportunity of this consultation to respond to a request by BAA to clarify the ACTs at both airports and to propose minor changes to their specification.

### **Publication of information**

15. The standards and rebates scheme requires the airports to publish performance of the passenger facing measures against the standards. The audit recommended that the information posted in the terminals could be presented in a way that communicated the service quality performance more effectively.
16. The CAA agrees that examples of different formats should be tested with members of the airports' passenger consultation bodies before finalisation of design to consider whether they clearly convey good or bad performance as appropriate to passengers. The CAA would expect this issue to be addressed in the airports' action plans.

## CAA Approach

17. In general terms, the CAA proposes to address the outstanding issues raised by the audit through a combination of:
  - an annual audit, focussing on those areas where deficiencies were identified by the audit, for the remainder of Q5;
  - proposing changes to the scheme where that is appropriate;
  - indicating where the CAA is minded to make changes to the scheme contingent on further consultation and analysis; and
  - requesting an action plan from each airport setting out how they intend to address the findings and recommendations identified in the audit.
18. The CAA has set out an indicative timetable for putting these approaches into effect.
19. The CAA invites comments on these proposals, which should be received by 8 January 2010.

# 1. Introduction

## Purpose of this document

- 1.1 This document summarises the findings of the audit commissioned by the CAA of the service quality schemes at Heathrow and Gatwick airports, carried out by Steer Davies Gleave<sup>1</sup>. The document sets out the CAA's observations on the findings, and proposes amendments to the schemes. The CAA has also considered other minor simplifying or clarifying changes to the schemes which have come to light since the CAA's price control decision in March 2008. Some of the proposals are for changes to the schemes, some require further refinement of detail before any firm proposals are made and some raise issues that the CAA will consider as part of the next review. Comments are invited on the CAA proposals.

## Background

- 1.2 Following public interest findings by the Competition Commission in 2002, the CAA imposed conditions on Heathrow and Gatwick under which they paid rebates on airport charges to airlines if certain specified service standards were not met. In March 2008, the CAA amended the schemes, increasing their coverage of airport services and facilities, tightening some of the targets, and increasing the amounts payable in rebates for service failures. At the same time, the CAA introduced bonuses where there was above target service quality across all the terminals at an airport for some passenger facing elements. The details of the service quality regimes are set out in a published Statement of Standards and Rebates<sup>2</sup>.
- 1.3 In its March 2008 decision on the price controls and public interest conditions for Heathrow and Gatwick airports, the CAA said it would conduct at least two audits of the measurement of service quality during the period of the price control (2008 to 2013). It said the first audit would be in 2008/9. The purpose of the audit would be to provide a transparent, independent assessment of the extent to which the airports' measurement of service quality subject to the service quality rebate schemes provides objective, unbiased, reliable and robust information on which to base regulatory financial incentives. The CAA said the audit would look at all the elements of the service quality regime, that is QSM, security queuing, airport asset reliability measures, and the ACTs.
- 1.4 In December 2008, the CAA wrote to both airports and the Airline Operators Committee (AOCs) at each airport, requesting comments on draft terms of reference for the audit. The CAA took account of comments received and set out the terms of reference for the audit in March 2009.

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<sup>1</sup> Audit of SQR measures at Heathrow and Gatwick airports - Final report - July 2009

<sup>2</sup> Set out as Annex H of the CAA's March 2008 price control decision.

- 1.5 In April 2009, the CAA appointed Steer Davies Gleave to carry out the audit. Steer Davies Gleave reviewed the service quality elements of the scheme, observing measurement processes, sampling measurement data and crosschecking data sources where possible. Steer Davies Gleave consulted airport managers and airlines before starting its observations, and discussed its emerging conclusions with them and the CAA. Its final report was sent to the CAA at the end of July 2009, and the CAA published it on 3<sup>rd</sup> August.
- 1.6 In carrying out its assessment of the findings of the audit and in proposing amendments to the service quality schemes, the CAA will follow its duties under section 39(2) of the Airports Act 1986, by acting in a manner best calculated:
- to further the reasonable interests of users of airports within the United Kingdom;
  - to promote the efficient, economic and profitable operation of such airports;
  - to encourage investment in new facilities at airports in time to satisfy anticipated demands by the users of such airports; and
  - to impose the minimum restrictions that are consistent with the performance by the CAA of its functions under the Act.

The CAA shall also take into account such of the international obligations of the United Kingdom as may be notified to it by the Secretary of State.

- 1.7 The CAA will also have regard to the principles of better regulation promoted by the Government by ensuring that its regulation of service quality is proportionate, transparent, consistent and well targeted at the detriments to the public interest found by the Competition Commission.
- 1.8 On 21 October, BAA announced that it had sold Gatwick Airport to an entity owned by Global Infrastructure Partners subject to various procedures including clearance under EU merger regulation clearance. The sale of Gatwick Airport does not affect the Standards and Rebates scheme nor does it affect the proposals set out in this paper.

### **Structure of document**

- 1.9 This chapter sets out the background to the consultation, the timetable for the consultation and information on how and when to respond. The document then looks at each of the areas of the audit; the calculation and publication of rebates and bonuses, security queuing, asset availability, QSM, and the aerodrome congestion term. For each area the document sets out for both airports individually the findings of the audit, the CAA's observations on the findings, and any CAA proposals for amending the

service quality schemes. The final section sets out the CAA's proposed scope of audits for the rest of Q5.

### Timetable

- 1.10 The timetable for the service quality audit so far and indicative timings for follow-up action from the audit is set out below:

CAA decided to audit the service quality schemes at least twice in price control period 2009-2013	March 2008
CAA asked airports and airlines for comments on draft terms of reference for the first audit	December 2008
CAA published terms of reference for the audit	March 2009
CAA appointed Steer Davies Gleave to carry out the audit	April 2009
Steer Davies Gleave delivered its audit report to the CAA	July 2009
CAA consults on the findings of the audit and the CAA's proposed actions	<b>14 November 2009</b>
Closing date for responses to CAA consultation	<b>8 January 2010</b>
Airports provide action plan	<b>8 January 2010</b>
Airports and Airlines validate detail of revised security measurement.	To be completed by end January 2010
CAA consults on changes to revised security measurement.	Mid February 2010
CAA implements amendments to the schemes	1 April 2010

### Views invited

- 1.11 The CAA is allowing eight weeks for written comments on the proposals in

this document. Any comments should be sent, if possible by e-mail, to [kathryn.hodgson@caa.co.uk](mailto:kathryn.hodgson@caa.co.uk), by 8 January 2010. Alternatively, comments may be posted to:

Kathryn Hodgson  
Economic Regulation Group  
CAA  
45-59 Kingsway  
London WC2B 6TE

- 1.12 The CAA will acknowledge all responses. It expects to make responses available on its website for other parties to read as soon as practicable after the period for written comments has expired. Any material that is regarded as confidential should be clearly marked and included in a separate annex which, subject to further discussion with the author and subject to the criteria the CAA has established for treating information as confidential, will not be published.
- 1.13 If you have any immediate questions on this document please contact Mike Goodliffe on 020 7453 6226 or by e-mail to [mike.goodliffe@caa.co.uk](mailto:mike.goodliffe@caa.co.uk).

## 2. Calculation and publication of rebates and bonuses

### Audit findings

2.1 The auditors' report made the following findings.

#### *Heathrow*

- 2.2 At Heathrow the correct measure of revenue (total charges from passenger services) had not been used to calculate rebates. Instead the revenue from landing and aircraft parking charges were excluded from Heathrow's calculations leading to the actual rebates payable being around 50% higher than the amounts published to date. Heathrow Airport has now corrected this error.
- 2.3 The monthly calculation of rebates was based on actual monthly revenue rather than a prior estimate of annual revenue. This led to smaller rebates in the early part of the year than would otherwise have been calculated.
- 2.4 Passenger weighting had not been applied to the year to date scores for QSM. When corrected this gave rise to further instances when targets had not been reached, including one occasion triggering the potential for an additional rebate at Terminal 3.

#### *Gatwick*

- 2.5 At Gatwick, the revenue from air navigation charges had been excluded from the revenue at risk, leading to actual rebates payable being about 8% higher than the amounts published to date. This has now been corrected by Gatwick Airport.
- 2.6 Passenger weighting had not been applied to the year to date scores for QSM. when corrected this gave rise to further instances when targets had not been reached, but did not trigger additional rebates.
- 2.7 The annual year-end correction was applied at the same time as a correction to the rounding formula and treated as an adjustment to the March 2009 rebates. This was not in accordance with the statement of standards and rebates and reduced transparency, but it was a pragmatic approach.

#### *Both Airports*

- 2.8 At both airports, the spreadsheets used to calculate the rebates and bonuses had not been constructed to best practice and therefore were at risk of manual input errors. This could be more material at Heathrow with five terminals, where the calculation spreadsheet was particularly non-transparent.
- 2.9 The requirements for publishing information had been met at both airports. However, the information posted in the terminals could be presented in a way that communicated the service quality performance more effectively.

## Audit recommendations

2.10 The audit recommended that:

- 2.11 the corrected values of rebates should be paid and published;
- 2.12 the spreadsheet for calculating rebates and bonuses for Heathrow should be re-designed to be fully transparent and in conformity with best practice;
- 2.13 at Gatwick, the 2009/10 calculation spreadsheet should be created with less opportunity for user error through reducing the need for manual intervention;
- 2.14 confirmation of payment of rebates is posted on the respective airports' websites to provide more information to the CAA and airlines;
- 2.15 in future the year-end payment adjustment is made transparent as a separate credit/debit item on airlines' invoices;
- 2.16 greater clarity is needed with the Constructive Engagement agreements at both airports. Where the Statement of Standards and Rebates allows for local agreements these should be formally documented, ratified by the airport AOC and the CAA should be informed. Local agreements, which would amend the Statement, must be approved by the CAA and a revised Statement issued. Informal agreements, at an airport or terminal AOC level, should not be treated as valid for the operation of the service quality schemes;
- 2.17 the interpretation of the service quality schemes should be made more transparent by the airports producing a summary process document for its own managers, which should be copied to the AOCs and CAA for information that sets out how the data will be collected and processed. This would allow concerns to be raised earlier if there are differences of interpretation of the formal requirements of the schemes; and
- 2.18 that posters present the service quality scores in a manner, which conveys information more usefully and does not adhere strictly to the service quality measures where they employ moving averages. Examples of different formats should be tested with members of the airports' passenger consultation bodies before finalisation of design.

## CAA assessment

- 2.19 The CAA accepted that the correct calculations had not been made by the airports and took immediate steps to ensure that the levels of rebate were corrected as soon as the draft findings of the audit were made available to it. The CAA wrote to the Chief Operating officer at Heathrow and the Managing director at Gatwick requesting that the airports repay the outstanding rebates with an allowance for interest before the end of July. The CAA also asked for a full explanation of how these errors had occurred, and what steps were being taken to ensure that these or

similar failures would not occur in the future. The airports subsequently repaid the amounts that they calculated to be outstanding and explained to the CAA the circumstances in which the miscalculations had occurred<sup>3</sup>.

- 2.20 BAA did however dispute that it should make a further rebate based on revising the QSM year-to-date scores to be weighted by the number of passengers in each month. BAA argued that it considered its interpretation to have been correct although it has undertaken to change its interpretation from 1 April. (The effect of applying this weighting would have no effect on rebates at Gatwick but would have the effect of increasing the rebate in Terminal 3 at Heathrow by £0.15 million.)
- 2.21 The CAA acknowledges that there may have been some potential sources of misunderstanding in the chapter of the decision describing the scheme and in the Statement of Standards and rebates as originally specified. On this issue the CAA has decided not to revise the rebates for 2008/9 but to accept the way forward of revising the approach from 1 April 2009.
- 2.22 The CAA agrees with the auditors that the spreadsheets used to calculate the rebates and bonuses should be constructed to keep the risk of manual input errors limited to a minimum. The CAA recognises that Heathrow airport has submitted a redesigned spreadsheet, which has been specified to achieve this.
- 2.23 The CAA proposed in its March 2008 decision that it would conduct a minimum of two service quality audits during the course of Q5 but also reserved the right to commission further investigations and audits if it considered that this would be warranted in light of the findings of its first service quality audit. early in Q5. In the light of the errors in calculation identified by this audit, the CAA proposes to conduct further annual audits in Q5. The proposed scope of future audits is considered in section 7.
- 2.24 The CAA agrees that there should be greater clarity on which elements of agreement, between airports and airlines, forms part of the Standards and Rebates scheme (as alluded to in the Statement) and which agreements are additional agreements between the parties. The CAA agrees that where the Statement of Standards and Rebates allows for local agreements these should be formally documented, ratified by the airport AOC and the CAA should be informed. Local agreements which would amend the Statement must be approved by the CAA and a revised Statement issued. Informal agreements, at an airport or terminal AOC level, should not be treated as valid for the operation of the service quality schemes.
- 2.25 The CAA agrees that the interpretation of the service quality schemes would be made more transparent by the airports producing a summary process document for its own managers setting out how data will be collected and processed, which

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<sup>3</sup> Heathrow subsequently identified two further minor errors in the calculation of rebates caused by the manual intervention in the spreadsheet. These were in respect of T4 Pier Service and T5 Track Transit. Heathrow subsequently raised credit notes for the shortfall.

should be copied to the AOCs and CAA for information. This would allow concerns to be raised earlier if there are differences of interpretation of the formal requirements of the schemes.

2.26 The CAA agrees that posters displayed in terminals should present the service quality scores in a manner, which is more relevant and immediate to passengers passing through the airport. They should still present in each terminal, on a monthly basis, the performance of each terminal against the standards at the relevant airport in respect of:

- Departure lounge seat availability;
- Cleanliness,
- Way-finding,
- Flight information,
- Central security queues,
- Transfer search,
- Passenger sensitive equipment (general),
- Passenger sensitive equipment (priority),
- Pier service,
- Arrivals reclaim (baggage carousels),
- Gatwick Inter Terminal Transit System, (Gatwick only)
- Terminal 5 tracked transit system. (Heathrow only)

2.27 But in respect of those standards based on a 12 months lagged standard, the CAA agrees that performance in the relevant month should also be published<sup>4</sup>.

2.28 The CAA agrees that examples of different formats should be tested with members of the airports' passenger consultation bodies before finalisation of design to consider whether they clearly convey good or bad performance as appropriate to passengers.

### **CAA proposals**

2.29 The CAA is not proposing any change to the formal statement of standards and rebates arising from the findings in this section. It will, however, expect the calculation of rebates to be further reviewed annually for the remainder of Q5. The

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<sup>4</sup> Departure lounge seat availability, cleanliness, way-finding, flight information and pier service.

CAA is also asking for an action plan from each of the airports on how each proposes to address the findings of the audit.

### 3. Security queuing

#### Audit findings

3.1 The auditors' report made the following findings.

- 3.2 At both airports, BAA was still employing manual systems to capture security queuing data, although there had been some progress towards automation at Heathrow. Where queuing did not follow a "first-in/first-out" process, as in most central and transfer security search areas, manual systems which are based on a very small sample of passengers would not capture the range of passenger experience that occurred even within a 15 minute period. In some cases this inherent inaccuracy was compounded by the operational circumstances and means of capture.
- 3.3 Automation was a significantly more reliable and accurate way of measuring security queuing times. However, automation was still only at a trial stage at Heathrow, with implementation about to take place at two sites, and a system had yet to be selected at Gatwick. There were no agreed standards in relation to the various automated products which airports were introducing in relation to technological specification, algorithms, output objectives, etc. Nor was there clarity regarding longer-term customer service objectives, which automated technology, would facilitate.
- 3.4 The way in which the start of the security queue was measured in passenger search areas differed between Heathrow and Gatwick. At Gatwick, the transit time from a portal at the entrance to the security area before conformance tests and ticket presentation was measured, but a 'journey time' was added to the target time before breaches were calculated. Heathrow measured from the end of the queue but excluded ticket presentation unless this was straddled by the queue. At Heathrow no adjustment was made for the free-flow transit time.
- 3.5 Multiple entrances to the search areas presented a challenge in term of obtaining a reliable measure of customer experience. This was addressed differently at Heathrow and Gatwick.
- 3.6 Staff search posts and control post date was captured consistently at Heathrow, but Constructive Engagement documents drawn up between the airport and AOC had been interpreted differently by each party.

## Audit recommendations

3.7 The audit recommended that:

- 3.8 there should be a common interpretation of where the security queue measurement should start and finish and whether a 'walk time adjustment' should be applied. The Statement of Standards and Rebates should be redrafted to reflect the delay imposed by the security queue, rather than the time in the queue;
- 3.9 at search areas where there are multiple entrances, security queuing data should be gathered for each entrance and ideally a weighted average should be taken to reflect the passenger experience;
- 3.10 at critical customer service locations, such as central and transfer search entrances, Heathrow Airport should ensure that staff responsible for data capture are free from distractions whilst undertaking this function;
- 3.11 progress towards automation of passenger, staff and vehicle data capture should be a priority, and be based on solutions approved by the CAA after consultation with the respective airport AOCs; and
- 3.12 the CAA should develop a common set of requirements and standards for automated queue measurement installations. This could include a revised definition of the queuing measure, approval of the protocols to be used and revised targets to reflect the new measures.

## CAA assessment

- 3.13 The audit has identified differences in approach between Heathrow and Gatwick and has suggested that the definition of the queue and the form of measurement could be revised to facilitate the transition from manual to automatic measurement. The CAA agrees that the automation of passenger and vehicle data capture should be a priority and is inclined to consider ways in which the airports should be encouraged to push this forward. The CAA believes that automation should be extended to the measurement of staff queues in due course but this should not delay its introduction for passenger queues. The CAA is also inclined to make the necessary changes to allow a common basis of definition and measurement between manual and automatic measurement, and thereby smooth the transition while seeking to establish equivalent standards to those set at the time of the CAA's March 2008 price control decision. The CAA also acknowledges that where there are multiple entrances to queues, the results should be weighted in such a way that it reflects passenger experience.
- 3.14 On the basis of the auditors' report, the CAA believes that both Heathrow and Gatwick have genuinely sought to find practical and objective ways to measure queuing times in the context of their respective terminals' operating environments. They have, however, been measuring slightly different things. Heathrow has been measuring the time taken from a passenger to move from the back of the queue to

the roller-bed while Gatwick has been measuring the delay introduced by the queuing process, by measuring the time taken between a fixed portal and the roller bed and then netting off the unimpeded walking time if there were no queue.

- 3.15 While the approach adopted by Heathrow appears to better reflect the spirit of the queuing time as set out in the Statement of Standards and Rebates, an approach based on measuring the additional time that queuing adds to the process does appear to have merit in the following respects:
- it better reflects the impedance caused by the queue to the passenger experience;
  - measuring times at which passengers enter a fixed portal and reach a fixed point in the queuing process seems to be a more straightforward basis for automatic measurement for the technologies now available. (This needs to be supplemented by additional measurement in circumstances when a queue extends beyond the portal to the relevant area); and
  - having established the basic principles, this approach could be applied with a degree of consistency by either manual or automatic measurement;
- 3.16 The CAA recognises that such an approach would have to establish:
- a revised target for the new basis of measurement equivalent to the existing targets;
  - an estimate of unimpeded time appropriate to particular search areas;
  - protocols for measurement in circumstances where queues extend beyond the portal (at least in circumstances when a queue from the portal to the exit point of the queue is less than the maximum queuing time defined as a standard); and
  - the defined event, which represents the exit point from the queue. In respect of the manual systems the defined point is currently reaching the roller-bed but in the interests of facilitating automatic measurement it may be better to chose a more practicable exit point for automatic measurement (e.g. passing through the security arch.)
- 3.17 A more fundamental change in the approach could be adopted by measuring the whole time in the security process e.g. by measuring times between portals at the entry and the exit of the security process and netting off the unimpeded time including an allowance for the processes conducted by security staff. Such an approach would require a number of considerations to be taken into account:
- it might appear to put time pressures on security guards to expedite processes where the paramount consideration should be safety and where some passengers and their luggage would merit additional scrutiny;

- it would add more variance to the times experienced (this may have more significance in the context of manual measurement where the performance for one passenger is taken to represent the performance for a whole 15 minute period).

- 3.18 Both of these considerations might be mitigated where there are automated systems capable of taking into consideration the queuing performance for a large sample of passengers in a 15-minute period and where the standard can concentrate on the typical performance during such a period. This may therefore be a more practical approach in the future when such automated technologies are established.
- 3.19 In addition, it is not clear that this approach would add significant value to the measurement of performance given queues provide a significant indicative measure of how well the resourcing the security process are being managed. The CAA is not therefore inclined to take forward an approach based on measuring the whole time in the security process at this time.
- 3.20 The CAA considers that it should propose a change to the principles consistent with the discussion in paragraphs 3.13-3.16 in this paper. However, the CAA agrees with the auditors that the practical implementation of the changes will require a further process of consultation in order to calibrate the measures in the particular circumstances in each terminal and would ideally be agreed between the airport and airlines.
- 3.21 The CAA considers that it is important that the measures of queuing are representative of the service experienced by passengers. The CAA can therefore see considerable merit in gathering data on, and weighting the results by, the number of passengers using each entrance. The CAA is however minded that this may impose significant additional information burdens if this information is not currently captured. The CAA is therefore seeking views on two alternative approaches:
- the performance metric to be an average of the performance at each portal (in terms of the percentage of times in each month that the queue is less than the defined standard for each of the two standards) weighted by the number of passengers using that portal during the month; or
  - the performance is measured at each 15 minute interval for each portal and the performance for the purpose of the metric is then considered to be the worst performance across the relevant portals;

The first approach would impose greater information requirements on how many passengers used each portal while the second would, without any further modification of the standards, require a higher level of performance.

- 3.22 A further option suggested by BAA would be to split the amount of revenue at risk between entrances at T5 where this is a significant issue. This would avoid the

requirement to weight or even to synchronise measurement between entrances. It would however require a view to be taken in advance of what the relative proportions to each entrance should be and how any closures, which have not been agreed with the AOC as part of the Statement of Standards and Rebates, should be treated. The CAA would be interested in respondents' views on the relative merits of this as an alternative approach.

- 3.23 The CAA agrees with the auditors that, ideally, the staff responsible for data capture at critical customer locations, such as central and transfer search, should be free from distractions while undertaking this function. The CAA believes that the best solution to this issue is likely to be the early deployment of automated technology. The CAA is therefore asking the airports to bring forward a timetable, which would introduce automatic measurement before the end of Q5 with precise dates on deliverables. If this plan is not sufficiently ambitious, or if the airports fail to deliver against the plan, the CAA may need to consider whether this should lead to an amendment of the scheme (either during the course of Q5 or as part of the review for Q6.)
- 3.24 The CAA acknowledges that staff search post and control post data were captured consistently at Heathrow, but Constructive Engagement documents drawn up between the airport and AOC had been interpreted differently by each party. The CAA believes that this may have arisen because there had not been sufficient clarity in Constructive Engagement agreements between aspects of service delivery which directly defined areas of the Statement of Standards and Rebates as delegated to the airport and AOCs for agreement and other issues (e.g. how many lanes would be open at each control post). The CAA proposes that agreements arising as a direct input to the Statement of Standards and rebates should be clearly distinguished in a self-standing document and should be notified to the CAA. Any modifications to these documents agreed between the relevant airport and AOC should also be notified to the CAA.
- 3.25 Since the audit, British Airways has brought to the CAA's attention that Heathrow Airport has unilaterally and at short notice shut staff posts in Terminal Five during the course of Summer 2009. It also denied that there was a local agreement to allow two staff posts to be closed without a breach in the standard at certain periods to allow the staff to be redeployed, as had been reported to the auditors and appears in their report. British Airways has argued that when staff search points are not open at times agreed between the airport and the terminal AOC then that should be considered a failure for the purpose of recording performance for the purpose of the scheme.
- 3.26 The CAA believes that there is a difference in kind between where an agreed number of lanes are not open at a given search point on the one hand and where a whole search point is shut on the other. The number of lanes that are open at a given search point is the means by which the airport achieves a given queuing standard. If the airport manages to meet the standard with a lesser number of open lanes then the standard is met (even if this is not consistent with a side agreement

with the airlines as part of constructive engagement or otherwise.) However, if a whole staff search facility is closed, this may imply a considerable additional time for staff to find an open search point particularly on an extensive campus such as T5.

- 3.27 One approach would be to split the amount at risk between the five staff search points in T5 and to measure performance against each one separately. This is the approach that was adopted for staff search at Gatwick and may have some merit here. The CAA would be interested to hear views as to whether this approach should be used in respect of staff search posts in Terminal five or for staff search posts generally.

### CAA Proposals

- 3.28 The CAA is currently minded to make the changes to the Statement of Standards and Rebates as set out in paragraph 3.29. This is however contingent on a programme of work as set out in paragraph 3.16 to establish parameters for the scheme appropriate to each location.
- 3.29 Add the text between the two horizontal borders below to the Statement of Standards and Rebates<sup>5</sup>:

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#### *Central security queues/transfer search/Staff Search*

The central security queue time is the delay imposed by the queue for security including ticket presentation and facial capture, up to the point that the passenger reaches the security roller bed.

The Transfer security queue time is the delay imposed by the queue for security including ticket presentation and facial capture, up to the point that the passenger reaches the security roller bed.

The staff security queue time is the delay imposed by the queue for security including ticket presentation and facial capture, up to the point that the passenger reaches the security roller bed.

In each case the relevant measured delay shall be calculated as:

$$A - B + C$$

where

	A	is the elapsed time between a relevant passenger or member of staff passing a defined portal and the passenger reaching the security roller bed;
	B	Is an allowance for the free flow transit time from the point

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<sup>5</sup> Between table H-5 and paragraph H.16.

		when the passenger or member of staff reaches the portal to the point where they reach the security roller bed (avoiding any uni-queue or maze system but including an allowance for any intermediate processes conducted between the portal and the roller-bed);
	C	Is any additional time that the relevant passenger or member of staff spends in the queue for central search before reaching the defined portal.

The relevant passenger is defined as:

	For queues measured manually	
		The relevant passenger is the first passenger presenting to either the portal (if the queue does not extend to the portal) or the back of the queue (if the queue extends beyond the portal) after a clockwise 15 minute period (i.e. xx:00, xx:15, xx:30, xx:45) during the relevant time over which performance counts for rebates.
	For queues measured automatically	The relevant passenger shall be in accordance with protocols agreed by the CAA.

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3.30 The implementation of the change set out above requires values for B to be determined. Given that the physical layout and queue management will be different for each type of queue for each terminal, further work will be required to fix reasonable allowances. The CAA envisages that this process will require considerable local operational insight. These allowances will have to be based on objective measurement of unimpeded times through the relevant processes and should be consulted on and if possible agreed by the local terminal AOCs before being formally agreed by the CAA. For this reason the CAA is not proposing immediate implementation of this change but proposes that such work should go ahead and to be reported back to the CAA in sufficient time for the CAA to implement the changes from 1 April 2010.

3.31 While Gatwick has already been measuring security queuing substantively in accordance with the process as set out above, the unimpeded times used have not been consulted upon nor have they been formally agreed with the CAA. The CAA proposes that Gatwick should also go through the above process to determine a fully validated set of unimpeded times. In order not to require Gatwick to change its measurement scheme twice, to conform with the exiting Statement and then to revert to its current approach (albeit against a validated set of unimpeded times) the

CAA is prepared to continue with the existing measurement until 1 April 2010.

3.32 The CAA is requesting both Heathrow and Gatwick to provide an action plan with timetable as part of its response to this consultation document:

- to conduct achieve validated unimpeded times; and
- to introduce automated systems to queue measurement

## 4. Asset availability

### Audit findings

4.1 The auditors' report made the following findings.

- 4.2 The complexity of Heathrow and the need to modify existing maintenance systems to measure performance against service quality targets has led to a relatively fragmented asset availability calculation process.
- 4.3 There are isolated incidents of asset downtime miscalculation, although not to an extent that would alter rebate levels. Heathrow has now modified its procedures in order to accurately capture downtime on these assets; however a more holistic approach to measurement would have prevented these errors from occurring in the first place.
- 4.4 The Maximo maintenance system was fit for purpose, as was the process for recording T5 ITTS<sup>6</sup> downtime. Furthermore, sufficient duplication existed to provide independent verification of the data in these systems (either through ITTS logs or engineers' reports). Downtime calculations taking place outside Maximo lacked transparency (as with FEGP<sup>7</sup> flood damage and project overruns).
- 4.5 The exclusion process was operated consistently with the Statement of Standards and Rebates.
- 4.6 Following adjustments to the way in which FEGP and stand entry guidance systems downtime was calculated, the procedures and systems in each terminal were fit for purpose. The processes in place were also sufficiently transparent and well documented.
- 4.7 It was not feasible to measure asset downtime fully where there were manual systems. Even where there were automatic monitoring systems, these did not allow for automatic reporting and there was often a short delay between an asset registering a fault and it being inspected and declared out of service.

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<sup>6</sup> Terminal Five Tracked Transit System

<sup>7</sup> Fixed Electrical Ground Power

## Audit recommendations

4.8 The audit recommended that there should be:

- 4.9 process changes to ensure greater consistency of approach between asset types;
- 4.10 correction in the adjustments process for FEGP and stand entry guidance systems downtime;
- 4.11 improving information flow between the airports' management and airlines or their agents on notification of airside asset return to service, and reporting of airside asset failures; and
- 4.12 formalisation of the process for recording project overruns.

## CAA assessment

- 4.13 The CAA notes that there has hitherto been fragmentation and some lack of consistency in the treatment of asset availability, but following adjustments to the way in which FEGP and stand entry guidance systems downtimes were calculated, the procedures and systems in each terminal were considered fit for purpose.
- 4.14 The CAA takes from this that there are no major systemic issues with asset availability but a number of more minor and specific areas of improvement. None of the auditors' recommendations imply a change to the Statement of Standards and Rebates.
- 4.15 This is an area of major complexity with 1603 assets at Heathrow and 450 assets at Gatwick within the scheme. It is clearly impractical for the CAA to have a hands-on role in monitoring the detailed accuracy of the scheme. It must rely on the user expertise in the terminals to monitor and challenge the accuracy of reporting. In this context the CAA notes the auditors statement that the Heathrow and Gatwick AOCs are both provided with full breakdowns of downtime on an asset-by-asset basis and have the option of requesting further clarification at monthly SQR Group meetings.
- 4.16 The CAA also considers that it is appropriate to ask the airports to report to the CAA as part of its response to this consultation document the measures that it has taken to address the recommendations made by the auditors in chapter 5 of their report and an action plan of how it expects to meet the recommendations further.

## CAA proposals

- 4.17 The CAA is not proposing any change to the formal statement of standards and rebates arising from the findings in this section.

## 5. Quality of Service Monitor (QSM)

### Audit findings

5.1 The auditors' report made the following findings.

- 5.2 QSM was operated consistently across all BAA airports, had been in place for some time, and operated in line with best practice. The only change affecting the elements of QSM in the service quality schemes had been the switch to using PDA<sup>8</sup>s. This was well documented.
- 5.3 Sample sizes were more than sufficient to calculate the year to date figure when it covered a period of three months or older. The calculation of the year to date figures for both airports did not include weighting by passengers as specified in the Statement of Standards and Rebates.
- 5.4 There was a high response rate to the survey, which indicated that it was reaching a very high proportion of the passengers it was intended to reach. There was some under-representation of passengers who arrived late at the departure gate, and those who did not speak English would be missed. The effect of language was at worst equivalent to 3% of departing passengers, and likely to be much less than this. It therefore did not have a significant impact on the overall scores.
- 5.5 The current method was the most effective available for measuring passenger perceptions. Other approaches, for example based on observation either by professionals or mystery travellers could only supplement and could not replace the current method.
- 5.6 There was broad agreement between QSM and the ASQ survey, with some differences, which were likely to be due to the methods. QSM results were more precise and also more likely to be reliable, so where there was disagreement between the two QSM should be taken as giving the more correct result.

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<sup>8</sup> A hand held computer (Personal Digital Assistant).

## Audit recommendations

5.7 The audit recommended that:

- 5.8 the year to date QSM for 2008/9 and the moving average scores for 2009/10 should be calculated from monthly scores, weighted by terminal passengers in accordance with the Statement of Standards and Rebates;
- 5.9 BAA should investigate the significance of the shortcoming in sampling late gate arrivals adequately; and
- 5.10 in the longer term, consideration should be given to a switch to a shorter period moving average to make the measures more sensitive to changes in performance seasonal differences in performance could be addressed through setting seasonal standards), and extending the schemes to include additional QSM measures, based on customer priorities. These measures would need to be adequately measurable and relate to attributes for which the airport can be held accountable.

## CAA assessment

- 5.11 The CAA considers that the auditors' report is a relatively strong endorsement of the QSM. The auditors stated that they observed that the survey is conducted to a very high standard which is at least as good as other surveys of a similar type. The CAA does not therefore believe that there is any persuasive justification for a change to the Statement of Standards and Rebates based on the audit nor on the process of measurement. Indeed a major issue for the remainder of Q5 may be maintaining the consistency of processes and measurement, particularly at Gatwick, following the break-up of the South East airports.
- 5.12 The auditors have pointed out that passengers who arrive late at the gate may be less likely to be interviewed and that their views will be under-represented in the sample of respondents. The CAA can see some merit in asking BAA to consider the scope for investigating the issues raised further by a discrete supplementary survey to consider to what extent the views of late arrivals at the gate are substantially different from the cross-section of passengers sampled.
- 5.13 The auditors have also raised some more long term issues around switching the QSM measures from a 12 month moving average to a shorter period which would be more sensitive to changes in performance and extending the QSM measures to include other QSM measures based on passenger priorities. These are both issues that the CAA would be prepared to consider at the next quinquennial review. The CAA believes that the first change could not be implemented without a consideration of how performance could be expected to fluctuate naturally through the year as a result of the seasonality of traffic. (Departure lounge seating for example is likely to be more available in quiet periods than in peak periods. The current standards based on an average across the year would imply failure in the peak months without any quid pro quo in the off-peak months). In respect of the

second, the current QSM measures were intended to be the most significant ones for passengers that are within the management of the airport and which are not covered by other measures included elsewhere in the scheme. The CAA is open to considering whether there is evidence that additional measures would fit this specification. While the CAA believes that the appropriate time to implement either of these potential changes would be at the next review it is willing to consider what preparatory work should be done on these issues now.

### **CAA proposals**

- 5.14 The CAA is not proposing any change to the formal statement of standards and rebates arising from the findings in this section.

## 6. Aerodrome congestion term (ACT)

### Audit findings

6.1 The auditors' report made the following findings.

- 6.2 The ACT process at both Heathrow and Gatwick, although different in each case, was robust and fit for purpose. Hard facts ensured that the input to the ACT assessment was transparent and reliable. These were verifiable from other systems, including airlines' own operational control.
- 6.3 However, critical parts of the ACT process were based on judgement. Therefore the process through which these judgements were made was critical to the success of the ACT and must be based on transparency, consensus, expert input and balance/lack of bias. It was noted by all parties that having the correct expertise available to make assessments on the complex interplay of the many contributory factors was essential to success.

### Audit recommendations

6.4 The audit recommended that:

- 6.5 the process at Gatwick could involve formally opening the ACT process to the participation of stakeholders enabling the essential expertise to be deployed at an earlier stage when a potentially contentious material event is thought to have occurred;
- 6.6 at Heathrow transparency could be improved by implementing a mechanism to inform the airlines when a rebate has been paid and when judgement has been exercised by the AOC in agreeing a reduction in rebates; and
- 6.7 the standard rebates should be adjusted from 2007 prices to current year prices.

### CAA assessment

- 6.8 The CAA acknowledges the auditors' finding that the ACT process at both Heathrow and Gatwick is fit for purpose, that the factual input to the ACT assessment was transparent and reliable and verifiable from other systems, including airlines' own operational data. The ACT term is by its nature based on operational data and relies heavily on scrutiny by the airline operational managers, familiar with those operations, as the primary check on the accuracy of event reporting at the time or soon after occurrence.
- 6.9 The CAA also acknowledges the auditors' observation that critical parts of the ACT process are based on judgement and that the processes through which these judgements are made are critical to the success of the ACT and must be based on transparency, consensus, expert input and balance/lack of bias. It agrees that having the correct expertise available to make assessments on the complex

interplay of the many contributory factors is essential to success.

- 6.10 The CAA also observes that there are likely to be only a small number of material events that give rise to rebates. The processes involved therefore need to be proportionate as well as effective. Nevertheless, the CAA intends to encourage both airports to involve the participation of stakeholders with the appropriate operational expertise to be deployed at an early stage when a potentially contentious material event is thought to have occurred.
- 6.11 The CAA believes the parties should make maximum efforts to agree the nature and severity of material events and any judgement applied to apportion responsibility as the operational people on both sides are best equipped to assess the facts and the judgements involved. Proportionate processes should be put in place to allow the parties to escalate and resolve any disputes. The CAA recognises, however, that there may be cases, which cannot be, resolved where it may be required to reach a final decision but this should be used sparingly to deal with material differences.
- 6.12 The CAA also agrees that there should be a clear mechanism to inform the airlines when a rebate has been paid and when judgement has been exercised by the AOC in agreeing a reduction in rebates.
- 6.13 The CAA agrees that the way that the scheme adjusts the standard rebates from 2007/8 prices to current prices should be amended. The current basis of adjusting the standard rebates specified in Statement of Standards and Rebates uplifts prices from 2007/8 to the relevant year based on the average annual increase in the value of the RPI over the relevant year. This approach has the disadvantage that the value the average annual increase in the value of the RPI over the relevant year is not known at the time that rebates are paid and the rebates are therefore subject to correction at the end of the year. This issue has been drawn to our attention at Heathrow by British Airways with the support of airlines and Heathrow airport. British Airways suggested that the annual uplift in each year should be based on the annual increase in the RPI in the August preceding the relevant year. The CAA is inclined to propose this simplification for both airports in order to make the scheme slightly easier to administer. In order that these charges do not lose a year of indexation the CAA proposes that the base year standard rates in the current statement be treated as if they are in 2006/7 prices. The CAA proposes that this change should take effect from 1 April 2010.
- 6.14 In addition to the findings of the audit, BAA asked for clarification on the exact calculation of the term, which it believes could be interpreted in a way which would lead to very much lower rebates than appears to be intended.
- 6.15 The CAA believes that the current formulation works mathematically, but is taking this opportunity to make the statement clearer by:
- a clearer distinction between those variables which represent sums of money and those that represent percentages;

- clarifying the test of whether the rebate has reached the maximum for the year by expressing both the calculated rebate and the maximum rebates as percentages; and
- making explicit that the term denoting the total revenue from airport charges from the relevant air services relates to relevant year.

## CAA proposals

6.16 The CAA proposes the following changes to the text of the Scheme of Standards and Rebates:

Old Text	Proposed text
Heading of first column of table H-7	
Maximum cumulative movements deferred (2007/08 prices)	Maximum cumulative movements deferred (2006/07 prices)
Paragraph H.23	
The rebates in Table H shall be inflated to outturn prices by: = $\text{Rebate}_{2007/8 \text{ prices}} \times (\text{PRICE INDEX}_t / \text{PRICE INDEX}_{2007/8})$ where: PRICE INDEX <sub>t</sub> is the average monthly value of the CHAW series of the retail price index for the 12 months from April to March in relevant year t.	The rebates in Table H shall be inflated to outturn prices by: $\text{Rebate}_{2006/7 \text{ prices}} \times (\text{PRICE INDEX}_{t-1} / \text{PRICE INDEX}_{2006/7})$ where: PRICE INDEX <sub>t-1</sub> is the value of the CHAW series of the retail price index published with respect to August in relevant year t-1 and accordingly PRICE INDEX <sub>2006/7</sub> is the relevant value of the CHAW index published with respect to August 2006.
Footnote 53:	
As the CHAW index will not be known until the end of the relevant year, monthly rebate payments will need to be based on a forecast. Any under- or over- payment of rebates would then be subject to the end of year adjustment set out in paragraphs H.8-H.9.	Deleted

Old Text	Proposed text
Paragraph H.5 definition of $\text{Rebate}_{P\&A}$	
is the aggregate rebate in the relevant year relating to the former "Passenger" and "Airline" elements (as extended by additional elements) (P & A) and calculated as defined in paragraphs H10-H21;	is the aggregate <b>percentage</b> rebate in the relevant year relating to the former "Passenger" and "Airline" elements (as extended by additional elements) (P & A) and calculated as defined in paragraphs H10-H21;
Paragraph H.5 definition of $\text{Rebate}_{ACT}$	
is the aggregate rebate in the relevant year relating to the Aerodrome Congestion Term (ACT) as defined in	is the aggregate <b>percentage</b> rebate in the relevant year relating to the Aerodrome Congestion Term (ACT) as

paragraphs H22-H34; and Paragraph H.22	defined in paragraphs H22-H34; and
$\text{Rebate}_{ACT} = \text{MIN} \left[ \frac{\text{Rebate}_{ARR} + \text{Rebate}_{DEF}}{T_t}, \text{MAX Rebate}_{ACT} \right]$	$\text{Rebate}_{ACT} = \text{MIN} \left[ 100 \left( \frac{\text{Rebate}_{ARR} + \text{Rebate}_{DEF}}{T_t} \right), \text{MAX Rebate}_{ACT} \right]$
$T_t$ is the total revenue from airport charges in respect of relevant air services levied at the relevant airport in relevant year.	$T_t$ is the total revenue from airport charges in respect of relevant air services levied at the relevant airport in relevant year <b>t</b> .

## 7. Future Audits

- 7.1 In its price cap decision in March 2008, the CAA stated that it had decided to conduct two audits of the measurement of service quality during the course of Q5: an audit at the end of the first year to test whether the Quality of Service Monitor, security queuing and asset reliability measures continue to be fit for purpose in the light of the additional weight placed on them in the new scheme, and a second audit after four years of Q5 timed to inform the review to set the price control for Q6. The CAA reserved the right to commission further investigations and audit during Q5 of service quality measurement and performance if it considered that this was warranted in light of the findings of its first service quality audit early in Q5.
- 7.2 The CAA considers that the errors discovered in the calculation of rebates are sufficiently significant to warrant commissioning further investigations and audits on an annual basis.
- 7.3 The CAA believes, however, that it would be wasteful to repeat an in-depth audit against the detail of the whole scheme on an annual basis. The main part of the methodologies for asset availability, QSM measures and the aerodrome congestion term can be expected to remain stable for a number of years. Changes are envisaged to the security queuing measures but the full implementation of this is unlikely to take place during 2009/10. This implies that the audits for years two and three of Q5 should be more focussed than the recent Steer Davies Gleave audit.
- 7.4 The CAA's provisional view is that these audits should focus primarily on:
- the calculation of rebates;
  - the progress in addressing the findings of this audit against each airport's action plan.
- 7.5 The CAA still anticipates commissioning a fuller audit at the end of the fourth year of Q5.