Annex 1: Condition 21: Control of Eurocontrol Service Charges

1. Without prejudice to Condition 25 (Suspension and Modification of Charge Control Conditions), for each Eurocontrol Relevant Year beginning on 1 January 2011, 2012, 2013 and 2014, the Permitted Average Charge Per Service Unit shall be calculated as follows:

$$\text{Charge}_t = \frac{\text{DC}_t + \text{RS}_t + \text{Pre2011}_t - \text{VFR}_t + \text{INF}_t + \text{FI}_t}{\text{ForecastSU}_t}$$

where:

Charge_t	means the Permitted Average Charge Per Service Unit in Eurocontrol Relevant Year t.	
DC_t	means the Determined Costs for the Eurocontrol Relevant Year t in nominal terms as set out as follows:	
	Year t	£
	2011	564,546,000
	2012	583,376,000
	2013	619,785,000
	2014	627,398,000
RS_t	means the Traffic Risk Sharing element from previous years calculated as follows:	
	Year t	
	2011	0
	2012	As calculated in accordance with Paragraph 2 of this condition.
	2013	
	2014	
PRE2011_t	means the correction factor for the over- or under- recoveries incurred up to and including the year 2011 and for delay bonuses and penalties in respect of performance in 2010 to be calculated in accordance with Paragraph 5.	
VFR_t	means the expected cost of services to traffic operating under Visual Flight Rules as set out as follows:	
	Year t	
	2011	0
	2012	0
	2013	0
	2014	0

INF_t	means an adjustment to correct for cumulative variances in the value of the HICP (all items) index acting on the determined costs, to be added to the amount of revenue to be recovered in relevant Eurocontrol year t compared to the reference values established before the reference period calculated as follows: $$INF_t = INFest_{t-1}\left[1+\frac{INT_{t-1}}{100}\right]+INFcor_{t-2}\left[1+\frac{INT_{t-1}}{100}\right]^2$$ except that INF_{2011}=0.	
Where	INT_{t-1}	means the average of the yield (expressed as an annual percentage interest rate) on 3 month Treasury Bills published weekly by the UK Debt Management Office, during the 12 months from 1 September in Relevant Year t-2 .
	$INFest_{t-1}$	means the preliminary adjustment to correct charges for cumulative variances in the value of the HICP (all items) index of inflation up to August in Relevant Eurocontrol Year t-1 and the estimate of cumulative inflation to Eurocontrol relevant year t-1 which shall be calculated as follows: $$INFest_{t-1} = \left(\frac{HICP_{Aug(t-1)}}{FHICP_{t-1}} - 1\right) DC_{t-1}$$ except that $INFest_{2010}$=0
	$INFcor_{t-2}$	means a correction to the preliminary adjustment made in year t-1 for variances in year t-2 which shall be calculated as follows: $$INFcor_{t-2} = \left[\begin{array}{l}\left(\frac{HICP_{t-2}}{FHICP_{t-2}} - 1\right) DC_{t-2} \\ -INFest_{t-2}\frac{ActualSU_{t-1}}{ForecastSU_{t-1}}\end{array}\right]$$ except that $INFcor_{2010}$=0

	$HICP_{Aug(t-1)}$	means the monthly value of the HICP (all items) index, (2005=100) in respect of the UK published by Eurostat for August in relevant year t-1.	
	$HICP_{t-2}$	means the HICP (all items) annual average index (2005=100) in respect of the UK published by Eurostat for Eurocontrol Relevant Year t-2.	
	$FHICP_t$	means the reference values of the HICP (all items) index (2005=100) in respect of the UK for Eurocontrol Relevant Year t established prior to the control period, consistent with the projections in nominal prices which shall be:	
		Year t	
		2011	117.4
		2012	119.4
		2013	121.5
		2014	123.8
$ForecastSU_t$	means the forecast of Service Units for relevant year t established at the beginning of the reference period as set out as follows:		
	Year t		
	2011		9,796,788
	2012		10,150,531
	2013		10,492,826
	2014		10,860,246
$EstimateSU_{t-1}$	means the Licensee's best endeavours estimate of Service Units for relevant year t-1 made when setting charges for year t		
$ActualSU_t$	means the Service Units as recorded by the Central Route Charges Office of Eurocontrol for relevant year t.		
FI_t	means the Financial Incentives relating to performance as calculated in accordance with Paragraphs 6-18 of this condition.		

Calculation of the traffic risk sharing element

2. RS_t shall be calculated as follows:

$RS_t = \left[RSest_{t-1}\left[1+\frac{INT_{t-1}}{100}\right]\right] + \left[RScor_{t-2}\left[1+\frac{I_{t-1}}{100}\right]^2\right]$ Except that RS_{2011} =0		
Where	$RSest_{t-1}$	means the Licensee's estimate of the revenue risk sharing shortfall or over recovery in Eurocontrol Relevant year t-1 based on the Licensee's best endeavours estimate of the Service Units made when setting charges for year t which shall be calculated as

		set out in Paragraph 3.
	$RScor_{t-2}$	means a correction to adjust for the difference between the Licensee's best estimate of Service Units in year t-2 and the actual service units made when setting charges for year t which shall be calculated as $RScor_{t-2} = \left[RSact_{t-2} - RSest_{t-2} \frac{ActualSU_{t-1}}{ForecastSU_{t-1}} \right]$
Where	$RSact_{t-2}$	means the risk sharing relating to Eurocontrol Relevant year t-2 based on the actual number of Service Units which shall be calculated as set out in Paragraph 4.
	INT_{t-1}	means the average of the yield (expressed as an annual percentage interest rate) on 3 month Treasury Bills published weekly by the UK Debt Management Office, during the 12 months from 1 September in Relevant Year t-2.
	I_{t-1}	means the average of the yield (expressed as an annual percentage interest rate) on 3 month Treasury Bills published weekly by the UK Debt Management Office, during the 12 months from 1 September in Relevant Year t-2 where the value of $RScor_{t-2}$ is positive, or 300 basis points above this average rate where the value is negative.

3. $RSest_{t-1}$ shall be calculated as follows:

For relevant years 2012, 2013 and 2014	
Where:	$0.98 \leq \frac{EstimateSU_{t-1}}{ForecastSU_{t-1}} \leq 1.02$ $RSest_{t-1} = 0$
Where:	$1.02 < \frac{EstimateSU_{t-1}}{ForecastSU_{t-1}} \leq 1.10$ $RSest_{t-1} = -0.7 \left[\frac{EstimateSU_{t-1}}{ForecastSU_{t-1}} - 1.02 \right] [EDC_{t-1}]$
Where:	$0.90 \leq \frac{EstimateSU_{t-1}}{ForecastSU_{t-1}} < 0.98$ $RSest_{t-1} = -0.7 \left[\frac{EstimateSU_{t-1}}{ForecastSU_{t-1}} - 0.98 \right] [EDC_{t-1}]$
Where:	$\frac{EstimateSU_{t-1}}{ForecastSU_{t-1}} < 0.90$

	$RSest_{t-1} = -\left[\frac{EstimateSU_{t-1}}{ForecastSU_{t-1}} - 0.90\right][EDC_{t-1}] + 0.7[0.08(EDC_{t-1})]$
Where:	$\frac{EstimateSU_{t-1}}{ForecastSU_{t-1}} > 1.10$ $RSest_{t-1} = -\left[\frac{EstimateSU_{t-1}}{ForecastSU_{t-1}} - 1.10\right][EDC_{t-1}] - 0.7[0.08(EDC_{t-1})]$
Where	$EDC_{t-1} = \left(\frac{HICP_{Aug(t-1)}}{FHICP_{t-1}}\right)DC_{t-1}$

4. $RSact_{t-2}$ shall be calculated as follows:

For relevant years 2013 and 2014	
Where:	$0.98 \leq \frac{ActualSU_{t-2}}{ForecastSU_{t-2}} \leq 1.02$ $RSact_{t-2} = 0$
Where:	$1.02 < \frac{ActualSU_{t-2}}{ForecastSU_{t-2}} \leq 1.10$ $RSact_{t-2} = -0.7\left[\frac{ActualSU_{t-2}}{ForecastSU_{t-2}} - 1.02\right][ADC_{t-2}]$
Where:	$0.90 \leq \frac{ActualSU_{t-2}}{ForecastSU_{t-2}} < 0.98$ $RSact_{t-2} = -0.7\left[\frac{ActualSU_{t-2}}{ForecastSU_{t-2}} - 0.98\right][ADC_{t-2}]$
Where:	$\frac{ActualSU_{t-2}}{ForecastSU_{t-2}} < 0.90$ $RSact_{t-2} = -\left[\frac{ActualSU_{t-2}}{ForecastSU_{t-2}} - 0.90\right][ADC_{t-2}] + 0.7[0.08(ADC_{t-2})]$
Where:	For $\frac{ActualSU_{t-2}}{ForecastSU_{t-2}} > 1.10$ $RSact_{t-2} = -\left[\frac{ActualSU_{t-2}}{ForecastSU_{t-2}} - 1.10\right][ADC_{t-2}] - 0.7[0.08(ADC_{t-2})]$

Where:	$ADC_{t-2} = \left(\frac{HICP_{t-2}}{FHICP_{t-2}}\right) DC_{t-2}$

Calculation of over or under recoveries incurred up to and including Eurocontrol Relevant Year 2011

5. $PRE2011_t$ shall be calculated as follows:

$PRE2011_t = SMOOTH_t + SMOOTHADJ_t + OTHER_t + CORR_t$ Except that: $PRE2011_{2010}=0$		
$SMOOTH_t$	means the provisional allowance in nominal terms made by the CAA based on a forecast in respect of the over – or under-recoveries up to 2010 and for delay bonuses and penalties in respect of performance in 2010 to be recovered in $year_t$.	
	Year t	£
	2011	0
	2012	12,019,000
	2013	7,716,000
	2014	35,247,000
$SMOOTHADJ_t$	means an adjustment to the provisional allowance to take effect in relevant year 2012 for the difference between the actual over- or under recoveries up to 2010 and for delay bonuses and penalties in respect of performance in 2010 and the forecasts made in setting $SMOOTH_t$ for all years 2011 to 2014 inclusive. $SMOOTHADJ_t$ shall be calculated as follows:	
	Year t	
	2011	0
	2012	As calculated below.
	2013	0
	2014	0

	For relevant year 2012: $$\begin{aligned}&\mathrm{SMOOTHADJ}_{2012} = \\ &+[(\mathrm{MACR}_{2010} - (\mathrm{ActualSU}_{2010} \times £0.37) - \mathrm{TCR}_{2010}) \\ &- \mathrm{EST_REC}_{2010})]\left[1+\frac{\mathrm{INT}_{2011}}{100}\right]^2 \\ &-[(\mathrm{S}_{2010} \times \mathrm{FLIGHTS}_{2010}) + \mathrm{EST_BONUS}_{2010})] \\ &\left[1+\frac{\mathrm{INT}_{2011}}{100}\right]\end{aligned}$$ Where: $MACR_{2010}$, TCR_{2010}, S_{2010} and $FLIGHTS_{2010}$ have the meanings defined in Condition 21 of the Air Traffic Services Licence for NATS En Route plc which was in effect on 1 July 2010; EST_REC_{2010} is the estimate of the relevant under recovery in year 2010 used to determine $SMOOTHADJ_t$ and defined as follows: EST_REC_{2010} = £33,156,000 EST_BONUS_{2010} is the estimate of the relevant under recovery in year 2010 used to determine $SMOOTHADJ_t$ for all years defined as follows: EST_BONUS_{2010} = £10,004,000
$OTHER_t$	means the recovery of the Licensee's over- or under recovery of elements of the UK National Eurocontrol Rate paid to third parties due to variances in traffic in relevant year 2011 which shall be calculated as follows:

Year t	
2011	0
2012	As calculated below.
2013	As calculated below
2014	0

	For relevant year 2012: $$OTHER_{2012} = TOTNONNERL_{2011}\left(1-\frac{EstimateSU_{2011}}{ForecastSU_{2011}}\right)\left[1+\frac{INT_{2011}}{100}\right]$$ For relevant year 2013 $$OTHER_{2013} = TOTNONNERL_{2011}\left(\frac{EstimateSU_{2011} - ActualSU_{2011}}{ForecastSU_{2011}}\right)\left[1+\frac{I_{2012}}{100}\right]^2$$ Where: $TOTNONNERL_{2011}$ is the total revenue to be recovered by parties other than the Licensee as part of the Eurocontrol UK Unit rate in respect of relevant year 2011 calculated as follows: $TOTNONNERL_{2011}$ = £82,129,000	
$CORR_t$	means a term to correct the $PRE2011_t$ term for under or over recovery in recovery of this term in the preceding year due to variances in traffic volumes. $CORR_t$ shall be calculated as follows:	
	Year t	
	2011	0
	2012	As calculated below
	2013	
	2014	
	$$CORR_t = PRE2011_{t-1}\left(1-\frac{EstimateSU_{t-1}}{ForecastSU_{t-1}}\right)\left[1+\frac{INT_{t-1}}{100}\right] + PRE2011_{t-2}\left(\frac{EstimateSU_{t-2} - ActualSU_{t-2}}{ForecastSU_{t-2}}\right)\left[1+\frac{I_{t-1}}{100}\right]^2$$	
	INT_{t-1}	means the average of the yield (expressed as an annual percentage interest rate) on 3 month Treasury Bills published weekly by the UK Debt Management Office, during the 12 months from 1 September in Relevant Year t-2.
	I_{t-1}	means the average of the yield (expressed as an annual percentage interest rate) on 3 month Treasury Bills published weekly by the UK Debt Management Office, during the 12 months from 1 September in Relevant Year t-2 where the value of ($EstimateSU_{t-2}$-$ActualSU_{t-2}$) is positive, or 300 basis points above this average rate where the value is negative.

Calculation of financial incentives

6. In respect of Eurocontrol Relevant Year 2011:

$$FI_t = 0$$

In respect of FI_t for Eurocontrol Relevant Years t, 2012, 2013 and 2014

$$FI_t = FT1_{t-1} + FT2_{t-1} + FT3_{t-1} + KFI_{t-2} + FEMM_{t-1}$$

Subject to:

$$FT1_{2011} + FT2_{2011} + FT3_{2011} \leq £9{,}360{,}000 \frac{CHAW_{Aug2011}}{198.1}$$

$$FT1_{2011} + FT2_{2011} + FT3_{2011} \geq -£19{,}200{,}000 \frac{CHAW_{Aug2011}}{198.1}$$

$$FT1_{2013} + FT2_{2013} + FT3_{2013} \leq £9{,}360{,}000 \frac{CHAW_{Aug2013}}{198.1}$$

$$FT1_{2013} + FT2_{2013} + FT3_{2013} \geq -£19{,}200{,}000 \frac{CHAW_{Aug2013}}{198.1}$$

$$FT1_{2014} + FT2_{2014} + FT3_{2014} \leq £9{,}360{,}000 \frac{CHAW_{Aug2014}}{198.1}$$

$$FT1_{2014} + FT2_{2014} + FT3_{2014} \geq -£19{,}200{,}000 \frac{CHAW_{Aug2014}}{198.1}$$

$$FEMM_{2012} \geq -£4{,}800{,}000 \frac{CHAW_{Aug2012}}{198.1}$$

$$FEMM_{2013} \geq -£4{,}800{,}000 \frac{CHAW_{Aug2013}}{198.1}$$

$$FEMM_{2014} \geq -£4{,}800{,}000 \frac{CHAW_{Aug2014}}{198.1}$$

$$FEMM_{2012} \leq £2{,}400{,}000 \frac{CHAW_{Aug2012}}{198.1}$$

$$FEMM_{2013} \leq £2{,}400{,}000 \frac{CHAW_{Aug2013}}{198.1}$$

$$FEMM_{2014} \leq £2{,}400{,}000 \frac{CHAW_{Aug2014}}{198.1}$$

Where:	

$FT1_{t-1}$	means the element of bonus or penalty relating to measure $T1_{t-1}$ in respect of relevant year t-1 as calculated in Paragraphs 7 and 8.
$FT2_{t-1}$	means the element of bonus or penalty relating to measure $T2_{t-1}$ in respect of relevant year t-1 as calculated in Paragraphs 9 and 10.
$FT3_{t-1}$	means the element of bonus or penalty relating to measure $T3_{t-1}$ in respect of relevant year t-1 as calculated in Paragraphs 13 and 14.
KFI_{t-2}	means the correction of the financial incentives for the differences between actual performance in relevant year t-2 and forecast performance in year t-2 as calculated in Paragraph 17.
$FEMM_{t-1}$	Means the element of financial incentives relating to measure $FEMS_{t-1}$ in respect of relevant year t-1 as calculated in Paragraph 20.
In respect of all the elements of the Financial Incentives:	
Licensee Attributable En Route ATFM Delay	means En Route ATFM Delay attributed to the Eurocontrol Business (subject to adjustment in accordance with methods approved by the CAA) other than where the cause is recorded as: Weather, Airport Operations (en route holding), Military Activity, Non ATC Equipment, Other ANSP Industrial Action, Accident/Incident, Aerodrome Capacity, De-icing or Special Event. (Special Event shall not include the Olympic Games or Paralympic Games for this purpose.)
En Route ATFM Delay	means en route air traffic flow management delay calculated by the central unit of ATFM as defined in Commission Regulation (EC) No 255/2010 on ATFM and expressed as the difference between the take-off time requested by the aircraft operator in the last submitted flight plan and the calculated take-off time allocated by the central unit of ATFM.
$AFLIGHTS_{t-1}$	means the actual aggregate number of flights in relevant year t-1 to be calculated by reliance on figures of chargeable flights reported to the CAA by the Central Route Charges Office of Eurocontrol (subject to any adjustment in accordance with methods approved by the CAA).
$FLIGHTS_{t-1}$	means the licensee's best endeavours estimate of $AFLIGHTS_{t-1}$ made at the time of setting charges for relevant year t.
$CHAW_{Aug(t-1)}$	means the value the CHAW retail Price Index published by the Office of National Statistics with respect to August in Eurocontrol Relevant Year t-1.

The Calculation of $FT1_{t-1}$

7. For the purpose of Paragraph 6, the term $FT1_{t-1}$ shall be calculated in accordance with the following formulae where Eurocontrol Relevant Years t-1 are 2011 and, 2013 (relating to penalties or bonuses in 2012 and 2014 respectively):

Where	$T1_{t-1}$	means the Licensee's best endeavours estimate of the average Licensee Attributable En Route ATFM Delay in seconds per flight in year t-1 made at the time of setting the Eurocontrol service charge for Eurocontrol relevant year t.
Where	$T1_{t-1}$ is greater than or equal to $T1Upper_{t-1}$	
	and:	$T1_{t-1}$ is greater than or equal to $MaxT1_{t-1}$ Where: $MaxT1_{2011}=44$ $MaxT1_{2013}=45$ $MaxT1_{2014}=45$
then		$FT1_{t-1} = T1PenRate_{t-1}(MaxT1_{t-1} - T1Upper_{t-1})FLIGHTS_{t-1}$
Where:	$T1_{t-1}$ is greater than or equal to $T1Upper_{t-1}$	
	and:	$T1_{t-1}$ is less than $MaxT1_{t-1}$
then		$FT1_{t-1} = T1PenRate_{t-1}(T1_{t-1} - T1Upper_{t-1})FLIGHTS_{t-1}$
Where:	$T1_{t-1}$ is greater than $T1Lower_{t-1}$ and less than $T1Upper_{t-1}$	
then		$FT1_{t-1} = 0$
Where:	$T1_{t-1}$ is less than or equal to $T1Lower_{t-1}$	
then		$FT1_{t-1} = T1BonusRate_{t-1}(T1Lower_{t-1} - T1_{t-1})FLIGHTS_{t-1}$
Where	$T1PenRate_{t-1}$	means the penalty rate for the reduction of revenues relating to the T1 score in the relevant year t-1 (to take effect in relevant year t) calculated as follows:
		t-1
		2011 $\quad -£0.0648\left(\frac{CHAW_{Aug(2011)}}{198.1}\right)$

		2013	$-£0.0648\left(\frac{CHAW_{Aug\ (2013)}}{198.1}\right)$
		2014	$-£0.0648\left(\frac{CHAW_{Aug\ (2014)}}{198.1}\right)$
	$T1BonusRate_{t-1}$	means the bonus rate for the increase of revenues relating to the T1 score in the relevant year t-1 (to take effect in relevant year t) calculated as follows:	
		t-1	
		2011	$£0.1053\left(\frac{CHAW_{Aug(2011)}}{198.1}\right)$
		2013	$£0.0948\left(\frac{CHAW_{Aug(2013)}}{198.1}\right)$
		2014	$£0.0948\left(\frac{CHAW_{Aug(2014)}}{198.1}\right)$
	$T1Upper_{t-1}$	is the value of the T1 score in relevant year t-1 above which a penalty becomes payable calculated as follow: $T1Upper_{t-1} = T1Par_{t-1} + 2.5$	
	$T1Lower_{t-1}$	is the value of the T1 score in relevant year t-1 below which a bonus becomes payable calculated as follows. $T1Lower_{t-1} = T1Par_{t-1} - 2.5$	
	$T1Par_{t-1}$	is defined in Paragraph 18.	

8. For the purpose of Paragraph 6, the term $FT1_{t-1}$ shall be calculated in accordance with the following formulae where relevant year t-1 is 2012 (relating to penalties or bonuses in 2013):

$$FT1_{2012} = FT1'_{games} + FT1'_{other}$$

$FT1'_{games}$	means the element of bonus or penalty relating to measure $T1_{t-1}$ relating to the period 1 July to 15 September 2012 inclusive.
$FT1'_{other}$	means the element of bonus or penalty relating to measure $T1_{t-1}$ relating to the aggregate of the two periods 1 January to 30 June 2012 inclusive and 16 September to 31 December 2012 inclusive.
Subscript s means either "games" or "other" for all terms in the relevant expression such that the relevant expression applies to either the "games" or the "other" period.	
Subject to	An absolute limit on penalties and bonuses arising from the calculation of $FT1'_{games}$ and $FT1'_{other}$ such that: $$FT1MaxPenalty_{2012} = -£4{,}800{,}000 \frac{CHAW_{Aug\ (2012)}}{198.1}$$ and $$FT1MaxBonus_{2012} = £2{,}340{,}000 \frac{CHAW_{Aug(2012)}}{198.1}$$
Where	$T1_{games}$ is greater than or equal to $T1Upper_{games}$
then	$$FT1'_{games} = MAX\left[\begin{array}{l}(T1PenRate_{2012}(T1_{games} - T1Upper_{games})FLIGHTS'_{games}) \\ ,FT1MaxPenalty_{2012}\frac{2.5}{12}\end{array}\right]$$
Where	$T1_{other}$ is greater than or equal to $T1Upper_{other}$
then	$$FT1'_{other} = MAX\left[\begin{array}{l}(T1PenRate_{2012}(T1_{other} - T1Upper_{other})FLIGHTS'_{other}) \\ ,FT1MaxPenalty_{2012}\frac{9.5}{12}\end{array}\right]$$
Where:	$T1_s$ is greater than $T1Lower_s$ and less than $T1Upper_s$
then	$FT1'_s = 0$

Where:	$T1_{games}$ is less than or equal to $T1Lower_{games}$	
then	$FT1_{games} = MIN\begin{bmatrix} T1BonusRate_{2012}(T1Lower_{games} - T1_{games})FLIGHTS'_{games}, \\ FT1MaxBonus_{2012}\dfrac{2.5}{12} \end{bmatrix}$	
Where:	$T1_{other}$ is less than or equal to $T1Lower_{other}$	
then	$FT1_{other} = MIN\begin{bmatrix} T1BonusRate_{2012}(T1Lower_{other} - T1_{other})FLIGHTS'_{other}, \\ FT1MAXBonus_{2012}\dfrac{9.5}{12} \end{bmatrix}$	
Where	$T1PenRate_{2012}$	means the penalty rate for the reduction of revenues based on the T1 score relating to Eurocontrol relevant year 2012 calculated as follows:
		$T1PenRate_{2012} = -£0.0648\left(\dfrac{CHAW_{Aug(2012)}}{198.1}\right)$
	$T1BonusRate_{2012}$	means the bonus rate for the increase of revenues based on the T1 score relating to Eurocontrol relevant year 2012 calculated as follows
		$T1BonusRate_{2012} = £0.1053\left(\dfrac{CHAW_{Aug(2012)}}{198.1}\right)$
	$T1Upper_{games}$	means the value of the T1 score in the games period in Eurocontrol relevant year 2012 above which a penalty becomes payable calculated as follows:. $T1Upper_{games} = T1ParPen_{games} + 2.5$
	$T1Lower_{games}$	means the value of the T1 score in the games period in Eurocontrol relevant year 2012 below which a bonus becomes payable calculated as follows:. $T1Lower_{games} = T1ParBonus_{games} - 2.5$

	$T1Upper_{other}$	means the value of the T1 score in the other period in Eurocontrol relevant year 2012 above which a penalty becomes payable calculated as follows:. $T1Upper_{other} = T1Par_{other} + 2.5$
	$T1Lower_{other}$	means the value of the T1 score in the other period in Eurocontrol relevant year 2012 below which a bonus becomes payable calculated as follows: $T1Lower_{other} = T1Par_{other} - 2.5$
	$T1ParPen_{games}$	means the par value of the T1 score for calculating penalties for the games period in Eurocontrol relevant year 2012 as calculated in Paragraph 18.
	$T1ParBonus_{games}$	means the par value of the T1 score for calculating bonuses for the games period in Eurocontrol relevant year 2012 as calculated in Paragraph 18.
	$T1Par_{other}$	means the par value of the T1 score for the other period in relevant year 2012 as calculated in Paragraph 18.
	$FLIGHTS'_{games}$	means the number of $FLIGHTS_{2012}$ falling in the period of the Games as specified above.
	$FLIGHTS'_{other}$	means the number of $FLIGHTS_{2012}$ falling outside the period of the games as specified above calculated as : $FLIGHTS'_{other} = FLIGHTS_{2012} - FLIGHTS'_{games}$

The Calculation of $FT2_{t-1}$

9. For the purpose of Paragraph 6, the term $FT2_{t-1}$ shall be calculated in accordance with the following formulae where Eurocontrol relevant years t-1 are 2011 and 2013 (relating to penalties or bonuses in 2012 and 2014 respectively):

Where	$T2_{t-1}$	means the Licensee's best endeavours estimate of the weighted delay score per flight calculated as set out in Paragraph 11.
Where	$T2_{t-1}$ is greater than or equal to $T2Upper_{t-1}$	
	and:	$T2_{t-1}$ is greater than or equal to $MaxT2_{t-1}$ Where $MaxT2_{2011}$=123.5 $MaxT2_{2013}$ =126 $MaxT2_{2014}$ =126
then		$FT2_{t-1} = T2PenRate_{t-1}(MaxT2_{t-1} - T2Upper_{t-1})FLIGHTS_{t-1}$
Where:	$T2_{t-1}$ is greater than or equal to $T2Upper_{t-1}$	
	and:	$T2_{t-1}$ is less than $MaxT2_{t-1}$
then		$FT2_{t-1} = T2PenRate_{t-1}(T2_{t-1} - T2Upper_{t-1})FLIGHTS_{t-1}$
Where:	$T2_{t-1}$ is greater than $T2Lower_{t-1}$ and less than $T2Upper_{t-1}$	
then		$FT2_{t-1} = 0$
Where:	$T2_{t-1}$ is less than or equal to $T2Lower_{t-1}$	
then		$FT2_{t-1} = T2BonusRate_{t-1}(T2Lower_{t-1} - T2_{t-1})FLIGHTS_{t-1}$
Where	$T2PenRate_{t-1}$	means the penalty rate for the reduction of revenues relating to the T2 score in Eurocontrol relevant year t-1 (to take effect in relevant year t)
		t-1
		2011 $\quad -£0.0452\left(\frac{CHAW_{Aug(2011)}}{198.1}\right)$

		2013	$-£0.0452\left(\frac{CHAW_{Aug\ (2013)}}{198.1}\right)$
		2014	$-£0.0452\left(\frac{CHAW_{Aug\ (2014)}}{198.1}\right)$
	$T2BonusRate_{t-1}$		
		t-1	
		2011	$£0.0689\left(\frac{CHAW_{Aug(2011)}}{198.1}\right)$
		2013	$£0.0632\left(\frac{CHAW_{Aug(2013)}}{198.1}\right)$
		2014	$£0.0632\left(\frac{CHAW_{Aug(2014)}}{198.1}\right)$
	$T2Upper_{t-1}$	Is the value of the T2 score in Eurocontrol relevant year t-1 above which a penalty becomes payable calculated as follows: $T2Upper_{t-1} = T2Par_{t-1} + 5$	
	$T2Lower_{t-1}$	Is the value of the T1 score in Eurocontrol relevant year t-1 below which a bonus becomes payable calculated as follows. $T2Lower_{t-1} = T2Par_{t-1} - 5$	
	$T2Par_{t-1}$	Is defined in Paragraph 18.	

10. For the purpose of Paragraph 6, the term $FT2_{t-1}$ shall be calculated in accordance with the following formula where Eurocontrol relevant year t-1 is 2012 (relating to penalties or bonuses in 2013):

$$FT2_{2012} = FT2'_{games} + FT2'_{other}$$

$FT2'_{games}$	means the element of bonus or penalty relating to measure $T2_{t-1}$ relating to the period 1 July to 15 September 2012 inclusive.
$FT2'_{other}$	means the element of bonus or penalty relating to measure $T2_{t-1}$ relating to the aggregate of the two periods 1 January to 30 June 2012 inclusive and 16 September to 31 December 2012 inclusive.
Subscripts means either "games" or "other" for all terms in the relevant expression such that the relevant expression applies to either the "games" or the "other" period.	
Subject to	An absolute limit on penalties and bonuses arising from the calculation of $FT2'_{games}$ and $FT2'_{other}$ such that: $FT2'MaxPenalty_{2012} = -£9{,}600{,}000 \frac{CHAW_{Aug\ (2012)}}{198.1}$ and $FT2'MaxBonus_{2012} = £4{,}680{,}000 \frac{CHAW_{Aug(2012)}}{198.1}$
Where	$T2_{games}$ is greater than or equal to $T2Upper_{games}$
then	$FT2'_{games} = MAX\left[(T2PenRate_{2012}(T2_{games} - T2Upper_{games})FLIGHTS'_{games}), FT2MaxPenalty_{2012}\frac{2.5}{12}\right]$
Where	$T2_{other}$ is greater than or equal to $T2Upper_{other}$
then	$FT2'_{other} = MAX\left[(T2PenRate_{2012}(T2_{other} - T2Upper_{other})FLIGHTS'_{other}), FT2MaxPenalty_{2012}\frac{9.5}{12}\right]$
Where:	$T2_s$ is greater than $T2Lower_s$ and less than $T2Upper_s$
then	$FT2'_s = 0$
Where:	$T2_{games}$ is less than or equal to $T2Lower_{games}$
then	$FT2'_{games} = MIN\left[T2BonusRate_{2012}(T2Lower_{games} - T2_{games})FLIGHTS'_{games}, FT2MaxBonus_{2012}\frac{2.5}{12}\right]$

Where:	$T2_{other}$ is less than or equal to $T2Lower_{other}$	
then	$FT2'_{other} = MIN\begin{bmatrix} T2BonusRate_{2012}(T2Lower_{other} - T2_{other})FLIGHTS'_{other}, \\ FT2MAXBonus_{2012}\frac{9.5}{12} \end{bmatrix}$	
Where	$T2PenRate_{2012}$	means the penalty rate for the reduction of revenues based on the T2 score relating to Eurocontrol relevant year 2012 (to take effect in relevant year 2013) calculated as follows:
		$T2PenRate_{2012} = -£0.0452\left(\frac{CHAW_{Aug\ (2012)}}{198.1}\right)$
	$T2BonusRate_{2012}$	means the bonus rate for the increase of revenues based on the T2 score relating to Eurocontrol relevant year 2012 (to take effect in relevant year 2013) calculated as follows
		$T2BonusRate_{2012} = £0.0689\left(\frac{CHAW_{Aug(2012)}}{198.1}\right)$
	$T2Upper_{games}$	means the value of the T2 score in the games period in Eurocontrol relevant year 2012 above which a penalty becomes payable calculated as follows:. $T2Upper_{games} = T2ParPen_{games} + 5$
	$T2Lower_{games}$	means the value of the T2 score in the games period in Eurocontrol relevant year 2012 below which a bonus becomes payable calculated as follows:. $T2\,Lower_{games} = T2ParBonus_{games} - 5$
	$T2Upper_{other}$	means the value of the T2 score in the other period in Eurocontrol relevant year 2012 above which a penalty becomes payable calculated as follows:. $T2Upper_{other} = T2Par_{other} + 5$
	$T2Lower_{other}$	means the value of the T2 score in the other period in Eurocontrol relevant year 2012 below which a bonus becomes payable calculated as follows: $T2Lower_{other} = T2Par_{other} - 5$

	$T2ParPen_{games}$	means the par value of the T2 score for calculating penalties for the games period in Eurocontrol relevant year 2012 as calculated in Paragraph 18.
	$T2ParBonus_{games}$	means the par value of the T2 score for calculating bonuses for the games period in Eurocontrol relevant year 2012 as calculated in Paragraph 18.
	$T2Par_{other}$	means the par value of the T2 score for the other period in Eurocontrol relevant year 2012 as calculated in Paragraph 8.
	$FLIGHTS'_{games}$	Is as calculated in Paragraph 8
	$FLIGHTS'_{other}$	Is as calculated in Paragraph 8

The Calculation of $T2_{t-1}$

11. $T2_{t-1}$ shall be calculated as follows:

$T2_{t-1}$	$T2_{t-1} = \frac{\sum w_{p,b} d_{p,b}}{FLIGHTS_{t-1}}$ For all flights in year t-1		
Where:	Where p denotes that each flight in relevant year t-1 shall be considered as falling into three periods:		
	Morning Peak (p=1)	means flights in relevant year t-1 with an off-block estimated time ≥ 0400 and < 0800 UTC in Summer (April –October inclusive) and between ≥0500 and < 0900 UTC in Winter (January -March inclusive and November-December inclusive).	
	Evening Peak (p=2)	means flights in relevant year t-1 with an off-block estimated time ≥ 1500 and < 1900 UTC in Summer (April –October inclusive) and ≥ 1600 and < 2000 UTC in Winter (January-March inclusive and November-December inclusive).	
	Other (p=3)	means flights in relevant year t-1with an off-block estimated block time not in the morning peak and not in the evening peak.	
And	b	denotes bands of delay for each flight where	
		$d_{p,1}$	means the Licensee Attributable En Route ATFM Delay for each flight in seconds up to and including 15 minutes per flight in relevant year t-1 of flights which fall into relevant period p as defined above.
		$d_{p,2}$	means the Licensee Attributable En Route ATFM Delay in seconds over 15 minutes but less than or equal to 30 minutes per flight in relevant year t-1 of flights which fall into relevant period p as defined above.

		$d_{p,3}$	means the Licensee Attributable En Route ATFM Delay in seconds over 30 minutes but less than or equal to 60 minutes per flight in relevant year t-1 of flights which fall into relevant period p as defined above.
		$d_{p,4}$	means the Licensee Attributable En Route ATFM Delay in seconds over 60 minutes per flight in relevant year t-1 of flights which fall into relevant period p as defined above.
	$w_{p,b}$	means the weighting to be applied to bands of delay b for each flight subject to the period of the flight p where the weightings applied shall be:	

	p=1 Morning Peak Period	p=2 Evening Peak Period	p=3 Other Times
b=1 (Delay > 0 and <=15 minutes)	3	2	1
b =2 (Delay >15 and <= 30 minutes)	6	3	2
b =3 (Delay >30 and <= 60 minutes)	9	6	3
b =4 (Delay >60 minutes)	18	9	6

Mitigation of $T2_{t-1}$ or $T3_{t-1}$ scores for equipment failure

12. On days where both the following conditions apply:

the scores relate to a day for which the relevant $T3DailyScore_d$ as calculated in Paragraph 15 is greater than zero; and
There is a T2 score relating to Licensee Attributable En Route ATFM recorded as equipment failure greater than zero.

The implicit penalty for the aggregate of the T2 score relating to equipment failure and T3 delay on the relevant day shall be no greater than whichever of these two measures would imply the greater penalty.

In determining whether T2 or T3 apply to days meeting these conditions for relevant day d in year t the following test should apply:

If:	$T2PenRate_t(T2_d)DailyFlights_d > T3PenRate_t(T3DailyScore_d)FFLIGHTS_t$

then:	for day d, the T2 score for equipment failure should apply and the T3 score for the day shall be excluded from the calculation of the annual $FT3_t$ penalty or bonus.		
If:	$T2PenRate_t(T2_d)DailyFlights_d \leq T3PenRate_t(T3DailyScore_d)FFLIGHTS_t$		
then:	for day d, the T3 score should apply and the T2 score relating to equipment failure shall be excluded from the calculation of the annual $FT2_t$ penalty or bonus.		
Where	$T2PenRate_t$	has the meaning in Paragraph 9.	
	$DailyFlights_d$	has the meaning in Paragraph 15.	
	$T3PenRate_t$	has the meaning in Paragraph 13.	
	$T3DailyScore_d$	has the meaning in Paragraph 15.	
	$T2_d$	has the following meaning: $T2_d = \frac{\sum w_{p,b} d_{p,b}}{DailyFlights_d}$ for all flights in day d Where: $\sum w_{p,b} d_{p,b}$ has the meaning in Paragraph 11.	
	$FFLIGHTS_t$	Means the forecast of flights for relevant year t established at the beginning of the reference period as set out as follows:	
		Year t	
		2011	2,253,000
		2012	2,342,000

		2013	2,400,000
		2014	2,469,000

For the avoidance of doubt the T2 and T3 measures are based on different units and the estimation of the penalty for each in the tests above requires the different parameters as specified.

The Calculation of $FT3_{t-1}$

13. For the purpose of Paragraph 6, $FT3_{t-1}$ shall be calculated in accordance with the following formulae where relevant years t-1 are 2011 and 2013 (relating to penalties or bonuses in 2012 and 2014 respectively):

Where	$T3_{t-1}$	means the Licensee's best endeavours estimate of the annual sum of the weighted daily excess delay score calculated as set out in Paragraph 15.
Where	$T3_{t-1}$ is greater than or equal to $T3Upper_{t-1}$	
	and:	$T3_{t-1}$ is greater than or equal to 4,620
then		$FT3_{t-1} = T3PenRate_{t-1}(4{,}620 - T3Upper_{t-1})FLIGHTS_{t-1}$
Where:	$T3_{t-1}$ is greater than or equal to $T3Upper_{t-1}$	
	and:	$T3_{t-1}$ is less than 4,620
then		$FT3_{t-1} = T3PenRate_{t-1}(T3_{t-1} - T3Upper_{t-1})FLIGHTS_{t-1}$
Where:	$T3_{t-1}$ is greater than $T3Lower_{t-1}$ and less than $T3Upper_{t-1}$	
then		$FT3_{t-1} = 0$
Where:	$T3_{t-1}$ is less than or equal to $T3Lower_{t-1}$	
then		$FT3_{t-1} = T3BonusRate_{t-1}(T3Lower_{t-1} - T3_{t-1})FLIGHTS_{t-1}$
Where	$T3PenRate_{t-1}$	means the penalty rate for the reduction of revenues relating to the T3 score in Eurocontrol relevant year t-1 (to take effect in relevant year t)
	t-1	
	2011	$-£0.000655\left(\frac{CHAW_{Aug(2011)}}{198.1}\right)$

		2013	$-£0.000655\left(\frac{CHAW_{Aug\ (2013)}}{198.1}\right)$
		2014	$-£0.000655\left(\frac{CHAW_{Aug\ (2014)}}{198.1}\right)$
	$T3BonusRate_{t-1}$		
		t-1	
		2011	$£0.000702\left(\frac{CHAW_{Aug(2011)}}{198.1}\right)$
		2013	$£0.000702\left(\frac{CHAW_{Aug\ (2013)}}{198.1}\right)$
		2014	$£0.000702\left(\frac{CHAW_{Aug\ (2014)}}{198.1}\right)$
	$T3Upper_{t-1}$	is the value of the T3 score in Eurocontrol relevant year t-1 above which a penalty becomes payable calculated as follow: $T3Upper_{t-1} = T3Par_{t-1} + 150$	
	$T3Lower_{t-1}$	is the value of the T3 score in Eurocontrol relevant year t-1 below which a bonus becomes payable calculated as follows. $T3Lower_{t-1} = T3Par_{t-1} - 150$	
	$T3Par_{t-1}$	is defined in Paragraph 18.	

14. For the purpose of Paragraph 6, the term $FT3_{t-1}$ shall be calculated in accordance with the following formula where relevant year t-1 is 2012 (relating to penalties or bonuses in 2013):

$$FT3_{2012} = FT3'_{games} + FT3'_{other}$$

$FT3'_{games}$	means the element of bonus or penalty relating to measure $T3_{t-1}$ relating to the period 1 July to 15 September 2012 inclusive.
$FT3'_{other}$	means the element of bonus or penalty relating to measure $T3_{t-1}$ relating to the aggregate of the two periods 1 January to 30 June 2012 inclusive and 16 September to 31 December 2012 inclusive.
Subscript s means either "games" or "other" for all terms in the relevant expression such that the relevant expression applies to either the "games" or the "other" period.	
Subject to	An absolute limit on penalties and bonuses arising from the calculation of $FT3'_{games}$ and $FT3'_{other}$ such that: $FT3'MaxPen_{2012} = -£4{,}800{,}000 \frac{CHAW_{Aug\ (2012)}}{198.1}$ and $FT3'MaxBonus_{2012} = £2{,}340{,}000 \frac{CHAW_{Aug(2012)}}{198.1}$
Where	$T3_{games}$ is greater than or equal to $T3Upper_{games}$
then	$FT3'_{games} = MAX\left[\begin{array}{l}(T3PenRate_{2012}(T3_{games} - T3Upper_{games})FLIGHTS_{2012}) \\ ,FT3MAXPen_{2012}\frac{2.5}{12}\end{array}\right]$
Where	$T3_{other}$ is greater than or equal to $T3Upper_{other}$
then	$FT3'_{other} = MAX\left[\begin{array}{l}(T3PenRate_{2012}(T3_{other} - T3Upper_{other})FLIGHTS_{2012}) \\ ,FT3MaxPen_{2012}\frac{9.5}{12}\end{array}\right]$
Where:	$T3_s$ is greater than $T3Lower_s$ and less than $T3Upper_s$
then	$FT3'_s = 0$
Where:	$T3_{games}$ is less than or equal to $T3Lower_{games}$
then	$FT3'_{games} = MIN\left[\begin{array}{l}T3BonusRate_{games}(T3Lower_{games3} - T3_{games})FLIGHTS_{2012}, \\ FT3MAXBonus_{2012}\frac{2.5}{12}\end{array}\right]$

Where	$T3_{other}$ is less than or equal to $T3Lower_{other}$		
then	$FT3'_{other} = MIN\left[\begin{array}{l} T3BonusRate_{other}(T3Lower_{other} - T3_{other})FLIGHTS_{2012}, \\ FT3MAXBonus_{2012}\frac{9.5}{12} \end{array}\right]$		
Where	$T3PenRate_{2012}$	means the penalty rate for the reduction of revenues based on the T3 score relating to Eurocontrol relevant year 2012 calculated as follows:	
		$T3PenRate_{2012} =$	$-£0.000655\left(\frac{CHAW_{Aug\ (2012)}}{198.1}\right)$
	$T3BonusRate_{2012}$	means the bonus rate for the increase of revenues based on the T3 score relating to Eurocontrol relevant year 2012 calculated as follows	
		$T3BonusRate_{2012} =$	$£0.000702\left(\frac{CHAW_{Aug(2012)}}{198.1}\right)$
	$T3Upper_s$	means the value of the T3 score in the games period or other period respectively in Eurocontrol relevant year 2012 above which a penalty becomes payable calculated as follows: $T3Upper_{games} = T3Par_{games} + 150 \times \frac{2.5}{12}$ $T3Upper_{other} = T3Par_{other} + 150 \times \frac{9.5}{12}$	
	$T3Lower_s$	means the value of the T3 score in the games period or other period respectively in Eurocontrol relevant year 2012 below which a bonus becomes payable calculated as follows: $T3Lower_{games} = T3Par_{games} - 150 \times \frac{2.5}{12}$ $T3Lower_{other} = T3Par_{other} - 150 \times \frac{9.5}{12}$	

	$T3Par_s$	means the par value of the T3 score for the games period or other period in Eurocontrol relevant year 2012 as calculated in Paragraph 18.

The Calculation of $T3_{t-1}$

15. $T3_{t-1}$ shall be calculated as follows subject to the exemption in Paragraph 16:

$T3_{t-1}$	$T3_{t-1} = \sum T3DailyScore_d$ for all days in year t-1 except where an exemption applies as defined in Paragraph 16.	
Where:	d is a day in the months January to March inclusive or November to December inclusive:	
	Where	$\frac{DT1_d}{DailyFlights_d} \leq 40$
	then	$T3DailyScore_d = 0$
	Where	$40 < \frac{DT1_d}{DailyFlights_d} \leq 80$
	then	$T3DailyScore_d = \frac{DT1_d}{DailyFlights_d} - 40$
	Where	$80 < \frac{DT1_d}{DailyFlights_d}$
	then	$T3DailyScore_d = 40 + 2\left(\frac{DT1_d}{DailyFlights_d} - 80\right)$
Where:	d is a day in the months April to October inclusive	
	Where	$\frac{DT1_d}{DailyFlights_d} \leq 60$
	then	$T3DailyScore_d = 0$
	Where	$60 < \frac{DT1_d}{DailyFlights_d} \leq 110$
	then	$T3DailyScore_d = \frac{DT1_d}{DailyFlights_d} - 60$
	Where	$110 < \frac{DT1_d}{DailyFlights_d}$
	then	$T3DailyScore_d = 50 + 2\left(\frac{DT1_d}{DailyFlights_d} - 110\right)$
Where:	$DT1_d$	means total Licensee Attributable En Route ATFM Delay in seconds on day d.
	$DailyFlights_d$	means the actual aggregate number of flights on day d to be

		calculated by reliance on figures of chargeable flights reported to the CAA by the Central Route Charges Office of Eurocontrol (subject to any adjustment in accordance with methods approved by the CAA).

Exemptions for $T3_{t-1}$ and $T2_{t-1}$ in respect of Major Changes in Operations

16. T3 Daily scores and T2 weighted delays for the relevant day shall not be counted for the purposes of calculating $T3_{t-1}$ or $T2_{t-1}$ where all the following conditions apply:

The day falls into a period designated by the Licensee in advance as a period when major changes are being introduced to the operation;
Users have been notified and consulted in advance over the timing of such exemptions;
The total number of days falling into such periods designated by the Licensee shall not exceed 40 in aggregate for the period of the four Eurocontrol relevant years 2011 to 2014 inclusive, considered as a whole.

The Calculation of KFI_{t-2}

17. The calculation of the correction element of the financial incentives shall be calculated as follows:

In respect of relevant year t, 2011 and relevant year 2012

$KFT_{t-2} = 0$

Otherwise:

$$KFI_{t-2} = Correction_{t-2}\left[1+\frac{I_{t-1}}{100}\right]+\left((FT1_{t-3}+FT2_{t-3}+FT3_{t-3}+FEMM_{t-3})\left(\frac{EstimateSU_{t-2}-ActualSU_{t-2}}{ForecastSU_{t-2}}\right)\right.$$

$$\left[1+\frac{I_{t-2}}{100}\right]^2$$

$Correction_{t-2}$	means a correction factor for differences in the best endeavours estimates made by the Licensee and the outturn values for relevant year t-2 calculated as follows: $Correction_{t-2} =$

	$(AFT1_{t-2} + AFT2_{t-2} + AFT3_{t-2} + AFEMM_{t-2} - RAFEMM_{t-2}) - (FT1_{t-2} + FT2_{t-2} + FT3_{t-2} + FEMM_{t-2})\frac{EstimateSU_{t-1}}{ForecastSU_{t-1}}$ Subject to: $AFT1_{2011} + AFT2_{2011} + AFT3_{2011} \leq £9{,}360{,}000\frac{CHAW_{Aug2011}}{198.1}$ $AFT1_{2011} + AFT2_{2011} + AFT3_{2011} \geq -£19{,}200{,}000\frac{CHAW_{Aug2011}}{198.1}$ $AFT1_{2013} + AFT2_{2013} + AFT3_{2013} \leq £9{,}360{,}000\frac{CHAW_{Aug2013}}{198.1}$ $AFT1_{2013} + AFT2_{2013} + AFT3_{2013} \geq -£19{,}200{,}000\frac{CHAW_{Aug2013}}{198.1}$ $AFT1_{2014} + AFT2_{2014} + AFT3_{2014} \leq £9{,}360{,}000\frac{CHAW_{Aug2014}}{198.1}$ $AFT1_{2014} + AFT2_{2014} + AFT3_{2014} \geq -£19{,}200{,}000\frac{CHAW_{Aug2014}}{198.1}$ $AFEMM_{2012} \geq -£4{,}800{,}000\frac{CHAW_{Aug2012}}{198.1}$ $AFEMM_{2013} \geq -£4{,}800{,}000\frac{CHAW_{Aug2013}}{198.1}$ $AFEMM_{2014} \geq -£4{,}800{,}000\frac{CHAW_{Aug2014}}{198.1}$ $AFEMM_{2012} \leq £2{,}400{,}000\frac{CHAW_{Aug2012}}{198.1}$ $AFEMM_{2013} \leq £2{,}400{,}000\frac{CHAW_{Aug2013}}{198.1}$ $AFEMM_{2014} \leq £2{,}400{,}000\frac{CHAW_{Aug2014}}{198.1}$
$AFT1_{t-2}$	means the value that $FT1_{t-2}$ would have if the Licensee's estimate had been based on the actual value of $T1_{t-2}$ and $AFLIGHTS_{t-2}$ rather than $FLIGHTS_{t-2}$ in the calculations in Paragraphs 7 and 8.
$AFT2_{t-2}$	means the value that $FT2_{t-2}$ would have if the Licensee's estimate had been based on the actual value of $T2_{t-2}$ and $AFLIGHTS_{t-2}$ rather than $FLIGHTS_{t-2}$ in the calculations in Paragraphs 9 and 10.

$AFT3_{t-2}$	means the value that $FT3_{t-2}$ would have if the Licensee's estimate had been based on the actual value of $T3_{t-2}$ and $AFLIGHTS_{t-2}$ rather than $FLIGHTS_{t-2}$ in the calculations in Paragraphs 13 and 14.
$AFEMM_{t-2}$	Means the value that $FEMM_{t-2}$ would have if the Licensee's estimate had been based on the actual value of $FEMS_{t-2}$ rather than the Licensee's best endeavors estimate in the calculations in paragraph 20.
$RAFEMM_{t-2}$	Are both equal to zero unless $RFEMS_{t-2} - FEMS_{t-2} > RFEMT$ Or $RFEMS_{t-2} - FEMS_{t-2} < -RFEMT$ Then $RAFEMM_{t-2} = AFEMM_{t-2}$
where	$RFEMS_{t-2}$ is the annual average flight efficiency metric score calculated using the Review Model in accordance with the FEM calculation protocol.
	RFEMT is the review flight efficiency threshold which is set at 3 units.
	$FEMS_{t-2}$ is defined in paragraph 20.
I_{t-1}	means the average of the yield (expressed as an annual percentage interest rate) on 3 month Treasury Bills published weekly by the UK Debt Management Office, during the 12 months from 1 September in Relevant Year t-2 where the value of $Correction_{t-2}$ is positive, or 300 basis points above this average rate where the value is negative.

Definition of Par Values

18. The par values for each of the measures shall be calculated as follows:

Where:	$LFT_{t-1} \leq FLIGHTS_{t-1} \leq UFT_{t-1}$	
	then:	$T1Par_{2011} = 11.5$ $T1ParPen_{games} = 35$ $T1ParBonus_{games} = 17.25$ $T1Par_{other} = 9.8$ $T1Par_{2013} = 12.5$ $T1Par_{2014} = 12.5$ $T2Par_{2011} = 32.5$

		$T2ParPen_{games} = 100$ $T2ParBonus_{games} = 48.75$ $T2Par_{other} = 27.6$ $T2Par_{2013} = 35$ $T2Par_{2014} = 35$ $T3Par_{2011} = 1500$ $T3Par_{games} = 312.5$ $T3Par_{other} = 1187.5$ $T3Par_{2013} = 1500$ $T3Par_{2014} = 1500$
Where:	$LFT_{t-1} > FLIGHTS_{t-1}$	
	then:	$T1Par_{2011} = 11.5\left(1 + \frac{5(FLIGHTS_{2011} - LFT_{2011})}{LFT_{2011}}\right)$ $T1ParPen_{games} = 35\left(1 + \frac{5(FLIGHTS_{2012} - LFT_{2012})}{LFT_{2012}}\right)$ $T1ParBonus_{games} = 17.25\left(1 + \frac{5(FLIGHTS_{2012} - LFT_{2012})}{LFT_{2012}}\right)$ $T1Par_{other} = 9.8\left(1 + \frac{5(FLIGHTS_{2012} - LFT_{2012})}{LFT_{2012}}\right)$ $T1Par_{2013} = 12.5\left(1 + \frac{5(FLIGHTS_{2013} - LFT_{2013})}{LFT_{2013}}\right)$ $T1Par_{2014} = 12.5\left(1 + \frac{5(FLIGHTS_{2014} - LFT_{2014})}{LFT_{2014}}\right)$ $T2Par_{2011} = 32.5\left(1 + \frac{5(FLIGHTS_{2011} - LFT_{2011})}{LFT_{2011}}\right)$ $T2ParPen_{games} = 100\left(1 + \frac{5(FLIGHTS_{2012} - LFT_{2012})}{LFT_{2012}}\right)$ $T2ParBonus_{games} = 48.75\left(1 + \frac{5(FLIGHTS_{2012} - LFT_{2012})}{LFT_{2012}}\right)$ $T2Par_{other} = 27.6\left(1 + \frac{5(FLIGHTS_{2012} - LFT_{2012})}{LFT_{2012}}\right)$ $T2Par_{2013} = 35\left(1 + \frac{5(FLIGHTS_{2013} - LFT_{2013})}{LFT_{2013}}\right)$ $T2Par_{2014} = 35\left(1 + \frac{5(FLIGHTS_{2014} - LFT_{2014})}{LFT_{2014}}\right)$

		$T3Par_{2011} = 1500\left(1+\frac{(FLIGHTS_{2011}-LFT_{2011})}{LFT_{2011}}\right)$ $T3Par_{games} = 312.5\left(1+\frac{(FLIGHTS_{2012}-LFT_{2012})}{LFT_{2012}}\right)$ $T3Par_{other} = 1187.5\left(1+\frac{(FLIGHTS_{2012}-LFT_{2012})}{LFT_{2012}}\right)$ $T3Par_{2013} = 1500\left(1+\frac{(FLIGHTS_{2013}-LFT_{2013})}{LFT_{2013}}\right)$ $T3Par_{2014} = 1500\left(1+\frac{(FLIGHTS_{2014}-LFT_{2014})}{LFT_{2014}}\right)$
Where	$FLIGHTS_{t-1} > UFT_{t-1}$	
	then:	$T1Par_{2011} = 11.5\left(1+\frac{5(FLIGHTS_{2011}-UFT_{2011})}{UFT_{2011}}\right)$ $T1ParPen_{games} = 35\left(1+\frac{5(FLIGHTS_{2012}-UFT_{2012})}{UFT_{2012}}\right)$ $T1ParBonus_{games} = 17.25\left(1+\frac{5(FLIGHTS_{2012}-UFT_{2012})}{UFT_{2012}}\right)$ $T1Par_{other} = 9.8\left(1+\frac{5(FLIGHTS_{2012}-UFT_{2012})}{UFT_{2012}}\right)$ $T1Par_{2013} = 12.5\left(1+\frac{5(FLIGHTS_{2013}-UFT_{2013})}{UFT_{2013}}\right)$ $T1Par_{2014} = 12.5\left(1+\frac{5(FLIGHTS_{2014}-UFT_{2014})}{UFT_{2014}}\right)$ $T2Par_{2011} = 32.5\left(1+\frac{5(FLIGHTS_{2011}-UFT_{2011})}{UFT_{2011}}\right)$ $T2ParPen_{games} = 100\left(1+\frac{5(FLIGHTS_{2012}-UFT_{2012})}{UFT_{2012}}\right)$ $T2ParBonus_{games} = 48.75\left(1+\frac{5(FLIGHTS_{2012}-UFT_{2012})}{UFT_{2012}}\right)$ $T2Par_{other} = 27.6\left(1+\frac{5(FLIGHTS_{2012}-UFT_{2012})}{UFT_{2012}}\right)$ $T2Par_{2013} = 35\left(1+\frac{5(FLIGHTS_{2013}-UFT_{2013})}{UFT_{2013}}\right)$ $T2Par_{2014} = 35\left(1+\frac{5(FLIGHTS_{2014}-UFT_{2014})}{UFT_{2014}}\right)$

		$T3Par_{2011} = 1500\left(1 + \frac{(FLIGHTS_{2011} - UFT_{2011})}{UFT_{2011}}\right)$ $T3Par_{games} = 312.5\left(1 + \frac{(FLIGHTS_{2012} - UFT_{2012})}{UFT_{2012}}\right)$ $T3Par_{other} = 1187.5\left(1 + \frac{(FLIGHTS_{2012} - UFT_{2012})}{UFT_{2012}}\right)$ $T3Par_{2013} = 1500\left(1 + \frac{(FLIGHTS_{2013} - UFT_{2013})}{UFT_{2013}}\right)$ $T3Par_{2014} = 1500\left(1 + \frac{(FLIGHTS_{2014} - UFT_{2014})}{UFT_{2014}}\right)$
Where:	UFT_{t-1}	means the upper threshold forecast of flights in relevant year t-1, above which the par values are modulated which are set as follows:
		t-1 |
		2011 | 2,343,000
		2012 | 2,435,000
		2013 | 2,496,000
		2014 | 2,567,000
	LFT_{t-1}	means the lower threshold forecast of flights in relevant year t-1 above which the par values are modulated which are set as follows:
		t-1 |
		2011 | 2,163,000
		2012 | 2,248,000
		2013 | 2,304,000
		2014 | 2,370,000

19. For the avoidance of doubt, the treatment of T1, T2 and T3 occurring in 2014 would be subject to review at the end of Relevant Year 2014 under the provisions of sections 11 to 19 of the Transport Act 2000. (Subject to those provisions, the CAA would expect to take the performance in 2014 into account in the charges for subsequent years as if this condition applied to charges in 2015 and 2016.)

Flight efficiency metric

20. For the purpose of Paragraph 6, the term $FEMM_{t-1}$ shall be calculated in accordance with the following formulae where relevant years t-1 are 2012 and 2013 (relating to penalties or bonuses in 2012 and 2014 respectively):

Where:	
$FEMS_{t-1}$	means the Licensee's best endeavours estimate of the flight efficiency metric score as given by the average 3Di score for all flights for year t-1 as calculated by NERL in accordance with the FEM calculation protocol. If t-1 = 2012 then $FEMS_{t-1}$ is given by the average 3Di score for all flights for

	year t-1 excluding the period 1 July to 15 September 2012 inclusive.	
Where $FEMS_{t-1}$ is greater than or equal to $FEMUpper_{t-1}$		
then	$FEMM_{t-1} = FEMMP_{t-1} + FEMMB_{t-1}$	
Where	$FEMMP_{t-1}$ is the flight efficiency penalty payment calculated by the formula:	
	If $FEMS_{t-1} > FEMUpper_{t-1}$ then $FEMMP_{t-1} = -FEMI_{t-1}(FEMS_{t-1} - FEMUpper_{t-1})$ else $FEMMP_{t-1} = 0$	
Where	$FEMMB_{t-1}$ is the flight efficiency bonus payment calculated by the formula:	
	If $FEMS_{t-1} < FEMLower_{t-1}$ then $FEMMB_{t-1} = -FEMI_{t-1}(FEMS_{t-1} - FEMLower_{t-1})$ else $FEMMB_{t-1} = 0$	
Where:	$FEMUpper_{t-1}$ is the upper deadband limit on the flight efficiency metric in year t-1 calculated by the formula: $FEMUpper_{t-1} = FEMPar_{t-1} + 3$	
	$FEMLower_{t-1}$ is the lower deadband limit on the flight efficiency metric in year t-1 calculated by the formula: $FEMLower_{t-1} = FEMPar_{t-1} - 3$	
	$FEMI_{t-1}$ is the flight efficiency payment rate in year t-1 calculated by the formula:	
	Value of t-1	Value of FEMI
	2012	$FEMI_{2012} = £200{,}000 \frac{CHAW_{Aug2012}}{198.1}$
	2013	$FEMI_{2013} = £200{,}000 \frac{CHAW_{Aug2013}}{198.1}$
	2014	$FEMI_{2014} = £200{,}000 \frac{CHAW_{Aug2014}}{198.1}$
	$FEMPar_{t-1}$ is the par value for the flight efficiency metric in year t-1 calculated by the formula: $FEMPar_{2012} = 24$ $FEMPar_{2013} = 24$ $FEMPar_{2014} = 23$	

Annex 2: Flight efficiency metric calculation and annual review protocol

Flight efficiency metric (FEM) calculation

1. The FEM is calculated as the mean of the 3Di scores for all flights taking place in UK airspace under NERL control with the relevant year of the control period. The metric will be calculated on a flight by flight basis and the mean published monthly. The annual average 3Di score will be used for the calculation of financial incentives

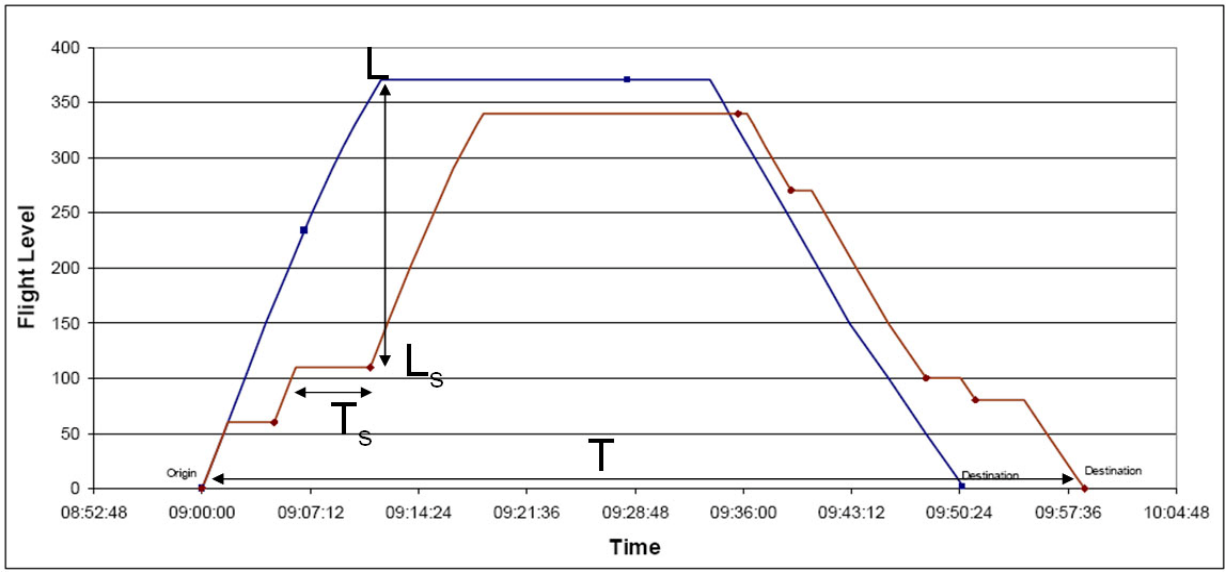
2. 3Di score by flight is calculated as a combination of:

- Horizontal flight efficiency - defined as the difference between the great circle distance and the actual flight path flown. Horizontal flight efficiency is measured from the actual entry and exit point into and out of UKFIR.

- Vertical flight efficiency - defined as the difference in altitude between the reference (requested) flight level and the actual altitude of the period of level flight, alongside the time spent in level flight. Vertical inefficiency is split into flight phase (climb, cruise and descent) and the calculation for an individual flight phase is as follows:

Vertical Inefficiency = $$V = \sum_{s} \frac{T_s}{T}\left(\frac{L - L_s}{L}\right)$$

Where: V=Vertical Inefficiency, T=Total Flight Time (UKFIR), Ts=Duration of Step, L=Reference Level, Ls=Level of Step



Vertical and horizontal flight efficiency are combined using the following model form based on a statistical regression. This is a proxy estimate for the impact of the flight trajectory on fuel burn[1]:

[1] This estimated impact is calculated by comparing the fuel burn for the journey based on an optimal trajectory (continuous climb and descent to/from the reference flight level) to the fuel burn for the actual trajectory followed. These fuel burn estimates are generated by the NATS Kerosene Emissions Research Model (KERMIT) model which uses data on aircraft performance from the Eurocontrol BADA 3.9 database.

$$\varphi = \beta_1 V_{CL} + \beta_2 V_{CR} + \beta_3 V_D + \beta_4 H + \beta_5 HV_{CL} + \beta_6 HV_{CR} + \beta_7 HV_D$$

Where β are constants, φ = 3D Inefficiency Score, V_{CL}= Vertical Inefficiency of Climb, V_{CR}= Vertical Inefficiency of Cruise, V_D = Vertical Inefficiency of Descent, H = NATS Horizontal Inefficiency and HV_i are cross product terms

The 3Di Model

The coefficients of this model have been estimated using a sample of 116,000 flights from 2009, and tested on a further sample of 58,000 flights.

Parameter	**Coefficient**
Horizontal flight inefficiency (β_1)	0.8973
Climb vertical flight inefficiency(β_2)	0.8233
Cruise vertical flight inefficiency(β_3)	1.1095
Descent vertical flight inefficiency (β_4)	1.6788
Prop_Horiz*Climb (β_5)	0.4265
Prop_Horiz*Cruise (β_6)	0.469
Prop_Horiz*Descent (β_7)	2.9618

Annual review protocol

3. The annual review will test the continued appropriateness of the regression modelling coefficients that underpin the FEM as described above.

4. The annual review will test the stability of the underlying model coefficients in February/March 2013 using calendar year data from 2012 and annually thereafter. The annual review will use a sample of 2012 data chosen to provide a sample reflective of the underlying population, with a target of 50,000 flights, and apply the same methodology used to derive new 3Di model coefficients. The test model will be applied to the full calendar year data from 2012 and the mean score is compared to the actual 2012 mean 3Di score (FEM). If the difference between the mean 3Di score changes by more than a pre-defined threshold of 3 units, then the test will be deemed to have failed and the FEM bonus/penalty for 2012 would be cancelled. If the difference between the mean scores falls within the pre-specified threshold, then the test is passed and the bonus/penalty is applied. The test will be verified by the CAA and NERL should supply all data used to undertake the analysis (and any other relevant data requested) to the CAA (in February/March) in a timely manner to allow the verification to be undertaken.

5. The data to be supplied to CAA will comprise:

   1) Dataset to comprise of 50,000 sample flights representative of the population of all flights in the year.

2) Explanation of how the sample has been chosen.

3) The new coefficients

4) The new estimate of 3Di for 2012 (X)

5) The existing set of coefficients from the standard metric

6) The existing estimate of 3Di for 2012 (Y)

7) For each flight - values for I, H, V_{Cl}, V_{Cr} & V_D as used in the existing model

6. The result of the annual review will be published by 13 April 2013 to allow financial statements to reflect the outcome.

7. The initial annual review will be performed in 2013 for the 2012 period, to provide a better understanding of the performance of the metric. If the audit test is failed in a given year then the test will be repeated in the following year. This means that if the 2012 data fails the test, the metric (based on the original estimated coefficients as set out above) is re-established for 2013 and 2014 bonuses/penalties, and will be dependent on the test being met for those years.

Annex 3: Appendix 3: Formulae for tracking the regulatory asset base (proposal November 2011)

Introduction

1. This Appendix summarises the detail of the formulae which will govern the tracking of the Regulatory Asset Base (RAB) for:

   - UKATS; and

   - Oceanic.

2. The Appendix comprises the following sections:

   - *Section 2:* sets out the approach to inflation which is to be incorporated when calculating the RAB;

   - *Section 3:* establishes the UKATS RAB, the application of a RAB uplift and the approach for rolling the RAB forward;

   - *Section 4:* establishes the Oceanic RAB and the approach for rolling it forward;

   - *Section 5*: summarises the approach to be taken in calculating the operating cost efficiency roll-forward mechanism and applying any out/underperformance to the RAB;

   - *Section 6:* summarises the approach to be taken with respect to defined benefit pension contributions; and

   - *Section 7*: summarises the approach to be ~~employed~~ taken in with respect to spectrum costs. ~~clawing back' the UKATS RAB uplift, if NERL's performance exceeds a specified level~~.

3. If NERL were to change its financial year end from 31st March, the equations in this appendix (including the "fixed" amounts quoted in them) would need to be adjusted.

4. Regulatory accounts should be prepared according to accounting policies that are consistent with the basis of the determination values used in this appendix. Any change in the company's accounting policies for statutory accounts, whether required by new accounting standards or otherwise, that would have a material effect on the amounts used in formulae defined in this appendix should thus be disregarded in the regulatory accounts unless the CAA consents to such a change.

Inflation indices

5. Each year, the RAB is expressed in actual end year price levels. The CAA price control calculations were expressed in fixed 2008/09 price levels and these figures must be uplifted, or indexed, to out-turn price terms each year. The formulae in later sections include the necessary indexation calculations with reference to the following definitions for each relevant financial year (designated as year t):

RPI Growth from 2008/09 for year t	=	The Retail Prices Index (RPI, CHAW January 1987 = 100) for the last month of year t, divided by the average of the monthly RPI figures for the financial year 2008/09 which, based on the All Items index starting at 100 in January 1987[2], equals 214.8.
RPI Growth from 2003/04 for year t	=	The Retail Prices Index (RPI, CHAW January 1987 = 100) for the last month of year t, divided by the average of the monthly RPI figures for the financial year 2003/04 which, based on the All Items index starting at 100 in January 1987[3], equals 182.5.
Annual RPI Growth for year t	=	The RPI for the last month of year t, divided by the RPI for the last month of the previous financial year (year t-1)
Within-year RPI Growth for year t	=	The RPI for the last month of year t, divided by the average of the monthly RPI figures for year t (i.e. April RPI + May RPI + . . . + following March RPI, divided by 12)
RPI Growth from 2001/02 for year t	=	The RPI for the last month of year t, divided by the average of the monthly RPI figures for the financial year 2001/02 which, based on the All Items index starting at 100 in January 1987, equals 173.9
Mid-year Deflator to 2001/02 Prices for year t	=	The average of the monthly RPI figures for year t, divided by the average of the monthly RPI figures for the financial year 2001/02 (i.e. 173.9)

Rolling Forward the UKATS RAB

6. This section describes how the UKATS RAB will be rolled forward from one year to another. It establishes the starting point for these calculations: the RAB at the end of the last full financial year available to CAA at the time of its price control calculations. It takes into consideration the net capital expenditure made by UKATS, the movements in working capital (e.g. debtors and creditors) and the allowances for depreciation incorporated in the price control calculations. In this way, the RAB is expected to reflect the cash-flow investment made in the assets of the company, net of amounts contributed by customers by way of depreciation allowances.

2 All Items (CHAW) index, source: National Statistics.

3 All Items (CHAW) index, source: National Statistics.

7. The price control provides for a return on the RAB, based on assumptions for levels of net capital expenditure, and also provided for an allowance for pensions costs based on assumptions for levels of pension contributions. CAA intends that variances against these assumptions, and their financing cost implications (consistent with the equivalent formulae existing before this modification), are taken into account by making suitable additions or deductions in the RAB calculations.

8. The following formulae specify how the UKATS RAB will be rolled forward.

9. The RAB at the end of the last full financial year before CAA's price control calculations, at 31 March 2010 (expressed as £1,118,400,000 in 2008/09 price terms)), forms the starting point (after conversion with respect to RPI for March 2010 = 220.7) for subsequent RAB calculations. These calculations are as follows:

Closing RAB for financial year 2009/10 (i.e. at 31 March 2010) = £1,149,200,000

Thereafter, the closing RAB is to be calculated (in outturn financial year-end prices), according to the following formulae (where t is the relevant financial year):

Closing RAB for year t	=	Closing RAB for the previous year (year t-1) x Annual RPI Growth for year t
	-	RAB clawback x RPI Growth from 2008/09
	+	CP2 Capitalised Financing Costs x RPI Growth from 2008/09 for year t
	+	Total Actual Net Capex for year t x Within-year RPI Growth for year t
	+	CP2 Estimated Pension Contribution Variance x RPI Growth from 2008/09
	+	Defined Benefit Pension Contribution Variance for year t
	+	Capitalised Financing Costs for year t
	+	Real Movements in Working Capital for year t
	+	CP2 RIM x RPI Growth from 2008/09
	−	Allowed Underlying Depreciation for year t x RPI Growth from 2008/09 for year t
	+	Backlog Adjustments to Allowed Depreciation for year t x RPI Growth from 2008/09 for year t

		- Amortisation of the CP2 RIM for year t x RPI Growth from 2008/09 for year t
Where:		
CP2 Capitalised Financing Costs	=	The amount of capitalised financing costs calculated by CAA in respect of the ~~first~~ second control period based on capital expenditure and pension contribution variance assumptions; figures are fixed at the following values (in 2008/09 prices): Financial year 2010/11: £3,668,461 Financial year 2011/12: £0 Financial year 2012/13: £0 Financial year 2013/14: £0 Financial year 2014/15: £0
RAB clawback	=	The value of the RAB clawback resulting from the Composite Solution as calculated by The CAA (2008/9 prices). To be deducted from the opening CP3 RAB. Figures are fixed at the following values: 1 April 2011: £131,317,671
Total Actual Net Capex for year t	=	Additions to UKATS tangible fixed assets in year t (on an accruals basis) from the audited regulatory accounts, − the proceeds of disposals of UKATS tangible fixed assets in year t from the audited regulatory accounts, − any grants or other contributions (e.g. customer contributions) to UKATS fixed assets for year t from the audited regulatory accounts.
Real Movements in Working Capital for year t	=	Closing Working Capital for year t − Closing Working Capital for year t-1 x Annual RPI Growth for year t
Smoothing Debtor for year t	=	The debtor on NERL's Balance Sheet in respect of the "Smooth t" term (in Condition 21) needs to be excluded from working capital for RAB purposes. This is because this term already includes an allowance for the time value of money and if this was included in the RAB as part of the CP3 decision NERL would have also

		earned a return on this amount, which would be double counting the time value of money allowance. These figures are fixed in 2008/09 prices: 31 March 2011: £0 31 March 2012: £41,509,539 31 March 2013: £33,238,694 31 March 2014: £22,473,808 31 March 2015: £0
Closing Working Capital for year t	=	Net UKATS working capital (in outturn prices) at the end of year t derived from the regulatory accounts excluding any debtor, creditor, accrual, prepayment or other provision in respect of financing (e.g. bank accounts, loans, accrued interest and cash), corporation and deferred tax, distributions and pension contributions. For the purpose of this calculation, working capital is defined as debtors and creditors, accruals and prepayments arising from UKATS trading (including transactions in respect of attributable fixed assets) Less: Smoothing Debtor for year t x RPI Growth from 2008/09 for year t
CP2 RIM	=	The amount of the RIM calculated by the CAA in respect of the second control period; figures are fixed at the following values (in 2008/09 prices). To be deducted from the opening CP3 RAB. 1 April 2011: £27,351,811
Allowed Underlying Depreciation for year t	=	The amount in respect of underlying depreciation allowed for in the CAA's price control calculations in the relevant financial year; figures are fixed at the following values (in 2008/09 prices): Financial year 2010/11: £141,445,630 Financial year 2011/12: £142,433,371 Financial year 2012/13: £150,572,978 Financial year 2013/14: £151,606,115 Financial year 2014/15: £155,777,597

Backlog Adjustments to Depreciation for year t	=	The amount in respect of adjustments to depreciation allowed for in the CAA's price control calculations in the relevant financial year; figures are fixed at the following values (in 2008/09 prices, amounts represent a reduction to aggregate allowed depreciation): Financial year 2010/11: £21,834,845 Financial year 2011/12: £25,857,792 Financial year 2012/13: £25,857,792 Financial year 2013/14: £4,022,947 Financial year 2014/15: £4,022,947
Amortisation of the CP2 RIM for year t	=	The amount in respect of amortisation of the CP2 RIM allowed for in the CAA's price control calculations in the relevant financial year; figures are fixed at the following values (in 2008/09 prices): Financial year 2010/11: £0 Financial year 2011/12: £9,117,270 Financial year 2012/13: £9,117,270 Financial year 2013/14: £9,117,270 Financial year 2014/15: £0
CP2 Estimated Pension Contribution Variance	=	The amount of Pension Contribution Variance calculated by CAA in respect of 2010/11 (the last year of CP2) used to set the CP3 price controls (in 2008/09 prices). To be added to the RAB, figures fixed at the following values: Financial year 2010/11: £33,326,042
Defined Benefit Pension Contribution Variance for year 10 (financial year 2010/11)	=	The adjustment required to be made to the CP2 Estimated Pension Contribution variance to reflect 2010/11 actual results is fixed at the following value: Financial year 2010/11 (Year 10): £1,419,442 x RPI Growth from 2008/09 to year 10

Thereafter, Defined Benefit Pension Contribution Variance for year t	=		Total actual defined benefit pension contributions made (in cash terms) in respect of the defined benefit pension scheme for year t x Within-year RPI Growth for year t
		−	the CAA's Assumed Defined Benefit Pension Contributions for year t x RPI Growth from 2008/09 for year t
CAA's Assumed Defined Benefit Pension Contributions	=	For each financial year, figures are fixed at the following values in 2008/09 prices:	
		Financial year 2011/12: ~~£83,892,417~~ £83,354,423	
		Financial year 2012/13: ~~£81,671,004~~ £81,410,427	
		Financial year 2013/14: ~~£75,240,495~~ £74,963,165	
		Financial year 2014/15: ~~£62,079,808~~ £61,926,530	
Capitalised Financing Costs for year t	=		[{ (Net Capex Variance for year t)
		+	(Defined Benefit Pension Contribution Variance for year t)},
		Divided by	2 (two)
		+	(Closing Cumulative Capitalised Variances for year t-1 x Annual RPI Growth for year t)]
		X	the cost of capital determined by the CAA for UKATS for year t
Net Capex Variance for year t	=		Total Actual Net Capex for year t x Within-year RPI Growth for year t
		−	The CAA's Assumed Net Capex for year t x RPI Growth from 2008/09 for year t
CAA's Assumed Net Capex	=	For each financial year, figures are fixed at the following values in 2008/09 prices:	

		Financial year 2010/11: £116,353,703 Financial year 2011/12: £124,256,365 Financial year 2012/13: £122,094,108 Financial year 2013/14: £120,432,605 Financial year 2014/15: £117,619,577
Closing Cumulative Capitalised Variances for year 2009/10 (i.e. year t-1 for the financial year 2010/11)	=	£0 (zero)

Thereafter:

Closing Cumulative Capitalised Variances for year t	=		Closing Cumulative Capitalised Variances for year t-1 x Annual RPI Growth for year t
		+	Net Capex Variance for year t
		+	Defined Benefit Pension Contribution Variance for year t
		+	Capitalised Financing Costs for year t
The cost of capital determined by the CAA for UKATS for year t	=	For each financial year, figures are fixed at the following values: Financial year 2010/11: 6.75% Financial year 2011/12: 7% Financial year 2012/13: 7% Financial year 2013/14: 7% Financial year 2014/15: 7%	

10. The amount of the RAB represented by Closing Cumulative Pension Contribution Variances for year t shall be identified in each year's regulatory accounts. The Closing Cumulative Pension Contribution Variances for year t shall be calculated in the same way as the Closing Cumulative Capitalised Variances for year t except disregarding the Net Capex Variance for year t.

Rolling Forward the Oceanic RAB

11. This section describes how the Oceanic RAB will be rolled forward from one year to another. The steps for calculating the Oceanic RAB mirror those of the UKATS RAB.

12. The RAB at the end of the last full financial year before the CAA's price control calculations, at 31 March 2010 (expressed as £29,700,000 in 2008/09 price terms), forms the starting point (after conversion with respect to RPI for March 2005 = 220.7) for subsequent RAB calculations. These calculations are as follows:

Closing RAB for financial year 2009/10 (i.e. at 31 March 2010)	=	£30,600,000

13. Thereafter, the closing RAB is to be calculated (in outturn financial year-end prices), according to the following formulae (where t=relevant financial year):

Closing RAB for year t	=	Closing RAB for the previous year (year t-1) x Annual RPI Growth for year t
	+	CP2 Capitalised Financing Costs x RPI Growth from 2008/09 for year t
	+	CP2 RIM x RPI Growth from 2008/09
	+	Total Actual Net Capex for year t x Within-year RPI Growth for year t
	+	CP2 Estimated Pension Contribution Variance x RPI Growth from 2008/09
	+	Defined Benefit Pension Contribution Variance for year t
	+	Capitalised Financing Costs for year t
	+	Real Movements in Working Capital for year t
	−	Allowed Depreciation for year t x RPI Growth from 2008/09 for year t

Where:

CP2 Capitalised Financing Costs	=	The amount of capitalised financing costs calculated by the CAA in respect of the ~~first~~second control period based on capital expenditure and pension contribution variance assumptions; figures are fixed at the following values (in 2008/09 prices):

		Financial year 2010/11: £803,126 Financial year 2011/12: £0 Financial year 2012/13: £0 Financial year 2013/14: £0 Financial year 2014/15: £0
CP2 RIM	=	The amount of the RIM calculated by the CAA in respect of the second control period; figures are fixed at the following values (in 2008/09 prices). To be deducted from the opening CP3 RAB.: 1 April 2011: £3,929,180
Total Actual Net Capex for year t	=	Additions to Oceanic tangible fixed assets in year t (on an accruals basis) from the audited regulatory accounts, − the proceeds of disposals of Oceanic tangible fixed assets in year t from the audited regulatory accounts, − any grants or other contributions (e.g. customer contributions) to Oceanic fixed assets for year t from the audited regulatory accounts.
Real Movements in Working Capital for year t	=	Closing Working Capital for year t − Closing Working Capital for year t-1 x Annual RPI Growth for year t
Closing Working Capital for year t	=	Net Oceanic working capital (in outturn prices) at the end of year t derived from the regulatory accounts excluding any debtor, creditor, accrual, prepayment or other provision in respect of financing (e.g. bank accounts, loans, accrued interest and cash), corporation and deferred tax, distributions and pension contributions. For the purpose of this calculation, working capital is defined as debtors and creditors, accruals and prepayments arising from Oceanic trading (including transactions in respect of attributable fixed assets).

Allowed Depreciation for year t	=	The amount in respect of depreciation allowed for in the CAA's price control calculations in the relevant financial year; figures are fixed at the following values (in 2008/09 prices): Financial year 2010/11: £3,043,046 Financial year 2011/12: £3,994,394 Financial year 2012/13: £4,166,813 Financial year 2013/14: £4,279,342 Financial year 2014/15: £4,302,467
Backlog Adjustments to Depreciation for year t	=	The amount in respect of adjustments to depreciation allowed for in the CAA's price control calculations in the relevant financial year; figures are fixed at the following values (in 2008/09 prices, amounts represent an increase in ~~a decrease to~~ aggregate allowed depreciation): Financial year 2010/11: £0 Financial year 2011/12: £500,471 Financial year 2012/13: £500,471 Financial year 2013/14: £500,471 Financial year 2014/15: £500,471
Amortisation of the CP2 RIM for year t	=	The amount in respect of amortisation of the CP2 RIM allowed for in the CAA's price control calculations in the relevant financial year; figures are fixed at the following values (in 2008/09 prices): Financial year 2010/11: £0 Financial year 2011/12: £1,309,727 Financial year 2012/13: £1,309,727 Financial year 2013/14: £1,309,727 Financial year 2014/15: £0

CP2 Estimated Pension Contribution Variance	=	The amount of calculated by CAA in respect of 2010/11 (the last year of CP2) used to set CP3 price controls (in 2008/09 prices). To be added to the RAB, figures fixed at the following value: Financial year 2010/11: £1,653,214
Defined Benefit Pension Contribution Variance for year 10 (financial year 2010/11)	=	The adjustment required to be made to the CP2 Estimated Pension Contribution variance to reflect 2010/11 actual results is fixed at the following value: Financial year 2010/11 (Year 10): £35,283 x RPI Growth from 2008/09 to year 10
Thereafter, Defined Benefit Pension Contribution Variance for year t	=	Total actual Defined Benefit pension contributions made (in cash terms) in respect of the defined benefit pension scheme for year t x Within-year RPI Growth for year t
	−	The CAA's Assumed Defined Benefit Pension Contributions for year t x RPI Growth from ~~2003/04~~ 2008/09 for year t
The CAA's Assumed Defined Benefit Pension Contributions	=	For each financial year, figures are fixed at the following values in 2008/09 prices: Financial year 2011/12: ~~£3,600,943~~ £3,577,830 Financial year 2012/13: ~~£3,482,956~~ £3,471,842 Financial year 2013/14: ~~£3,217,747~~ £3,205,888 Financial year 2014/15: ~~£2,646,261~~ £2,639,728
Capitalised Financing Costs for year t	=	[{ (Net Capex Variance for year t)
	+	(Defined Benefit Pension Contribution Variance for year t)},
	divided by	2 (two)

	+	(Closing Cumulative Capitalised Variances for year t-1 x Annual RPI Growth for year t)]
	x	the cost of capital determined by the CAA for Oceanic for year t
Net Capex Variance for year t	=	Total Actual Net Capex for year t x Within-year RPI Growth for year t
	−	the CAA's Assumed Net Capex for year t x RPI Growth from 2008/09 for year t
The CAA's Assumed Net Capex	=	For each financial year, figures are fixed at the following values in 2008/09 prices: Financial year 2010/11: £2,788,357 Financial year 2011/12: £1,886,754 Financial year 2012/13: £2,586,279 Financial year: 2013/14: £2,224,460 Financial year 2014/15: ~~£1,376,129~~ £1,276,129
Closing Cumulative Capitalised Variances for year 2009/10 (i.e. year t-1 for the financial year 2010/11)	=	£0 (zero)
Thereafter:		
Closing Cumulative Capitalised Variances for year t	=	Closing Cumulative Capitalised Variances for year t-1 x Annual RPI Growth for year t
	+	Net Capex Variance for year t
	+	Defined Benefit Pension Contribution Variance for year t
	+	Capitalised Financing Costs for year t
The cost of capital determined by the CAA for Oceanic for year t	=	For each financial year, figures are fixed at the following values:

Financial year 2010/11: 6.75%

Financial year 2011/12: 7%

Financial year 2012/13: 7%

Financial year 2013/14: 7%

Financial year 2014/15: 7%

14. The amount of the RAB represented by Closing Cumulative Pension Contribution Variances for year t shall be identified in each year's regulatory accounts. The Closing Cumulative Pension Contribution Variances for year t shall be calculated in the same way as the Closing Cumulative Capitalised Variances for year t except disregarding the Net Capex Variance for year t.

Operating cost efficiency rolling incentive mechanism

15. The operating cost efficiency rolling incentive mechanism (RIM) provides an incentive for NERL to make continuing savings in its operating costs in UKATS and Oceanic throughout the third control period. The purpose is to encourage NERL to reveal a reduced cost base that can be reflected in price control calculations for the third control period and thereafter for the benefit of customers. CAA anticipates that operating cost projections for the fourth control period will be based on outturns for the last financial year available for that review, the penultimate year of the control period, 2013/14, which is designated as year 13 for this licence. The cumulative effect of operating cost out-performance revealed by year 13 is therefore the focus of this incentive mechanism. It operates by securing that the company is able to retain five years' worth of any incremental out-performance it is able to sustain up to year 13. The four-year duration of the third control period will naturally secure that the company is able to retain four years' worth of incremental out-performance achieved in the first year of the control period, year 11. The expected five-year duration of the fourth control period will naturally secure that the company is able to retain six years' worth of incremental out-performance achieved in the last year of the control period, year 14. To secure an equivalent incentive to achieve further out-performance in later years, however, it is necessary to make an adjustment in the price control calculations for the following control period. CAA anticipates that it will effect the mechanism through an adjustment to the RABs, increasing the value of the opening RABs, at the start of the fourth control period.

16. CAA has adopted a four-step method:

- Step 1: identifies the level of outturn operating costs in applicable cost categories from regulatory accounting information;

- Step 2: calculates the level of out-performance that Step 1 data represent in comparison with CAA's assumptions for its price control calculations;

- Step 3: calculates for each year the incremental out-performance represented in Step 2 data; and

- Step 4: calculates the value of the adjustment to the RABs that is necessary to provide NERL with a full five-years' benefit for the incremental out-performance it has been able to deliver in years 12 and 13.

17. The following describes the formula for the adjustment to the RABs at 1 April 2015, which uses the results of the fourth step (O4 for each relevant year), and the formulae and definitions for each of those steps (O1, O2, O3 and O4). The calculation of the adjustment will be made separately for UKATS and Oceanic.

RIM adjustment at 1 April 2015	=	The greater of ($O_{4,\ year\ 12}$ + $O_{4,\ year\ 13}$) or £0 x RPI Growth from 2008/09 for year 14
$O_{1,\ t}$ for years 11 to 13	=	Operating costs in respect of year t attributable to UKATS and Oceanic respectively extracted or otherwise derived from NERL's regulatory accounts, excluding: bad debt costs; variances in share plan costs from baseline levels; the costs of redundancies and major site staff relocations; pensions costs; the cost of services provided to NSL; cost variances from baseline levels for the provision of non-regulated services; any profit or loss on disposal; exceptional costs associated with change of shareholding; depreciation, amortisation and impairment. multiplied by within-year RPI growth for year t divided by RPI Growth from 2008/09 for year t

$O_{2,t}$ for years 11 to 13	=	The greater of: ($O_{CAA,t} - O_{1,t}$) or £0
where $O_{CAA,t}$	=	For each financial year, figures are fixed at the following values for UKATS and Oceanic respectively (2008/09 prices):

	UKATS	Oceanic
Year 11 (financial year 2011/12):	£306.8m	£13.0m
Year 12 (financial year 2012/13):	£304.0m	£12.9m
Year 13 (financial year 2013/14):	£302.8m	£12.4m

$O_{3,t}$ for years 12 and 13	=	$O_{2,t} - O_{2,t-1}$
$O_{4,\text{year 12}}$	=	$O_{3,year\,12} \cdot \left(\frac{1+r_{CP4} \cdot 0.5}{(1+r_{CP4})^2} + \frac{1+r_{CP4} \cdot 0.5}{(1+r_{CP4})} \right)$
$O_{4,\text{year 13}}$	=	$O_{3,year\,13} \cdot \left(\frac{1+r_{CP4} \cdot 0.5}{(1+r_{CP4})^3} + \frac{1+r_{CP4} \cdot 0.5}{(1+r_{CP4})^2} + \frac{1+r_{CP4} \cdot 0.5}{(1+r_{CP4})} \right)$
where r_{CP4}	=	An annual discount rate consistent with the prospective cost of capital assessed by the CAA, for UKATS and Oceanic respectively, for its price control calculations for the fourth control period

Pension pass-through methodology

Introduction

18. The following approach will be used to adjust the RAB in respect of the treatment of NERL pension costs for the defined benefit pension scheme on a pass through basis:

- Split the planned pension cost between the amount related to the defined benefit pension scheme and the amount related to the defined contribution pension scheme to act as the baseline.

- Year by year, include the difference between the baseline and the actual the defined benefit pension scheme cost in the RAB.

Definition of Terms

The following definitions apply.

NERL pension cost	The cash pension cost relating to UKATS and Oceanic service lines, consistent with the basis of costs used for the

	regulatory price determination
Plan	Figures from NERL's March 2010 business plan ~~(100322_NATSGroup1805_caa~~updated for exogenous factors (101015_NATSGroup1854_audit),
Baseline	The projected cash pension cost for defined benefit pension scheme derived from the Plan.

Defined contribution pension scheme

19. The following projections show the cash pension contributions for employees who are members of the defined contribution scheme for each of UKATS and Oceanic.

20. The CAA's assumed pension contributions for employees of the DC scheme

£m 08/09 prices	2011/12	2012/13	2013/14	2014/15
UKATS	1.4	2.2	3.0	3.8
Oceanic	0.1	0.1	0.1	0.2

Deriving the baseline costs of the defined benefit pension scheme

21. The projections have been prepared on a calendar year basis, as this is the normal basis for pay and pension modelling, and the results have been adjusted to a financial year basis.

22. The calculations have been prepared on a forecast outturn price basis, consistent with the inflation assumptions used in the CAA's formal proposals. The results have been applied to the cash pension costs stated in 2008/09 prices.

23. The methodology used is to take the most up to date pension scheme membership list and project it forward over the period in line with the NATS business plan and then, for each year during CP3, to calculate the anticipated cash pension contribution for the existing employees projected still to be in service. The projection takes account of staff turnover and salary growth in line with the NATS business plan (or, in the absence of an assumption in the business plan, in line with the assumption used by the Scheme Actuary to CAAPS in the 31 December 2009 actuarial valuation), and applies the pension cash contribution rate used on the basis of actuarial advice in the business plan.

Deriving the actual defined benefit pension costs year by year

24. Total NERL pension costs on a cash basis will be extracted from the employee payments system. The calculations of actual costs for existing employees who

are members of the defined benefit will be prepared on a financial year basis and will be derived as follows:

25. Update the employee list to show existing employees who are members of the defined benefit pension scheme and still in service for part or all of the year, with a part year pro rata adjustment for leavers during the year such that the pensionable pay of existing employees is counted up to their date of leaving e.g. an existing employee who leaves on 30 September 2012 would have six months of their pay included in the calculation for the 2012/13 year.

26. The NATS Group company to which the employee is seconded will be recorded. This will be defined by reference to the company to which the employee is seconded at the end of the financial year. This is needed to enable the relevant company allocation percentage to be applied to that employee's pension cost.

27. Extract from the accounting system the actual annual allocation of company pension costs to NERL service lines for the year concerned.

28. Extract the total pensionable pay for each employee during the year.

29. Extract the actual cash contribution percentage paid by the company to the defined benefit pension scheme. If the pension percentage changes mid-year, a weighted average of the actual rates paid during the year will be used. For example, if the contribution percentage was x% from April to September and y% from October to March, the weighted average rate would be calculated as (x% + y%) /2.

30. Multiply pensionable pay x contribution percentage x company allocation percentage and sum across all employees to calculate total cash pension cost relating to existing employees.

31. The regulatory pass through is restricted to the defined benefit pension scheme, existing employees and existing benefits. Any augmentations or changes to benefits (apart from those arising from redundancies the cost of which are included separately in the business plan) resulting in a one off increase in the value of the liabilities or in a higher long term cost than would otherwise be the case would either result in:

- a reduction in the contribution percentage allowed for cash pass through, if the augmentation or benefit improvement is not paid for in cash by NATS. The amount of any reduction in the allowed plan percentage would be made on the basis of independent actuarial advice; or

- a higher actual cash contribution paid by NATS that would not be allowed in the cash pass through mechanism. The amount excluded would be made on the basis of independent actuarial advice; or

- a combination of the above two approaches, depending on the circumstances.

Application of defined benefit pension costs for regulatory purposes

32. Pension costs are measured on a cash basis for regulatory price control purposes.

33. The total amount has been allowed in the price setting.

34. The difference between the baseline and actual cash pension cost for existing employees will be assessed annually. The annual differences will be rolled-forward to the end of CP3 and the cumulative difference for the whole of CP3 will be added to or subtracted from the RAB. The RAB will be reduced if the cumulative result indicates that actual cash costs are less than the baseline costs (after allowing for the roll-forward).

Spectrum cost adjustment

Spectrum cost adjustment	=	The adjustment to the RAB to put in place the CAA's policy on spectrum costs The adjustment will affect the opening CP4 RAB (1 April 2015) and will be used to calculate the average RAB from the start of CP4 The adjustment is calculated as below and uplifted into 2015/16 prices using the average financial year RPI index

If actual spectrum costs ≤ £26.1 million (2008/9 prices), *then*

Spectrum cost adjustment (2008/9 prices)	=	(actual spectrum cost – projected spectrum costs) x 80%

If actual spectrum costs > £26.1 million (2008/9 prices), *then*

Spectrum cost adjustment (2008/9 prices)	=	actual spectrum cost – £6.1 million

Where

Actual spectrum costs	=	Costs due to government in respect of NERL's use of radio spectrum for CP3 in total and expressed in 2008/9 prices.
Projected spectrum cost	=	£1.1 million, for CP3 in total, expressed in 2008/9 prices