

HEATHROW AIRPORT LIMITED

**2010/11 AIRPORT CHARGES
CONSULTATION**

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APPLICATION OF REGULATORY PRICING FORMULA

1. Introduction

- 1.1 This document sets out the workings of the regulatory pricing formula that underlies the proposals for airport charges for “Heathrow Airport Limited” (Heathrow) from 1 April 2010.
- 1.2 2010/11 is the third year of the fifth *regulatory period* at Heathrow which commenced on 1 April 2008. The basis of the *price control regulation* is the application of the *RPI-X formula* to determine *the maximum airport charge revenue yield*. The CAA published its final decision in March 2008 on the price caps which apply to the fifth quinquennium (Q5) from 2008/09 to 2012/13, which included the opening yield for 2008/09 and the necessary formula for calculating the maximum allowable yield for subsequent years.

2. Calculating the airport charge yield

2.1 The formula

Based on the final CAA decision document the following price formula has been used for calculation of the 2010/11 yield:-

$$M_{2010/11} = \left(1 + \frac{RPI_{t-1} + X + B_t}{100} \right) Y_{t-1} - \frac{TRIGGER_t}{Q_t} - K_t$$

Where :-

$M_{2010/11}$ = maximum average revenue yield per passenger using Heathrow airport in relevant year (2010/11) expressed in £

RPI_{t-1} = the percentage change (whether positive or negative in value) in the Retail Price Index between that published with respect to August in the relevant year t-1 and that published with respect to the immediately preceding August. For 2010/11 this would be the change from August 2008 to August 2009

X = 7.5

B_t = bonus term in 2010/11

Y_{t-1} = specified average revenue yield per passenger for the period t-1 (2009/10)

$TRIGGER_t$ = reduction in maximum allowable charges when the airport has not achieved particular capital investment project milestones on time

Q_t = forecast passengers using Heathrow airport in relevant year 2010/11

K_t = correction factor (k factor) per passenger (whether of a positive or negative value)

3. **Maximum allowable yield forecast 2010/11**

3.1 The combined impact of all the elements of the formula results in a forecast 2010/11 maximum allowable yield of £15.284 (passenger only flights). The full detail of the formula is shown below.

3.1.1 **Specified average yield**

The specified average revenue yield for 2009/10 is £14.749.

Specified yield 2008/09		£13.134
12 months RPI movement to August 08	4.800%	£0.630
X	7.500%	£0.985
Specified yield 2009/10		£14.749

3.1.2 **Bonus Term**

3.1.2a The CAA has included a bonus term in the yield formula. This term is positive if performance on certain passenger service targets exceeds a specified service standard. The bonus term in any given year is based on forecast service quality for that year. Heathrow has decided that no forecast bonus should be included in the yield calculation. B_t is set at 0% in the 2010/11 yield calculation. The bonus element of the formula will be calculated on actual performance and recovered through the k factor in subsequent years.

3.1.3 **Triggers**

3.1.3a All trigger projects due to be completed in 2008/09 have been completed, however two projects were not completed by the milestone dates and have therefore incurred penalty payments. The penalty payment is captured through the k factor for 2008/09 in the setting of airport charges for 2010/11.

3.1.3b In 2009/10, three trigger projects have already been completed and a further three are due for completion. In the event that any of these projects are not completed by the relevant milestone date, the trigger penalty relating to 2009/10 will be incorporated into the k factor for 2009/10 when airport charges are set for 2011/12.

3.1.3c Table 1 lists the trigger projects and their forecast completion dates that are relevant for 2010/11. Both triggers (i) T3 Refurbishment Completion of check-in & Security Search and (ii) Eastern Maintenance Base Redevelopment Completion of the diversion of East Church Road are forecast to be completed after the milestone dates. The total trigger payment associated with these projects is £2.74m. Full details of the calculations associated with all triggers can be found in Annex 2B.

Table 1

2010/11 projects	Milestone month	Forecast Completion Date
T3 Refurbishment Completion of check-in & Security Search	Mar-10	Sep-10
Eastern Maintenance Base Redevelopment Completion of the diversion of East Church Road	Mar-10	Jan-12

3.1.4 K Factor

3.1.4a The k factor in the formula for 2010/11 reduces the maximum allowable yield to compensate for the unanticipated over-recovery against the maximum allowable yield in 2008/09, together with an allowance for interest. The k factor is £0.339 and the calculation is shown in Annex 2A.

3.1.5 Passengers

3.1.5a Forecast passengers for 2010/11 are 67,952k.

4. Application of the Regulatory Pricing Formula

4.1 Based on the regulatory pricing formula, the forecast maximum allowable yield for Heathrow in 2010/11 is set out below.

$$M_{2010/11} = \left(1 + \frac{RPI_{t-1} + X + B_t}{100} \right) Y_{t-1} - \frac{TRIGGER_t}{Q_t} - K_t$$

Where :-

RPI _{t-1}	=	-1.3	
X	=	7.5	
B _t	=	0.0	- this figure is a forecast
Y _{t-1}	=	£14.749	
Trigger _t	=	£2,740k	- this figure is a forecast
Q _t	=	67,952k	- this figure is a forecast
K _t	=	£0.339	- this figure is a forecast

Hence;

$$M_{2010/11} = \left(1 + \frac{-1.3 + 7.5 + 0}{100} \right) 14.749 - \frac{2,740}{67,952} - 0.339$$

$$M_{2010/11} = (1.062 * 14.749) - 0.040 - 0.339$$

$$M_{2010/11} = 15.284$$

5. **Charges in 2009/10**

- 5.1 The maximum allowable yield at Heathrow in 2009/10 was calculated at £14.635. However, charges were set below the maximum allowable yield by £0.074 (to adjust for the change in PSDH spend) at £14.561.

Specified yield 2008/09		£13.134
12 months RPI movement to August 08	4.800%	£0.630
X	7.500%	£0.985
Bonus term	0.000%	£0.000
Trigger payments (000s)		-£0.005
K factor from 2007/08 over recovery		-£0.110
Forecast 2009/10 maximum allowable yield		£14.635
PSDH		-£0.074
Forecast to recover in 2009/10		£14.561

6. **Proposed pricing**

- 6.1 Heathrow is proposing to set prices to recover the maximum allowable yield of £15.284 per passenger (details of the charges are shown in Annex 3).
- 6.2 To date there has been a change in proportions between a lower number of ATMs and passenger numbers compared to forecasts used to set prices for 2009/10. This impacts the charging levels in 2010/11 leading to higher charging levels compared to the average increase from the yield set to be recovered in 2009/10 to the maximum allowable yield in 2010/11.
- 6.3 There will be a retrospective adjustment to reflect the underspend in PSDH on an ex-post basis. The underspend will be treated outside the maximum allowable yield by providing airlines with monthly rebates. The net rebate provided to airlines takes account of; (i) rebate for the full implied return in the regulatory settlement; and (ii) charge for the actual spend in the previous year on an ex-post approach. Details of the PSDH rebate are included in Annex 2C.

CORRECTION FACTOR FOR 2008/09

7. **The Correction factor**

- 7.1 The k factor sets out the level of over or under recovery on a per passenger basis. This has a component to calculate the actual allowable yield, the k factor formula is shown below:

$$K_t = \frac{T_{t-2} - (Q_{t-2}M_{t-2})}{Q_t} \left(1 + \frac{I_{t-2}}{100}\right)^2$$

8. **Actual maximum allowable yield 2008/09**

- 8.1 The combined impact of all the elements of the formula results in 2008/09 actual maximum allowable yield of £13.066 (passenger only flights). The section below presents the components of the formula.

- 8.2 M_{t-2} relates to 2008/09 and is shown below:

$$M_{2008/9} = £13.134 \left(1 + \frac{B_t}{100}\right) - \frac{TRIGGER_t}{Q_t} - K_t$$

Where: -

$M_{2008/9}$	=	actual maximum average revenue yield per passenger using Heathrow airport in relevant year (2008/09) expressed in £
B_t	=	actual bonus term in 2008/09
$TRIGGER_t$	=	actual reduction in maximum allowable charges when the airport has not achieved particular capital investment project milestones on time
Q_t	=	actual passengers using Heathrow airport in relevant year 2008/09
K_t	=	correction factor per passenger

9. **Application of the Regulatory Pricing Formula**

9.1 Based on the regulatory pricing formula, the actual maximum allowable yield for Heathrow in 2008/09 for the k factor is set out below.

$$M_{2008/9} = \pounds 13.134 \left(1 + \frac{B_t}{100} \right) - \frac{TRIGGER_t}{Q_t} - K_t$$

Where: -

$$B_{t2008/09} = 0.092$$

$$TRIGGER_t = \pounds 412k$$

$$Q_t = 65,948k$$

$$K_t = \pounds 0.074 \text{ (k factor for 2006/07)}$$

Hence;

$$M_t = 13.134 \left(1 + \frac{0.092}{100} \right) - \frac{412}{65,948} - 0.074$$

$$M_t = (13.134 * 1.0009) - 0.006 - 0.074$$

$$M_t = 13.066$$

9.2 The components of the formula are explained in the following section.

9.2.1 **Bonus term**

9.2.1a The regulatory pricing formula includes a bonus component for performance of certain passenger service elements. Heathrow has decided that this will only be recovered through the k factor in 2010/11, but this will be subject to review in future years. The pricing formula set by the CAA is as follows:

$$B_t = \sum_{\substack{\text{April} \\ \text{MarchSpecified} \\ \text{Elements}}} \sum \text{MAX}[0, \text{MIN}[BNS(T1)_{kj}, BNS(T2)_{kj}, BNS(T3)_{kj}, BNS(T4)_{kj}, BNS(T5)_{kj}, BNS(HET)_{kj}]]$$

Table 2

“Specified Element”	Performance Metric	Lower performance limit (LPL _k)	Upper performance limit (UPL _k)	Maximum annual bonus (MAB _k)
Departure lounge seat availability	QSM	3.8	4.5	0.36
Cleanliness	QSM	3.9	4.5	0.36
Way-finding	QSM	4.0	4.5	0.36
Flight information	QSM	4.2	4.5	0.36
Passenger sensitive equipment (general)	Availability	99% of time	100% of time	0.40
Arrivals reclaim (Baggage Carousels)	Availability	99% of time	100% of time	0.40

9.2.1b Full details of the bonus formula is available from “Heathrow and Gatwick Airports, CAA price control proposals, November 2007, Chapter 5” and “Airport Regulation, Economic Regulation of Heathrow and Gatwick Airports 2008-2013, CAA Decision, Annex C”. In particular:

“The total annual bonus would be built up from the aggregate of any monthly bonuses for each qualifying element over the year. The bonus receivable in respect of any month would be determined as follows:

- *a bonus in respect of any element will only be payable if the minimum performance being achieved for that element in all terminals at that airport exceeds the standard in the SQR scheme. The scale of the bonus will be determined by the performance achieved in the worst performing terminal, thus providing that users would not be paying a bonus for a level of service higher than that achieved at their own terminal; and*
- *the quantification of relevant bonuses will be based pro rata on where the monthly performance lies between an upper and lower performance limit and the maximum bonus in any particular month.”¹*

¹ Heathrow and Gatwick Airports, CAA price control proposals, November 2007, Chapter 5, page 68.

9.2.1c An example of the calculation is shown below for November 2008.

9.2.1d In November 2008, arrivals reclaim was the only measure that was applicable for the bonus term. The bonus term is determined by the performance of the worst performing Terminal, which was Terminal 1. Details of the bonus term are shown below:

$$BNS(T1)_{kj} = \frac{1}{12} \cdot MAB_k \cdot \frac{MP(T1)_{kj} - LPL_k}{UPL_k - LPL_k}$$

$$MP(T1)_{kj} = 99.38\%$$

$$LPL_k = 99.00\%$$

$$UPL_k = 100.00\%$$

$$MAB_k = 0.40\%$$

T1 Actual performance result	= 99.38%
T2 Actual performance result	= 99.50%
T3 Actual performance result	= 99.71%
T4 Actual performance result	= 99.80%
T5 Actual performance result	= 99.85%

Terminal 1 results are used to calculate the bonus term for that month.

Hence:

$$BNS(T1)_{kj} = \frac{1}{12} \cdot 0.40\% \cdot \frac{99.38\% - 99.00\%}{100\% - 99.00\%}$$

$$BNS(T1)_{kj} = (0.033\%) \cdot ((0.380\%)/(1.000\%))$$

$$BNS(T1)_{kj} = 0.0127\%$$

$$BNS(T1)_{kj} = 0.013\% \text{ (rounded to 3 decimal places)}$$

9.2.1e An alternative to using percentages to calculate the bonus term as expressed above, is to divide the percentage by a multiple of 100 (i.e. $99.38/100 = 0.9938$).

9.2.1f The result of the calculation for November 2008 is 0.013%. The formula is performed for all areas to determine the bonus term. The bonus term for 2008/09 is 0.092%. The breakdown of the full calculation is shown in Table 3

Table 3

Departure lounge seating availability (QSM)	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Total
Terminal 1 (actual)	4.40	4.30	4.30	4.20	4.20	4.20	4.10	4.10	4.10	4.20	4.20	4.20	
Terminal 2 (actual)	3.70	3.70	3.70	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	
Terminal 3 (actual)	3.60	3.60	3.50	3.50	3.50	3.60	3.60	3.60	3.50	3.60	3.60	3.60	
Terminal 4 (actual)	3.70	3.80	3.80	3.90	3.90	3.90	4.00	4.00	4.00	4.10	4.10	4.10	
Terminal 5 (actual)	4.10	4.20	4.10	4.00	4.00	4.00	4.00	4.10	4.10	4.10	4.10	4.10	
BNS(T1) _{KJ}	0.0257%	0.0214%	0.0214%	0.0171%	0.0171%	0.0171%	0.0129%	0.0129%	0.0129%	0.0171%	0.0171%	0.0171%	
BNS(T2) _{KJ}	-0.0043%	-0.0043%	-0.0043%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	
BNS(T3) _{KJ}	-0.0086%	-0.0086%	-0.0129%	-0.0129%	-0.0129%	-0.0086%	-0.0086%	-0.0086%	-0.0129%	-0.0086%	-0.0086%	-0.0086%	
BNS(T4) _{KJ}	-0.0043%	0.0000%	0.0000%	0.0043%	0.0043%	0.0043%	0.0086%	0.0086%	0.0086%	0.0129%	0.0129%	0.0129%	
BNS(T5) _{KJ}	0.0129%	0.0171%	0.0129%	0.0086%	0.0086%	0.0086%	0.0129%	0.0129%	0.0129%	0.0129%	0.0129%	0.0129%	
Bonus term =	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Cleanliness (QSM)	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Total
Terminal 1 (actual)	4.00	3.90	4.00	3.90	3.90	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
Terminal 2 (actual)	3.80	3.80	3.80	3.80	3.80	3.90	3.90	3.90	3.90	3.90	3.90	3.90	
Terminal 3 (actual)	3.80	3.80	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	
Terminal 4 (actual)	3.90	3.90	3.90	3.90	3.90	3.90	3.90	4.00	4.00	4.00	4.00	4.00	
Terminal 5 (actual)	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	
BNS(T1) _{KJ}	0.0050%	0.0000%	0.0050%	0.0000%	0.0000%	0.0050%	0.0050%	0.0050%	0.0050%	0.0050%	0.0050%	0.0050%	
BNS(T2) _{KJ}	-0.0050%	-0.0050%	-0.0050%	-0.0050%	-0.0050%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	
BNS(T3) _{KJ}	-0.0050%	-0.0050%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	
BNS(T4) _{KJ}	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0050%	0.0050%	0.0050%	0.0050%	0.0050%	
BNS(T5) _{KJ}	0.0150%	0.0150%	0.0150%	0.0150%	0.0150%	0.0150%	0.0150%	0.0150%	0.0150%	0.0150%	0.0150%	0.0150%	
Bonus term =	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Way finding (QSM)	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Total
Terminal 1 (actual)	3.90	3.90	4.00	4.00	4.00	3.90	3.90	4.00	4.00	4.00	4.00	4.00	
Terminal 2 (actual)	3.90	3.90	3.90	3.90	3.90	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
Terminal 3 (actual)	4.00	4.10	4.00	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	
Terminal 4 (actual)	3.90	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.10	4.10	4.10	4.10	
Terminal 5 (actual)	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	
BNS(T1) _{KJ}	-0.0060%	-0.0060%	0.0000%	0.0000%	0.0000%	-0.0060%	-0.0060%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	
BNS(T2) _{KJ}	-0.0060%	-0.0060%	-0.0060%	-0.0060%	-0.0060%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	
BNS(T3) _{KJ}	0.0000%	0.0060%	0.0000%	0.0000%	0.0060%	0.0000%	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	
BNS(T4) _{KJ}	-0.0060%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0060%	0.0060%	0.0060%	0.0060%	
BNS(T5) _{KJ}	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	0.0060%	
Bonus term =	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Flight information (QSM)	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Total
Terminal 1 (actual)	4.20	4.20	4.10	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	
Terminal 2 (actual)	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	
Terminal 3 (actual)	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	
Terminal 4 (actual)	4.00	4.10	4.20	4.20	4.10	4.10	4.10	4.20	4.20	4.20	4.20	4.20	
Terminal 5 (actual)	4.20	4.30	4.20	4.20	4.20	4.30	4.30	4.30	4.30	4.30	4.30	4.30	
BNS(T1) _{KJ}	0.0000%	0.0000%	-0.0100%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	
BNS(T2) _{KJ}	-0.0100%	-0.0100%	-0.0100%	-0.0100%	-0.0100%	-0.0100%	-0.0100%	-0.0100%	-0.0100%	-0.0100%	-0.0100%	-0.0100%	
BNS(T3) _{KJ}	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	
BNS(T4) _{KJ}	-0.0200%	-0.0100%	0.0000%	0.0000%	0.0100%	-0.0100%	-0.0100%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	
BNS(T5) _{KJ}	0.0000%	0.0100%	0.0000%	0.0000%	0.0000%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	0.0100%	
Bonus term =	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Pax Sensitive Equip. (general)	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Total
Terminal 1 (actual)	98.43%	99.50%	99.40%	99.43%	99.66%	99.11%	99.61%	99.20%	99.34%	99.61%	99.64%	99.62%	
Terminal 2 (actual)	97.81%	98.02%	99.10%	99.64%	99.73%	99.53%	99.41%	99.37%	99.28%	99.24%	99.78%	99.65%	
Terminal 3 (actual)	99.55%	99.67%	99.72%	99.65%	99.52%	99.37%	99.56%	99.04%	99.61%	99.56%	99.73%	99.67%	
Terminal 4 (actual)	99.44%	99.44%	99.27%	99.20%	99.14%	99.14%	99.57%	97.28%	98.19%	99.46%	99.50%	99.31%	
Terminal 5 (actual)	89.74%	93.15%	96.97%	98.42%	98.62%	99.29%	99.03%	99.25%	99.57%	99.59%	99.54%	99.63%	
BNS(T1) _{KJ}	-0.0190%	0.0167%	0.0133%	0.0143%	0.0220%	0.0037%	0.0203%	0.0067%	0.0113%	0.0203%	0.0213%	0.0207%	
BNS(T2) _{KJ}	-0.0397%	-0.0327%	0.0033%	0.0213%	0.0243%	0.0177%	0.0137%	0.0123%	0.0093%	0.0080%	0.0260%	0.0217%	
BNS(T3) _{KJ}	0.0183%	0.0223%	0.0240%	0.0217%	0.0173%	0.0123%	0.0187%	0.0013%	0.0203%	0.0187%	0.0243%	0.0223%	
BNS(T4) _{KJ}	0.0147%	0.0147%	0.0090%	0.0067%	0.0047%	0.0047%	0.0190%	-0.0573%	-0.0270%	0.0153%	0.0167%	0.0103%	
BNS(T5) _{KJ}	-0.3087%	-0.1950%	-0.0677%	-0.0193%	-0.0127%	0.0097%	0.0010%	0.0083%	0.0190%	0.0197%	0.0180%	0.0210%	
Bonus term =	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0037%	0.0010%	0.0000%	0.0000%	0.0080%	0.0167%	0.0103%	0.0397%
Arrivals reclaim	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Total
Terminal 1 (actual)	99.04%	99.37%	97.74%	99.09%	99.62%	99.52%	98.77%	99.38%	99.36%	99.16%	99.60%	99.53%	
Terminal 2 (actual)	99.71%	98.64%	99.74%	99.34%	99.72%	99.45%	99.85%	99.50%	93.44%	99.64%	99.67%	99.91%	
Terminal 3 (actual)	99.15%	99.66%	96.12%	99.71%	99.48%	99.53%	99.76%	99.71%	99.70%	99.62%	99.80%	99.70%	
Terminal 4 (actual)	99.15%	99.52%	99.42%	99.08%	98.99%	97.80%	98.29%	99.80%	99.56%	99.73%	99.50%	99.42%	
Terminal 5 (actual)	99.99%	99.99%	99.95%	99.92%	99.91%	99.75%	99.90%	99.85%	99.84%	99.75%	99.80%	99.75%	
BNS(T1) _{KJ}	0.0013%	0.0123%	-0.0420%	0.0030%	0.0207%	0.0173%	-0.0077%	0.0127%	0.0120%	0.0053%	0.0200%	0.0177%	
BNS(T2) _{KJ}	0.0237%	-0.0120%	0.0247%	0.0113%	0.0240%	0.0150%	0.0283%	0.0167%	-0.1853%	0.0213%	0.0223%	0.0303%	
BNS(T3) _{KJ}	0.0050%	0.0220%	-0.0960%	0.0237%	0.0160%	0.0177%	0.0253%	0.0237%	0.0233%	0.0207%	0.0267%	0.0233%	
BNS(T4) _{KJ}	0.0050%	0.0173%	0.0140%	0.0027%	-0.0003%	-0.0400%	-0.0237%	0.0267%	0.0187%	0.0243%	0.0167%	0.0140%	
BNS(T5) _{KJ}	0.0330%	0.0330%	0.0317%	0.0307%	0.0303%	0.0250%	0.0300%	0.0283%	0.0280%	0.0250%	0.0267%	0.0250%	
Bonus term =	0.0013%	0.0000%	0.0000%	0.0027%	0.0000%	0.0000%	0.0000%	0.0127%	0.0000%	0.0053%	0.0167%	0.0140%	0.0527%
Bonus term =	0.0013%	0.0000%	0.0000%	0.0027%	0.0000%	0.0037%	0.0010%	0.0127%	0.0000%	0.0133%	0.0333%	0.0243%	0.0923%
Bonus term (rounded to 3 decimal places)	0.001%	0.000%	0.000%	0.003%	0.000%	0.004%	0.001%	0.013%	0.000%	0.013%	0.033%	0.024%	0.092%

9.2.2 Triggers

9.2.2a There were four trigger projects due for completion in 2008/09, shown in Table 4.

Table 4

2008/09 projects	Milestone Month	Forecast completion date at time of price setting²	Completion Date
T4 new CIP - shell & core	Feb-09	Dec-08	Dec-08
T4 completion of baggage sorter	Jan-09	Jan-09	Jul-09
T1 completion of T1 bmi Nose Building	Jan-09	Jan-09	Oct-08
Completion of T4-T1 tunnel refurbishment	Jan-09	Jan-09	Mar-09

9.2.2b All four projects were forecast to be completed by the milestone date when airport charges for 2008/09 were set. However, two projects failed to meet the milestone dates; completion of T4 baggage sorter by six months of which two months are captured in the k factor for 2008/09 and four months will be captured in the k factor for 2009/10 when setting airport charges for 2011/12; and Completion of T4-T1 tunnel refurbishment by two months which is captured in the k factor for 2008/09.

Summary of trigger payment

T4 completion of baggage sorter	= £206,000 in 2008/09 prices
Completion of T4-T1 tunnel refurbishment	= £206,000 in 2008/09 prices
Total Payment	= £412,000 in 2008/09 prices

9.2.2c Full details of the trigger calculations can be found in Annex 2B.

² In setting airport charges for 2008/09 the final price control decision was not announced. Therefore the price proposals put forward by the CAA in November 2007 were used (Heathrow and Gatwick airports, CAA price control proposals, November 2007). The November 2007 proposals only included three trigger projects for 2008/09 (i) T4 new CIP - shell & core, (ii) T4 completion of baggage sorter, and (iii) T1 completion of T1 bmi Nose Building. These projects were forecast to be completed on time.

9.3 K factor for 2008/09

	2008/09 Passengers 000s	Actual yield (£)	2008/09 Revenue £000s	Allowable yield (£)	Under/Over-recovery
Heathrow	65,948	13.387	882,815	13.066	Over-recovery

Total revenue from airport charges (passenger only flights) at Heathrow in	2008/09	Actual (£000s)	T_{t-2}	882,815
Passengers using Heathrow Airport in	2008/09	Actual (000s)	Q_{t-2}	65,948
Maximum allowable revenue yield at Heathrow in	2008/09	Actual (£)	M_{t-2}	13.066
Interest rate from weekly Treasury Bill Discount rate*	2008/09	penalty 3.00%	Actual	I_{t-2} 4.3881%
Forecast Passengers using Heathrow in	2010/11	Forecast (000s)	Q_t	67,952
Correction amount	$K_t = ((T_{t-2} - (Q_{t-2} \times M_{t-2})) / Q_t \times (1 + I_{t-2} / 100))^2$		Forecast (£)	K_t 0.3390

* Based on Sept 08 to Aug 09 average (see Table 5) 1.3881%
The interest rate includes the 3% penalty for over recovery

Table 5**3 month T bill**

Tender Date	Maturity date	Size (£ mn)	Cover	Avg Yield (%)
05-Sep-08	08-Dec-08	500	3.53	4.950
12-Sep-08	15-Dec-08	500	2.80	4.958
19-Sep-08	22-Dec-08	500	2.02	4.724
26-Sep-08	29-Dec-08	500	3.23	4.564
03-Oct-08	05-Jan-09	500	5.40	4.186
10-Oct-08	12-Jan-09	500	1.83	3.495
17-Oct-08	19-Jan-09	500	2.14	3.795
24-Oct-08	26-Jan-09	500	2.14	3.516
31-Oct-08	02-Feb-09	500	1.07	3.573
07-Nov-08	09-Feb-09	500	1.80	2.625
14-Nov-08	16-Feb-09	500	4.32	1.979
21-Nov-08	23-Feb-09	500	3.05	1.729
28-Nov-08	02-Mar-09	500	2.09	1.688
05-Dec-08	09-Mar-09	500	4.77	1.321
12-Dec-08	16-Mar-09	500	4.21	1.400
19-Dec-08	23-Mar-09	500	4.55	1.183
02-Jan-09	06-Apr-09	700	2.88	1.177
09-Jan-09	14-Apr-09	700	2.99	0.898
16-Jan-09	20-Apr-09	700	1.99	0.928
23-Jan-09	27-Apr-09	700	1.85	0.853
30-Jan-09	05-May-09	1,000	2.30	0.908
06-Feb-09	11-May-09	1,000	5.44	0.869
13-Feb-09	18-May-09	1,000	2.89	0.678
20-Feb-09	26-May-09	1,000	3.22	0.669
27-Feb-09	01-Jun-09	1,000	3.85	0.661
06-Mar-09	08-Jun-09	1,500	2.37	0.586
13-Mar-09	15-Jun-09	1,500	2.10	0.588
20-Mar-09	22-Jun-09	1,500	1.78	0.605
27-Mar-09	29-Jun-09	1,500	1.44	0.622
03-Apr-09	06-Jul-09	1,500	2.35	0.673
09-Apr-09	13-Jul-09	1,500	2.55	0.679
17-Apr-09	20-Jul-09	1,500	4.09	0.630
24-Apr-09	27-Jul-09	1,500	5.49	0.580
01-May-09	03-Aug-09	1,500	4.43	0.569
08-May-09	10-Aug-09	1,500	5.01	0.545
15-May-09	17-Aug-09	1,500	3.58	0.527
22-May-09	24-Aug-09	1,500	3.84	0.522
29-May-09	01-Sep-09	1,500	4.27	0.517
05-Jun-09	07-Sep-09	1,500	2.78	0.511
12-Jun-09	14-Sep-09	1,500	2.03	0.506
19-Jun-09	21-Sep-09	1,500	1.56	0.505
26-Jun-09	28-Sep-09	1,500	4.19	0.495
03-Jul-09	05-Oct-09	1,500	3.62	0.468
10-Jul-09	12-Oct-09	1,500	3.50	0.447
17-Jul-09	19-Oct-09	1,500	2.26	0.428
24-Jul-09	26-Oct-09	1,500	2.65	0.424
31-Jul-09	02-Nov-09	1,500	2.68	0.434
07-Aug-09	09-Nov-09	1,500	2.46	0.448
14-Aug-09	16-Nov-09	1,500	1.95	0.402
21-Aug-09	23-Nov-09	1,500	2.61	0.382
28-Aug-09	30-Nov-09	1,500	2.29	0.375

Average:	1.3881%
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Source: DMO

TRIGGER IMPLICATIONS

10. The CAA formula for Q5 includes a trigger element which means that if the delivery of specified project milestones slips beyond an appointed date the allowable yield is reduced. This annex sets out the trigger calculations that have been used in the calculation of the maximum allowable yield for 2010/11, and provides a status of all trigger projects to 2010/11.
- 10.1 Two projects are subject to triggers in 2010/11 (i) T3 Refurbishment Completion of check-in & Security Search and (ii) Eastern Maintenance Base Redevelopment Completion of the diversion of East Church Road. It is expected that neither project will be completed by the milestone dates. The 2010/11 maximum allowable yield has been reduced to take account of the anticipated trigger payments.
- 10.2 The following sets out the trigger project status for each year from 2008/09 to 2010/11.

2008/09 Triggers

Table 6

2008/09 projects	Milestone Month	Forecast Completion Date at the time of price setting ³	Completion Date
T4 new CIP - shell & core	Feb-09	Dec-08	Dec-08
T4 completion of baggage sorter	Jan-09	Jan-09	Jul-09
T1 completion of T1 bmi Nose Building	Jan-09	Jan-09	Oct-08
Completion of T4-T1 tunnel refurbishment	Jan-09	Jan-09	Mar-09

- 10.3 All four projects in 2008/09 were forecast to be delivered on time when setting airport charges for 2008/09. However, two projects were not completed by the relevant milestone dates:
- T4 completion of baggage sorter
This project was not delivered to the milestone date by six months. Two months of this falls into the period covered by the k factor for 2008/09 in setting airport charges for 2010/11. The remaining four months will be captured in the k factor for 2009/10 when setting airport charges for 2011/12.

³ In setting airport charges for 2008/09 the final price control decision was not announced. Therefore the price proposals put forward by the CAA in November 2007 were used (Heathrow and Gatwick airports, CAA price control proposals, November 2007). The November 2007 proposals only included three trigger projects for 2008/09 (i) T4 new CIP - shell & core, (ii) T4 completion of baggage sorter, and (iii) T1 completion of T1 bmi Nose Building. These projects were forecast to be completed on time.

- Completion of T4-T1 tunnel refurbishment
This project was not delivered by the milestone date by two months and both months will be captured in the k factor for 2008/09 in setting airport charges for 2010/11.

10.4 The trigger calculation associated with the 2008/09 projects that are captured in the k factor for setting 2010/11 airport charges is shown below.

- **T4 completion of baggage sorter**

Milestone Month	= January 2009
Actual Completion	= July 2009
Actual Delay	= 6 months
Months falling into 2008/09	= 2 months
Monthly Payment	= £100,000 in 2007/08 prices
Expected Payment	= £200,000 in 2007/08 prices
Inflation Index (RPI)	= 1.030 ⁴
Actual Payment	= £206,000 in 2008/09 prices
Actual Passengers (000s)	= 65,948 in 2008/09
Impact on Yield	= £0.0031 in 2008/09

- **Completion of T4-T1 tunnel refurbishment**

Milestone Month	= January 2009
Actual Completion	= March 2009
Actual Delay	= 2 months
Months falling into 2008/09	= 2 months
Monthly Payment	= £100,000 in 2007/08 prices
Actual Payment	= £200,000 in 2007/08 prices
Inflation Index (RPI)	= 1.030
Actual Payment	= £206,000 in 2008/09 prices
Actual Passengers (000s)	= 65,948 in 2008/09
Impact on Yield	= £0.0031 in 2008/09

- **Total**

T4 completion of baggage sorter	= £206,000 in 2008/09 prices
Completion of T4-T1 tunnel refurbishment	= £206,000 in 2008/09 prices
Total Payment	= £412,000 in 2008/09 prices

⁴ Actual average RPI for 2008/09

2009/10 Triggers

Table 7

2009/10 projects	Milestone Month	Forecast Completion Date ⁵	Actual/ (Forecast) Completion Date
T4 check-in extn - South West bank of desks	Jun-09	Sep-09	Jun-09
T4 check-in extn - North East bank of desks	Jan-10	Oct-09	(Sep-09)
T4 A380 jetty facilities	May-09	May-09	Apr-09
T3 refurbishment - completion of Pier 5 refurbishment	Jul-09	Jun-09	May-09
T3 refurbishment - completion of Pier 7 refurbishment	Aug-09	Aug-09	(Oct-09)
Completion of mid-field Pier North	Jan-10	Jan-10	(Nov-09)

10.5 The update of trigger projects scheduled for completion in 2009/10 is shown below.

- In setting airport charges for 2009/10, T4 check-in extension - South West bank of desks project was forecast not to be completed by the milestone date by three months. The trigger penalty was built into the 2009/10 forecast maximum allowable yield. However this project has been delivered on time. This means that the k factor for 2009/10 will make a retrospective adjustment to recover the penalty paid when setting airport charges in 2011/12. It should be noted the completion date of this project is in dispute. The outcome of that dispute will be reflected in the k factor for 2009/10 in setting airport charges for 2011/12.
- The following projects have been delivered on time:
 - T4 A380 jetty facilities
 - T3 refurbishment - completion of Pier 5 refurbishment
- The following projects are forecast to be delivered on time:
 - Completion of mid-field Pier North
 - T4 check-in extn - North East bank of desks
- The following project is forecast to miss the milestone date and the penalty will be captured in the k factor for 2009/10 when setting airport charges for 2011/12:
 - T3 refurbishment - completion of Pier 7 refurbishment

⁵ The forecast completion date is consistent to the forecast presented in the "BAA Heathrow Airport, 2009/10 Airport Charges Consultation" documents.

10.6 The forecast trigger calculation associated with the 2009/10 projects that will be captured in the k factor for setting 2011/12 airport charges is shown below.

- **T4 check-in extension - South West bank of desks**

The following was presented in the 2009/10 airport charges consultation documents:

Milestone Month	= June 2009
Forecast Completion	= September 2009
Expected Delay	= 3 months
Monthly Payment	= £100,000 in 2007/08 prices
Expected Payment	= £300,000 in 2007/08 prices
Inflation Index (RPI)	= 1.089 ⁶
Expected Payment	= £326,700 in 2009/10 prices
Forecast Passengers (000s)	= 68,973 in 2009/10
Impact on Yield	= £0.0047 in 2009/10

- **T3 refurbishment - completion of Pier 7 refurbishment**

This project is forecast to miss the milestone date and below is a forecast of the monetary value that will be included in the k factor for 2009/10 when setting airport charges for 2011/12.

Milestone Month	= August 2009
Forecast Completion	= October 2009
Expected Delay	= 2 months
Monthly Payment	= £100,000 in 2007/08 prices
Expected Payment	= £200,000 in 2007/08 prices
Inflation Index (RPI)	= 1.023 ⁷
Expected Payment	= £204,600 in 2009/10 prices

⁶ Forecast average RPI for 2008/09 was 4.1% and 2009/10 was 4.8% at the time of setting airport charges for 2009/10

⁷ Actual average RPI for 2008/09 is 3.0% and forecast for 2009/10 is -0.7%

2010/11 Triggers

Table 8

2010/11 projects	Milestone Month	Forecast Completion Date
T3 Refurbishment Completion of check-in & Security Search	Mar-10	Sep-10
Eastern Maintenance Base Redevelopment Completion of the diversion of East Church Road	Mar-10	Jan-12

- 10.7 Both projects scheduled to be delivered in 2010/11 are currently forecast to not be completed by the relevant milestone dates.
- 10.8 These projects have not proceeded as originally envisaged in the Q5 settlement and as a result Heathrow has decided to provisionally include these trigger payments in the calculation of the maximum allowable yield. Heathrow would like to work with the airline community during the airport charges consultation process to find an appropriate solution.

10.9 The forecast trigger calculation associated with the 2010/11 projects that are captured in setting 2010/11 airport charges is shown below.

- **T3 Refurbishment Completion of check-in & Security Search**

Milestone Month	= March 2010
Forecast Completion	= September 2010
Expected Delay	= 6 months
Monthly Payment	= £100,000 in 2007/08 prices
Expected Payment	= £600,000 in 2007/08 prices
Inflation Index (RPI)	= 1.038 ⁸
Expected Payment	= £622,800 in 2010/11 prices
Forecast Passengers (000s)	= 67,952 in 2010/11
Impact on Yield	= £0.0092 in 2010/11

- **Eastern Maintenance Base Redevelopment Completion of the diversion of East Church Road**

Milestone Month	= March 2010
Forecast Completion	= January 2012
Expected Delay	= 22 months
Months falling into 2010/11	= 12 months
Monthly Payment	= £170,000 in 2007/08 prices
Expected Payment	= £2,040,000 in 2007/08 prices
Inflation Index (RPI)	= 1.038
Expected Payment	= £2,117,520 in 2010/11 prices
Forecast Passengers (000s)	= 67,952 in 2010/11
Impact on Yield	= £0.0312 in 2010/11

- **Total**

T3 project	= £622,800 in 2010/11 prices
Eastern Maintenance Base	= £2,117,520 in 2010/11 prices
Expected Payment	= £2,740,320 in 2010/11 prices

⁸ Actual average RPI for 2008/09 is 3.0%, forecast for 2009/10 is -0.7%, and forecast for 2010/11 is 1.5%

PROJECT FOR THE SUSTAINABLE DEVELOPMENT OF HEATHROW (PSDH)

11. This document sets out the calculations associated with changes in the expected spend on the Project for the Sustainable Development of Heathrow (PSDH).
- 11.1 In the final Q5 regulatory settlement the CAA allowed assumed investment in PSDH on the basis of spend forecasts. This spend would be added to the RAB and a return would be generated in line with the allowed cost of capital.
- 11.2 2008/09 airport charges were set in line with the CAA assumed PSDH investment. Pending the Government's announcement regarding the expansion of Heathrow, there was minimal expenditure on PSDH in 2008/09. Therefore the expected yield from airport charges in 2009/10 was set below the forecast maximum allowable yield to compensate for this over recovery during 2008/09 by 7.4p.
- 11.3 Subsequent to the 2009/10 Airport Charges Consultation meeting, it was agreed with the airlines that Heathrow in future would take an ex-post approach to the remuneration of PSDH expenditure, rather than an ex-ante approach; i.e. PSDH costs from 2009/10 are recovered in the year after they are incurred.
- 11.4 Therefore, Heathrow agreed to rebate the airlines the full amount of the implied return on PSDH expenditure included in the 2009/10 regulatory settlement. This equated to £12.89m (nominal), and is being refunded to airlines as a cash sum outside the maximum allowable yield during the course of 2009/10. The refund to airlines is being made on a monthly basis based on individual airline's share of total airport charges invoiced.
- 11.5 Table 9 shows the calculation of the rebate to airlines in 2009/10.

Table 9

	2009/10 £(000s)
Cumulative capex to 2009/10 in Settlement (outturn prices)	258,173
Implied RAB (1)	214,356
Accounting return (2)	6.014%
Implied return	12,890
Implied PSDH Rebate in 2009/10 (outturn prices)	12,890
<p>(1) The implied RAB takes the cumulative PSDH spend at the start of the year and at the end of the year and averages them.</p> <p>(2) 6.014% is the accounting return equivalent to the allowed cost of capital.</p>	

- 11.6 The same approach is proposed for 2010/11 i.e. expenditure incurred in 2009/10 is recovered from 2010/11. This will be based on actual expenditure incurred, agreed with the airline community. Heathrow proposes to rebate the airlines the difference between the implied return on PSDH expenditure included in the regulatory settlement to 2010/11, and the implied return on actual 2009/10 expenditure recovered on an ex-post basis from 2010/11.
- 11.7 Forecast expenditure for 2009/10 is £43m (nominal). This level of expenditure equates to an implied PSDH rebate of £16.1m (nominal). Table 10 shows the calculation of the forecast rebate.

Table 10

	2010/11 £(000s)
Cumulative capex to 2010/11 in Settlement (outturn prices)	369,210
Implied RAB (1)	313,691
Accounting return (2)	6.014%
Implied return	18,864
Latest forecast spend 2009/10 (outturn prices)	43,000
Implied RAB (3)	45,982
Accounting return (2)	6.014%
Implied return	2,765
Implied PSDH Rebate in 2010/11 (outturn prices)	16,099
<p>(1) The implied RAB takes the cumulative PSDH spend at the start of the year and at the end of the year and averages them.</p> <p>(2) 6.014% is the accounting return equivalent to the allowed cost of capital.</p> <p>(3) The implied RAB is forecast PSDH spend in 2009/10.</p>	

- 11.8 The conversion of price bases (i.e. real to nominal) for the PSDH calculations are based on CAA forecast RPI used in the Q5 regulatory settlement, this will be subject to review.
- 11.9 The actual rebate will be refunded to airlines as a cash sum outside the maximum allowable yield in 2010/11. The refund to airlines will be made on a monthly basis based on individual airline's share of total airport charges invoiced.

PRICE PROPOSALS FOR 2010/11

		Forecast movements	Proposed charge	Forecast revenue
Landing				
Volume	Noise Cert			
Peak	Chapter 2	0	£2,509.50	£0
	Chapter 3 high	159	£1,254.75	£199,505
	Chapter 3 base	3,968	£836.50	£3,319,232
	Chapter 3 minus	16,945	£752.85	£12,757,043
	Chapter 4 equivalent	210,725	£711.03	£149,831,797
Peak Total		231,797		£166,107,577
Super Night Peak	Chapter 2	0	£6,273.75	£0
	Chapter 3 high	0	£3,136.88	£0
	Chapter 3 base	0	£2,091.25	£0
	Chapter 3 minus	5	£1,882.13	£9,411
	Chapter 4 equivalent	69	£1,777.56	£122,652
Super Night Peak Total		74		£132,062
Total kg NOx rating		5,982,272		
Average kg NOx per landing		25.8	£2.73	£16,331,602
Revenue before ANS charges				£182,571,242
ANS Charge				
	per ATM charge	Landings	231,871	£73.00
	Per metric tonne	MTOW	35,198,018	£0.958
ANS Total				£50,646,284
Avg weight (mt)		151.8		
Total Landing Revenue	(a)			£233,217,526
Departing Passengers				
		Pax		
Total Domestic		2,519,159	£13.11	£33,026,179
Total International (Excl Irish)		30,286,354	£22.41	£678,717,183
Total Irish		1,038,824	£16.97	£17,628,845
Remote Stand Rebate		8,022,000	-£3.70	-£29,681,400
Total	(b)	33,844,337		£699,690,807
Parking				
Charging period		3,205,311	£7.54	£24,168,049
Tonnage		664,727,360	£0.119	£79,102,556
Total Parking Charge	(c)			£103,270,604
TOTAL - TERMINAL PAX FLIGHT REVENUE				£1,036,178,937
Non-Terminal Pax Flights - (GA, Troops etc)				
Landing Revenue	(d)			£1,583,996
Departing Passenger Revenue	(e)			£521,823
Parking Revenue	(f)			£279,256
Total				£2,385,074
TOTAL REGULATED REVENUE (Pax Only flights)				
Landing Revenue	(a + d)			£234,801,522
Departing Passenger Revenue	(b + e)			£700,212,630
Parking Revenue	(c + f)			£103,549,860
Total Revenue				£1,038,564,012
Total passengers				67,952,043
Total Regulated Yield (average yield per passenger)				£15.284

AIRPORT CHARGES FOR 2010/11

	Actual 2009/10 £ GBP	Proposed 2010/11 £ GBP
Charges on Landing		
Peak		
Chapter 2	2,328.00	2,509.50
Chapter 3 high	1,164.00	1,254.75
Chapter 3 base	776.00	836.50
Chapter 3 minus	698.40	752.85
Chapter 4	659.60	711.03
Super Night Peak		
Chapter 2	5,820.00	6,273.75
Chapter 3 high	2,910.00	3,136.88
Chapter 3 base	1,940.00	2,091.25
Chapter 3 minus	1,746.00	1,882.13
Chapter 4	1,649.00	1,777.56
Emissions charge (per kg)	2.36	2.73
ANS charge		
per ATM	74.50	73.00
Per Metric tonne	1.01	0.96
Charge on departing passengers		
Domestic	12.41	13.11
International	21.22	22.41
Irish Republic	16.06	16.97
Remote Stand Rebate (All paxs)	-3.50	-3.70
Minimum charge	220.00	232.00
Charges on aircraft parking		
Fixed charge per 15 minutes	7.08	7.54
Variable charge per tonnage per 15 minutes	0.113	0.119
Peak period multiplier	x 3	x 3

Q5 - SUMMARY OF STRUCTURAL CHANGES (PROPOSED)

Weight	2008/09	Introduction of Chapter 4 noise category with a charge differential of 90% of Chapter 3 base charge. Rate of increase in emissions charge will be double the rate of increase in landing charge Inclusion of ANS charge on a one third movement and two thirds tonnage basis
	2009/10	Introduction of a separate Chapter 4 equivalent noise category with a charge differential of 85% of Chapter 3 base charge. Rate of increase in emissions charge maintained at double the rate of increase in landing charge
	2010/11	Rate of increase in emissions charge maintained at double the rate of increase in landing charge
Dep Pax	2008/09	No structural change
	2009/10	No structural change
	2010/11	No structural change
Parking	2008/09	No structural change
	2009/10	No structural change
	2010/11	No structural change

Q4 - SUMMARY OF STRUCTURAL CHANGES

Weight	2003/04	Non Certified & Chapter 2 Vs Chapter 3 differential 300%
	2004/05	Weight band >16mt & <=55mt reduced to >16mt & <=50mt Emissions charge: £1 per kg of NO _x , surcharges & rebates, break even point 23 kg
	2005/06	No structural change
	2006/07	Removed break even point in emissions scheme and adjusted underlying landing charges to ensure change is revenue neutral to BAA.
	2007/08	No weight differential, noise and emissions surcharges and rebates remain
Dep Pax	2003/04	No structural change
	2004/05	Irish Republic charge 30 % mark up on domestic
	2005/06	No structural change
	2006/07	No structural change
	2007/08	No structural change, exemption on minimum charge for aircraft under 5 metric tonnes removed
Parking	2003/04	No structural change
	2004/05	No structural change
	2005/06	No structural change
	2006/07	No structural change
	2007/08	No structural change, parking discount for aircraft under 16 metric tonnes removed

REGULATION GLOSSARY OF FREQUENTLY USED TERMS

12. The following are a number of terms and concepts relating to airport charges. Where appropriate, reference is made to further published sources.

12.1 Regulatory period

As determined by the Airports Act 1986, the CAA is required to review the level and conditions of airport charges at Heathrow Airport every five years. The first period was from 1 April 1987 to 31 March 1992, the second from 1 April 1992 to 31 March 1997 the third from 1 April 1997 to 31 March 2003 (six year period), the fourth from 1 April 2003 to 31 March 2008 and the fifth period began on 1 April 2008 and will continue to 31 March 2013. These five year periods, or quinquennia, have been labelled Q1, Q2, Q3, Q4 and Q5 by the CC/CAA.

Airports Act 1986, MMC4 1996 Ch2

12.2 Price control regulation

Before BAA was privatised in 1987, the UK Department of Transport sought the advice of various economic consultants on the most appropriate form of economic regulation for BAA London Airports. The incentive type regulation implicit in the RPI-X formula was adopted. This is similar to that used in regulating other UK privatised industries such as telecoms, gas and water, rather than the rate of return regulation favoured by regulators in other countries.

MMC 2 1991 4.107, MMC4 Ch5

12.3 RPI-X formula

In specifying the RPI-X formula in 1987, the UK Department of Transport decided that it should apply to the airport charges revenue yield, i.e. total airport charge revenue divided by total passengers, rather than applying to a basket of BAA airport charges. This formulation has been re-examined at each of the regulatory reviews and has been adopted for the fifth regulatory period. In the first period X was equal to 1, i.e. the airport charge yield should increase by one percentage point below the UK rate of inflation as forecast. In the second period, X was profiled as 8,8,4,1,1 over the five years and RPI was the value in the September prior to the financial year. In both periods, the yield entity was that derived for Heathrow and Gatwick separately and for the Heathrow, Gatwick and Stansted total, referred to as the SEAL (South East Airports Limited). In the third regulatory period the RPI-X formula, with X equal to 3, applied to the combined Heathrow and Gatwick yield. In the fourth regulatory period an RPI +6.5 formula was applied at Heathrow.

- 12.4 In the fifth regulatory period, which commenced in April 2008, an RPI+7.5 formula was applied at Heathrow.

MMC 2 1991 Ch4, MMC 4 1996 Ch5, CAP 664 para 170 on, CAA Decision Feb 2003 Annex 9, CAA Decision March 2008 Annex C.

12.5 Maximum allowable yield

The CAA state that when the airport operator fixes the amount to be levied by it by way of airport charges in respect of relevant air services they shall fix those charges at the levels best calculated to secure that the total airport charges divided by the total number of passengers does not exceed the maximum average yield per passenger.

CAA Decision, March 2008, Annex C

12.6 **Relevant air services**

These are defined as air services carrying passengers that join or leave an aircraft at the airport, including air services operated for the purpose of business or general aviation.

CAA Decision, March, 2008, Annex C

12.7 **+S security claim factor**

Allows for the pass through of costs arising from new security requirements such that 90% of additional costs above a defined threshold would be subject to pass through. The hurdles apply against the total annualised spends of all new requirements in the five year period.

CAA Decision, March 2008, Annex C

12.8 **Correction factors -K**

Because of the uncertainties of estimating the maximum allowable yield, any over or under-recoveries in airport charge revenues in the first three years of the regulatory period are corrected in the formula two years later by the application of a k factor, which allows for the difference in yield and adjustment for interest.

CAP 664 paras 168,169

12.9 **Charging parameters**

These are the individual values of numbers of aircraft in weight/noise categories and peak/off peak charging periods, their absolute weight and their NOx emissions rating. Numbers of passengers by charging type are used for calculating departing passenger charges and values of various weight and time values used for parking charges. Airport charges are applied to the appropriate actual and forecast values of these parameters to determine overall airport charge revenues and yields.

12.10 **Weight charge noise differential**

At the BAA London Airports, the weight landing charge has evolved to recognise the different noise characteristics of aircraft based on ICAO Chapter 2, Chapter 3 and Chapter 4 categories. A base charge is currently applied to Chapter 3 aircraft. Chapter 2 aircraft with a few specified exemptions are now banned from European airports. The charges for Chapter 2 and non certificated aircraft have been increased to 300% of the charge for Chapter 3 base aircraft and the charge on Chapter 3 high aircraft has been increased to 150% of the charge for Chapter 3 base aircraft. Chapter 3 minus and Chapter 4 aircraft are charged at 90% and 85% respectively of the charge for Chapter 3 base aircraft.

Conditions of Use

12.11 **Aircraft using remote stands**

At the regulatory reviews, users have raised issues of passenger service and charges for aircraft using non-pier stands. At present a reduction in the departing passenger charge at all three London airports applies for departures from stands designated as remote. This is in recognition of the costs imposed on airlines in providing coaching and the additional airport capital costs of providing piers and jetties.

12.12 There is also service quality rebates scheme in place, where rebates are paid to airlines when the quality of service fails to meet specified service levels.

CAP664 paras 139,140, CAA Decision March 2008.

FINANCIAL AND TRAFFIC INFORMATION

13. **Traffic statistics and charging parameters**

- 13.1 The traffic statistics for 2008/09 and the first half of 2009/10 are set out to provide more detailed data on those elements of the traffic mix at Heathrow airport which significantly affect the airport charges yield per passenger.
- 13.2 Further traffic information is contained in the BAA documents "Patterns of Traffic" and "Traffic Statistics" which have been circulated to users separately.

14. **Accounting information**

- 14.1 The historical cost financial statements provided are:
- Operational / non-operational trading results;
 - Analysis of income and expenditure; and
 - Balance sheet.
- 14.2 These are consistent with the statutory accounts of the airport company as filed at Companies House. These accounts have been prepared under the historical cost convention as modified by the revaluation of investment properties in accordance with BAA Ltd accounting policy.
- 14.3 Results are presented for the 12 month period to 31 December 2008. Further details are contained in the accounts that may be obtained from the airport finance department.
- 14.4 Heathrow airport's regulatory accounts are available via the BAA website. These accounts compare the airport's financial performance for the year ended 31 March 2009 on a comparable basis with the forecasts used by the CAA in determining the airport charges price caps for the 5 year period to 31 March 2013. The accounts include revenue and cost comparisons, and calculations of the Regulated Asset Base as determined by the CAA in its Decision document dated March 2008.

15. **Security costs**

- 15.1 An analysis of security costs at Heathrow airport is provided for 2008/09.

BAA HEATHROW AIRPORT TRAFFIC STATISTICS
FINANCIAL YEAR 2008/09 and first 6 MONTHS 2009/10

	Financial Year 2008/09	April-September 2009
Movements (000s)		
Passenger - ATM	467.1	234.0
Cargo - ATM	2.9	1.4
TOTAL ATMS	470.0	235.4
Non-Commercial flights	5.8	3.3
TOTAL	475.8	238.7
Passengers (000s)		
International	60,473.1	32,680.4
Domestic	5,456.2	2,777.6
TERMINAL TOTAL	65,929.3	35,458.0
Non - Terminal (Transit) (Counted once - on arrival)	162.6	43.0
TOTAL PASSENGERS	66,091.9	35,501.0
Aircraft Tonnes (000s)		
Landed - ATM	36,109.0	18,095.2

Sources : BAA Ltd, Forecasting & Stats and Finstat Report

Heathrow Airport - Financial Statements
Year ended 31 December 2008
Operational/Non Operational Trading Results
HISTORICAL COST

	HEATHROW £m
INCOME	
Airport Charges	825.3
Other operational activities	723.5
Total Operational activities	1,548.9
Non-operational activities	26.7
TOTAL INCOME	1,575.6
EXPENDITURE	
Airport charges	536.5
Other operational activities	859.1
Total Operational activities	1,395.6
Non-operational activities	5.1
TOTAL EXPENDITURE	1,400.7
OPERATING PROFIT/(LOSS) BEFORE INTEREST & TAXATION	174.9

Heathrow Airport - Financial Statements
Year ended 31 December 2008
Analysis of Income and Expenditure
HISTORICAL COST

	HEATHROW £m
Passenger-only flights revenue	825.3
Non-passenger flights revenue	0.0
Total airport charges	825.3
Other traffic charges	9.9
Retail	328.5
Rail	86.1
Property	220.8
Other revenue	104.9
Total other revenue	750.2
TOTAL REVENUE incl HEX	1,575.6
Staff costs	269.3
Maintenance & equipment	108.8
Rent & rates	92.0
Utilities and distribution fee	80.5
Police	33.9
Rail	62.9
Other Costs	183.4
Intra Group Costs	140.0
Depreciation	429.9
TOTAL EXPENDITURE incl HEX	1,400.7
Average numbers of employees during the year.	5,657

Heathrow Airport - Financial Statements
Year ended 31 December 2008
Balance Sheet
HISTORICAL COST

	HEATHROW £m
Fixed Assets	
Investment Properties	1,598.6
Owner Occupied Properties	37.7
Terminal Complexes	4,857.7
Airfield Assets	750.0
Rail Assets	1,146.8
Plant And Equipment	141.6
Assets In Course of Construction	1,310.0
Investments	3.8
	9,846.2
Current Assets	679.4
Current Liabilities	538.7
Total Assets less Current Liabilities	9,986.9
Creditors : Amounts due-after one year.	7,762.5
Provision for liabilities & charges	554.1
Net Assets	1,670.3
Capital and Reserves	
Share Capital (inc. Share Premium)	403.4
Revaluation Reserve	1,067.4
Profit And Loss Account	199.5
Shareholders Funds	1,670.3

HEATHROW AIRPORT - SECURITY COSTS 2008/09

Total costs of security at Heathrow airport, including the cost of policing

Direct expenditure	£000
Staff costs	146,591
Property related	160
Maintenance and equipment	869
General expenses	1,366
Capitalisation of revenue	-39
Depreciation	1,488
Inter-company	0
Indirect charges	281
sub total	150,716
Allocated expenditure	
Airside safety and security	469
Rates	908
Police	33,612
Finance	2,889
Personnel	2,307
Medical	383
Airport management	638
Corporate charge	17,656
sub total	58,861
Total security costs	209,577
Total passengers	65,929
Security cost/passenger (£)	3.18