

# Decision on the modification of NATS (En Route) plc licence to transpose the UK-Ireland FAB Performance Plan for 2015-2019

**CAP 1252**



**Published by the Civil Aviation Authority, January 2015**

You can copy and use this text but credit the CAA.

Enquiries regarding the content of this publication should be addressed to: [mike.goodliffe@caa.co.uk](mailto:mike.goodliffe@caa.co.uk)

# Contents

---

<b>Purpose of this document</b>	<b>2</b>
<b>Background</b>	<b>2</b>
<b>Outline of changes proposed</b>	<b>4</b>
New Condition 10a on FAS reporting	4
Update of definitions in Condition 20	4
Significant factors for both Condition 21 and Condition 21a	4
The NERL component of Eurocontrol Charges (Condition 21)	5
Control of London Approach Charges (Condition 21a)	7
<b>Responses to the consultation</b>	<b>9</b>
<b>CAA Decision</b>	<b>9</b>
<b>Condition 10a with effect from 1 January 2015</b>	<b>10</b>
<b>Implementation of and reporting on programmes under the Future Airspace Strategy (FAS) Deployment Plan</b>	<b>10</b>
<b>Condition 20 with effect from 1 January 2015</b>	<b>12</b>
<b>Condition 21 with effect from 1 January 2015</b>	<b>15</b>
<b>Condition 21: Control of Eurocontrol Service Charges</b>	<b>15</b>
<b>Condition 21a with effect from 1 January 2015</b>	<b>33</b>
<b>Condition 21a: Control of London Approach Charges</b>	<b>33</b>

## Purpose of this document

---

1. This document sets out the CAA's decision on the modifications to the NATS En Route Licence in order to set a control on Eurocontrol and London Approach charges for the period 2015-2019 and to introduce a new condition on the implementation of and reporting on programmes under the Future Airspace Strategy (FAS) Deployment Plan.
2. This decision takes effect from 1 January 2015.

## Background

---

3. The Single European Sky (SES) Performance Scheme is an EU initiative to improve the performance of air navigation services (ANS) in four key performance areas (KPA's):
  - Safety (at FAB level);
  - Environment (at FAB level);
  - Capacity (at FAB level for en route and national level for terminal services); and
  - Cost-efficiency (at charging zone level in local currency).
4. The Performance Scheme requires Member States to adopt performance plans in respect of ANS over a reference period. The first reference period (RP1) ran from 2012 to 2014 and the second reference period (RP2) runs from 2015 to 2019. For RP2 these plans are presented by Functional Airspace Blocks (FAB).
5. The UK and Ireland submitted a FAB plan for RP2, jointly, to the European Commission on 24 June 2014. The plan was then assessed by an advisory body of the Commission, the Performance Review Body (PRB).
6. In light of the PRB assessment, the Commission brought a draft decision on the consistency of local targets with EU-wide performance targets to a Single Sky Committee (SSC) meeting on 14/15 January 2015. The Commission assessed the UK-Ireland FAB Performance Plan targets as consistent with EU-wide performance targets and a draft Commission decision was adopted at the SSC meeting<sup>1</sup>. Although this decision will take effect after the start of RP2 (1 January

---

<sup>1</sup> Note at the time of publication of this document this decision has not yet been published in the EU Official Journal.

2015), in accordance with Article 16 of the Performance Regulation No 390/2013, it will apply retrospectively as from the first day of the reference period.

7. UK is anticipating a subsequent Commission decision on the approval of the 2015 unit rates. As the UK cost efficiency target was assessed as consistent with the EU-wide target, the CAA does not currently anticipate a change in the NERL component of the UK unit rate. However, should the Commission recommend any revision of the Plan with a bearing on these licence conditions then the CAA will put forward subsequent licence modifications.
8. The maximum amounts that NERL is entitled to receive in respect of Eurocontrol services and London Approach charges are regulated under conditions 21 and 21a of its licence granted under the Transport Act 2000. The current conditions refer to the period up to 31 December 2014 in the case of Eurocontrol services and 31 March 2015 in the case of London Approach. Unless these conditions are amended they will cease to have effect on those dates.
9. On 17 November 2014, the CAA published a notice setting out the modifications it proposed to make largely to transpose the relevant requirements of the UK-Ireland RP2 FAB Performance Plan for cost efficiency targets, the incentives for capacity and environment targets, and the Future Airspace Strategy (FAS) reporting condition into NERL's licence. The proposed modifications also included some subsequent changes to definitions set out in Condition 20.
10. This current document sets out the CAA's decision following that formal notice and consultation.
11. The CAA also published a separate notice in November 2014 to modify condition 22 of the licence which relates to Oceanic services. The CAA is publishing a separate decision document to cover these changes.

## Outline of changes proposed

---

12. The licence modifications that were proposed by the CAA were to be read alongside the supporting document to the UK-Ireland FAB Performance Plan as well as the plan itself<sup>2</sup>. This provided the detail of what was proposed and the reasoning behind it. The following gives a summary of the major points and highlights those areas where the CAA considered that it had to exercise further judgement in making the transposition into a licence condition.

### New Condition 10a on FAS reporting

13. The CAA proposed to introduce a new condition on the implementation of and reporting on programmes under the FAS Deployment Plan.

14. These programmes were:

- the raising of the United Kingdom Transition Altitude (“TA”);
- the terminal airspace redesign under the London Airspace Modernisation Programme (“LAMP”); and
- the implementation of the SESAR Pilot Common Project<sup>3</sup>.

15. The new condition 10a requires NATS to use reasonable endeavours to implement these major air traffic management modernisation programmes.

### Update of definitions in Condition 20

16. The CAA updated definitions in Condition 20 with effect from 1 January 2015 to give effect to relevant content of the UK-Ireland FAB Performance Plan.

### Significant factors for both Condition 21 and Condition 21a

17. In the proposed amendments to both licence conditions:

- The condition would be specified in terms of a **maximum** amount per service unit rather than prescribing that charges should be at a specific level. This would give NERL, at its own discretion, the latitude to charge less than the amount indicated rather than be obliged to charge at the prescribed level regardless.

---

2 Both documents are available from: <https://www.gov.uk/government/publications/single-european-sky-performance-scheme-2015-to-2019>

3 ATM functionalities stemming from the European ATM Master Plan set out in Commission Implementing Regulation (EU) No 716/2014.

- The conditions would add an element of interest to any legacy carry-forwards from year n to n+2 from RP1 to RP2. This would honour the expectations in the RP1 conditions.
- In respect of carry forwards from 2015 to 2017 and thereafter the CAA proposed to discontinue the practice of adding an element of interest for the two years. It proposed doing so to be more closely aligned to the wording of the Charging Regulation which makes no explicit provision for financing. It should be noted that this would apply where the carry forward was either a positive or a negative sum and given the forecasts for inflation, traffic and incentives had been rebased to current expectations there was expected to be a roughly symmetrical probability of these sums being positive or negative. There was therefore expected to be a roughly equal chance of this change being either to the benefit of NERL or the benefit of users.

### The NERL component of Eurocontrol Charges (Condition 21)

18. The modified Condition 21 would follow the structure specified in the relevant charging regulation<sup>4</sup> The maximum amount would be calculated by dividing the forecast number of total en route service units for the relevant year as defined in the performance plan into the algebraic sum of the following elements:

Component in Charging Regulation	Source in
i) the determined costs, expressed in nominal terms of the relevant year as defined in the performance plan;	Fig. 5 -supporting document.
ii) the adjustment of the difference between forecasted and actual inflation as referred to in Article 7(1) of the charging regulation;	Fig. 5 -supporting document.
iii) the recovery of restructuring costs, if authorised in accordance with Article 7(4) of the charging regulation;	Zero
iv) the carry-overs resulting from the implementation of the traffic risk-sharing mechanism referred to in Article 13 of the charging regulation;	Derived from Article 13.

<sup>4</sup> Commission Regulation No 391/2013 laying down a common charging scheme for air navigation services - the Charging Regulation - Annex IV.

Component in Charging Regulation	Source in
v) the carry-overs from the previous reference period resulting from the implementation of the cost sharing mechanism referred to in Article 14 of the charging regulation;	UK En route Reporting tables (Table 3)  N.B. The outcomes for 2012-2014 inclusive will be revised based on actual outcomes for RP1, applying any revised interpretation of Article 14 of the Charging regulation developed by the Commission.
vi) bonuses and penalties resulting from the financial incentive schemes referred to in Article 15 of the charging regulation;	Derived from Chapter 4 and Appendix C of the Supporting Document
vii) the over-or under-recoveries that may result from the modulation of air navigation charges in application of Article 16 of the charging regulation;	None currently expected.
viii) the over-or under-recoveries resulting from traffic variations;	Provision to deal with the situation where a fixed sum is to be recovered in respect of carry-overs etc. based on forecasts of traffic where there is a subsequent variation in actual traffic.
ix) for the first two reference periods, the over- or under-recoveries incurred by Member States up to and including the year 2011;	These costs were intended to be recovered in RP1 but because of traffic being less than anticipated there has been an under recovery which has been carried forward to 2015 and 2016.  It will be zero from 2017 onwards.
x) Deduction of other revenue.	Zero in RP2  N.B. Forecasts of any other revenues have been considered ex ante in the derivation of the determined cost under a single till approach.



## Control of London Approach Charges (Condition 21a)

- 1.1 This proposed modification to the licence in respect to London Approach Charges would apply the charging regulation provisions to terminal services through the Licence. As such the proposed condition would have a significantly different structure to the existing condition more closely resembling Condition 21.
- 1.2 Applying the charging regulation would also require:
- The charge condition to be based on calendar years rather than the 31 March financial year which had been adopted in previous reviews (CP1, CP2 and CP3). It should be noted that the proposed licence modification would mean that the effective expiry of the existing Condition 21a would be brought forward from 31 March 2015 to 31 December 2014.
  - A structure of charges which is consistent with the relevant Article of the charging regulation.
  - Indexation using the Harmonised Index of Consumer Price as published in April of year n rather than the average Retail Price Index for year n consistent with Article 7 (1).
  - The introduction of traffic risk sharing as required in Article 13 of the Charging Regulation.
- 1.3 The proposed Condition 21a would follow the structure specified in the relevant Charging Regulation<sup>5</sup>. The maximum amount would be calculated by dividing the forecast number of terminal service units for the relevant year as defined in the performance plan into the algebraic sum of the following elements:

---

<sup>5</sup> Commission Regulation No 391/2013 laying down a common charging scheme for air navigation services - the Charging Regulation - Annex IV.

Component in Charging Regulation	Source in
i) the determined costs, expressed in nominal terms of the relevant year as defined in the performance plan;	UK Zone C Reporting Tables
ii) the adjustment of the difference between forecasted and actual inflation as referred to in Article 7(1) of the charging regulation;	UK Zone C Reporting Tables
iii) the recovery of restructuring costs, if authorised in accordance with Article 7(4) of the charging regulation;	Zero
iv) the carry-overs resulting from the implementation of the traffic risk-sharing mechanism referred to in Article 13 of the charging regulation;	Derived from Article 13.
v) the carry-overs from the previous reference period resulting from the implementation of the cost sharing mechanism referred to in Article 14 of the charging regulation;	Zero
vi) bonuses and penalties resulting from the financial incentive schemes referred to in Article 15 of the charging regulation;	Zero
vii) the over-or under-recoveries that may result from the modulation of air navigation charges in application of Article 16 of the charging regulation;	None currently expected.
viii) the over-or under-recoveries resulting from traffic variations;	Provision to deal with the situation where a fixed sum is to be recovered in respect of carry-overs etc based on forecasts of traffic where there is a subsequent variation in actual traffic.
ix) for the first two reference periods, the over- or under-recoveries incurred by Member States up to and including the year 2014;	The amounts from the licence condition in place in 2013/14 and 2014/15 will be carried forward to 2015 and 2016.
x) deduction of other revenue.	Zero in RP2 N.B. Forecasts of any other revenues have been considered ex ante in the derivation of the determined cost under a single till approach.

## **Responses to the consultation**

---

19. The CAA received two representations to its proposals. These were from NATS and Heathrow Airport Limited (HAL). Neither raised any substantive points relating to the proposed licence conditions.
20. The CAA has published these representations on its website.

## **CAA Decision**

---

21. The CAA considered that the modifications as published in the Notice of 17 November 2014 best meet its obligations under European legislation and its statutory duties under the Transport Act 2000 as set in the supporting document to the UK-Ireland FAB Performance Plan.
22. The CAA therefore decided to modify Conditions 20, 21 and 21a and to add a new Condition 10a as attached in Annexes A-D. These new conditions are identical to those published in the CAA's Notice of 17 November.
23. These conditions in NERL's licence took effect from 1 January 2015.
24. The CAA published a consolidated version of the NAT En Route licence to include all of the changes that take effect from 1 January 2015.

## Appendix A

## Condition 10a with effect from 1 January 2015

---

### **Implementation of and reporting on programmes under the Future Airspace Strategy (FAS) Deployment Plan**

---

1. Subject to meeting its general obligations under Condition 2, the Licensee shall use reasonable endeavours to further implement the major air traffic management ('ATM') modernisation programmes set out in the UK FAS Deployment Plan of December 2012. These programmes are: the raising of the United Kingdom Transition Altitude ('TA'); the terminal airspace redesign under the London Airspace Modernisation Programme ('LAMP'); and the implementation of the Pilot Common Project.
2. For the purposes of this condition, the 'Pilot Common Project' means the ATM functionalities stemming from the European ATM Master Plan set out in Commission Implementing Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project supporting the implementation of the European Air Traffic Management Master Plan.
3. In relation to the TA programme, by 31 December 2015, and without prejudice to Condition 10 of this Licence, the Licensee shall submit to the CAA a detailed project plan for implementing by 31 March 2018 a TA of 18,000 feet in respect of the airspace for which the Licensee is accountable under the Licence. Implementation shall be subject to the successful outcome of consultation by the CAA in relation to TA, and also to any LAMP dependencies. This project plan shall include significant delivery milestones and the dependencies associated with those milestones, and the implementation plan shall have been subject to consultation with Users. Such consultation shall, so far as is reasonably practicable, take place in the context of the Service and Investment Plan ('SIP') consultation under Condition 10, or any enhancement to that process.

4. In relation to the LAMP programme, by 31 December 2015, and without prejudice to Condition 10 of this Licence, the Licensee shall submit to the CAA a project plan for LAMP for the period until 31 December 2019. This shall be a detailed plan for the period until 31 December 2017 and an outline plan for the period from 31 December 2017 to 31 December 2019. By 31 December 2017, a detailed plan shall be submitted to the CAA replacing the outline plan for the period to 31 December 2019. These plans shall include significant delivery milestones and the dependencies associated with those milestones, and the implementation plans shall have been subject to consultation with Users including Airports. Such consultation shall, so far as is reasonably practicable, take place in the context of the SIP consultation under Condition 10, or any enhancement to that process.
5. Without prejudice to Condition 17 of this Licence, the Licensee shall provide to the CAA, at a frequency and in such form as the CAA may reasonably require (but no more frequently than six-monthly), such information as the CAA may reasonably require in relation to the deliverables of the TA and LAMP programmes against their respective project and implementation plans and as may relate to the progress of, and delivery under, the priority major ATM programmes referred to in paragraph 1.
6. The Licensee shall co-operate fully with any person the CAA may appoint to advise it on the Licensee's progress and delivery against the TA, LAMP and Pilot Common Projects referred to in paragraph 1 in this Condition.
7. This Condition shall apply with effect from 1 January 2015, in alignment with the start of the second reference period under Commission Implementing Regulation (EU) No 390/2013 laying down a performance scheme for air navigation services and network functions.

## Appendix B

## Condition 20 with effect from 1 January 2015

---

1. In Conditions 21 to 25, unless the context otherwise requires:

<b>‘Average Charge Per Oceanic Flight’</b>	means the Oceanic Revenue in the Oceanic Relevant Year divided by the number of Oceanic Flights attracting an Oceanic Charge in that year.
<b>‘Charge Control Conditions’</b>	means Conditions 20 to 25 inclusive, as from time to time modified in accordance therewith or pursuant to sections 11 to 19 of the Act.
<b>‘Determined Costs’</b>	means the costs as defined in Article 15.2(a) of the Service Provision Regulation (EC) 550/2004
<b>‘Eurocontrol’</b>	means the European Organisation for the Safety of Air Navigation, founded by the 1960 Brussels Convention relating to Co-operation for the Safety of Air Navigation, or any successor body.
<b>‘Eurocontrol Business’</b>	means the business of the Licensee consisting in the provision of services for which Eurocontrol Charges are paid.
<b>‘Eurocontrol Charge’</b>	means any charge collected by the Central Route Charges Office of Eurocontrol on behalf of the United Kingdom and reimbursed to the UK Government and its nominees.
<b>‘Eurocontrol Relevant Year’</b>	means a calendar year commencing on 1 January in each year.
<b>‘Eurocontrol Relevant year t’</b>	means that Eurocontrol Relevant Year for the purpose of which any calculation falls to be made; ‘Eurocontrol Relevant year t-1’ means the Eurocontrol Relevant Year preceding the Eurocontrol Relevant year t.

<b>‘Exceptional Circumstances’</b>	means circumstances which are outside the Licensee's control and which: (a) have had or will have a negative effect on its financial position; and (b) that effect is such that the Licensee's ability to meet its current or future obligations under the Act or this Licence is, or is threatened to be, materially impaired.
<b>‘London Approach Relevant Year’</b>	means a period of 12 months commencing on 1 January in each year.
<b>‘London Approach Relevant Year <math>t</math>’</b>	means that London Approach Relevant Year for the purpose of which any calculation falls to be made; ‘London Approach Relevant year $t-1$ ’ means the London Approach Relevant Year preceding the London Approach Relevant year $t$ .
<b>‘London Approach Charge’</b>	means a charge paid to the Licensee from the provision of the London Approach Service.
<b>‘London Approach Service Revenue’</b>	means the revenue derived beneficially by the Licensee from the London Approach Service.
<b>‘Maximum Permitted Average Charge Per Oceanic Flight’</b>	means the amount calculated in accordance with Condition 22.
<b>‘National Security Period’</b>	means a period commencing on the date on which any direction issued by the Secretary of State under section 94 of the Act enters into effect and terminating on the date such direction, as varied, is revoked or expires.
<b>‘Oceanic Charge’</b>	means a charge paid to the Licensee from the provision of services in the En Route (Oceanic) Area.
<b>‘Oceanic Flight’</b>	means a flight in the En Route (Oceanic) Area in an Oceanic Relevant Year.
<b>‘Oceanic Relevant Year’</b>	means a period of 12 months commencing on 1 January in each year.
<b>‘Oceanic Relevant Year <math>t</math>’</b>	means that Oceanic Relevant Year for the purposes of which any calculation falls to be made; ‘Oceanic Relevant Year $t - 1$ ’ means the Oceanic Relevant Year preceding Oceanic Relevant Year $t$ .

<b>'Oceanic Revenue'</b>	means the revenue derived beneficially by the Licensee from Oceanic Charges.
<b>'Reference Period'</b>	means the first reference period established under Commission Regulation (EU) No 691/2010, namely 1 January 2012 to 31 December 2014 or the second reference period, established under Commission Regulation (EU) No 390/2013, namely 1 January 2015 to 31 December 2019.
<b>'Relevant Year <math>t</math>'</b>	means that Relevant Year for the purposes of which any calculation falls to be made; 'Relevant Year $t - 1$ ' means the Relevant Year preceding Relevant Year $t$ ; and similar expressions shall be construed accordingly.



## Appendix C

## Condition 21 with effect from 1 January 2015

**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 2015, 2016, 2017, 2018 and 2019, the maximum Permitted Average Charge Per Service Unit shall be calculated as follows:

$$\text{Maximum Charge}_t = \frac{\text{DC}_t + \text{INF}_t + \text{ReS}_t + \text{TRS}_t + \text{CSM}_t + \text{FI}_t + \text{MOD}_t + \text{Tvar}_t + \text{Pre2011}_t - \text{VFR}_t}{\text{ForecastTSU}_t} - \text{DISCOUNT}_t$$

Where:

Maximum Charge <sub>t</sub>	means the Maximum Permitted Average Charge Per Service Unit in Eurocontrol Relevant Year t.	
DC <sub>t</sub>	means the determined costs, expressed in nominal terms for relevant year t.	
	Year t	(£)
	2013	630,086,536
	2014	637,473,295
	2015	598,801,065
	2016	597,514,750
	2017	598,642,208
	2018	589,585,024
	2019	579,006,611
INF <sub>t</sub>	means the adjustment of the difference between forecasted and actual inflation in relevant year t calculated in accordance with Paragraph 3 of this condition.	
ReS <sub>t</sub>	means the restructuring costs in relevant year t authorised in accordance with Article 7(4) of Commission Implementing Regulation (EU) No 391/2013.	

	For all years t = 2015, 2016, 2017, 2018, 2019, $ReS_t = 0$	
$TRS_t$	means the Traffic Risk Sharing element from previous years calculated in accordance with Paragraph 4 of this condition.	
$CSM_t$	means the carry-overs from the previous reference period resulting from the implementation of the cost sharing mechanism referred to in Article 14 of Commission Implementing Regulation (EU) No 391/2013;	
	Year t	$CSM_t$
	2015	to be determined by a licence modification prior to 1 January 2016 following further interpretation by the Commission of the requirements of Article 14 of Commission Implementing Regulation (EU) No 391/2013.
	2016	
	2017	
	2018	
	2019	
$FI_t$	means the Financial Incentives relating to performance as calculated in accordance with Paragraphs 7-18 of this condition.	
$MOD_t$	means the over- or under-recoveries that may result from the modulation of air navigation charges in application of Article 16 of Commission Implementing Regulation (EU) No 391/2013.	
$Tvar_t$	means the over- or under-recoveries resulting from traffic variations as defined in Paragraph 5 of this condition.	
$Pre2011_t$	<p>means the over- or under-recoveries incurred up to and including the year 2011.</p> <p>For t = 2015</p> $Pre2011_t = 7,844,247 \times \left(1 - \frac{\text{Actual TSU}_{t-2}}{\text{Forecast TSU}_{t-2}}\right) \times (1 + INT_{t-1})^2$ <p>For t = 2016</p> $Pre2011_t = 35,813,019 \times \left(1 - \frac{\text{Actual TSU}_{t-2}}{\text{Forecast TSU}_{t-2}}\right) \times (1 + INT_{t-1})^2$ <p>For years t = 2017, 2018, 2019, <math>Pre2011_t = 0</math></p>	
$VFR_t$	<p>means the expected cost of services to traffic operating under Visual Flight Rules in relevant year t.</p> <p>For all years t = 2015, 2016, 2017, 2018, 2019, <math>VFR_t = 0</math></p>	

<b>DISCOUNT<sub>t</sub></b>	means an adjustment to the maximum charge per Total Service Unit in relevant year t where the Licensee at its own discretion decides to recover less than it would otherwise be allowed to recover and has declared to the CAA that it will not pursue this as under-recovery in subsequent years.	
<b>ForecastTSU<sub>t</sub></b>	means the forecast of Total Service Units for relevant year t established at the beginning of the reference period as follows:	
	Year t	TSU
	2013	10,667,227
	2014	11,034,647
	2015	10,244,000
	2016	10,435,000
	2017	10,583,000
	2018	10,758,000
	2019	10,940,000
<b>Total Service Units (TSUs)</b>	means the route service units calculated in accordance with Annex IV of Commission Implementing Regulation (EC) No 391/2013 as amended from time to time <i>including</i> the service units relating to military exempt flights.	
<b>INT<sub>t-1</sub></b>	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 .	

### Inflation Assumptions

2. The forecast values of the inflation index referenced in paragraph 3 shall be as follows:

<b>FHICP<sub>t</sub></b>	means the reference values of the HICP (all items) index in respect of the UK for Eurocontrol Relevant Year t established prior to the control period, consistent with the projections in nominal prices (for years 2013 and 2014 the index base is 2009=100; for years 2015 to 2019 the index base is 2012=100), which shall be:		
	Year t	Index (base 2009=100)	Index (base 2012=100)
	2013	109.657	
	2014	111.733	
	2015		106.489

	2016		108.512
	2017		110.683
	2018		112.896
	2019		115.154

### Inflation Adjustment

3. The adjustment of the difference between forecasted and actual inflation shall be calculated as follows:

For t = 2015 and t = 2016

$$INF_t = DC_{t-2} \left( \frac{HICP_{t-2}}{FHICP_{t-2}} - 1 \right) \times (1 + INT_{t-1})^2$$

For t = 2017, 2018 and 2019

$$INF_t = DC_{t-2} \left( \frac{HICP_{t-2}}{FHICP_{t-2}} - 1 \right)$$

Where  $HICP_{t-2}$  is calculated as follows:

Year t-2	Calculation
2013	113.90
2014	$HICP_{2014} = 113.90 \times (1 + Inflation_{2014})$
2015	$HICP_{2015} = 102.60 \times (1 + Inflation_{2014}) \times (1 + Inflation_{2015})$
2016	$HICP_{2016} = 102.60 \times (1 + Inflation_{2014}) \times (1 + Inflation_{2015}) \times (1 + Inflation_{2016})$
2017	$HICP_{2017} = 102.60 \times (1 + Inflation_{2014}) \times (1 + Inflation_{2015}) \times (1 + Inflation_{2016}) \times (1 + Inflation_{2017})$

Where:

<b>Inflation<sub>t</sub></b>	means the annual Inflation rate produced by Eurostat in the Harmonised Index of Consumer Prices in respect of calendar year t as published by Eurostat in April of year t+1 (the published rate of inflation is rounded to one significant place of decimals).
------------------------------	--

## Traffic Risk Sharing

4. Article 13 of Commission Implementing Regulation (EU) No 391/2013 sets out the basis of traffic risk sharing.

Traffic Risk Sharing ( $TRS_t$ ) shall be calculated as follows:

For t = 2015 and 2016		
$TRS_t = RSF_{t-2} \times DC_{t-2} \times (1 + INT_{t-1})^2$		
For t = 2017, 2018 and 2019		
$TRS_t = RSF_{t-2} \times DC_{t-2}$		
Where:		
	$DC_{t-2}$	has the meaning in Paragraph 1 of this condition.
And	$RSF_{t-2}$	means the risk sharing factor relating to Eurocontrol Relevant Year t-2 based on the actual number of Total Service Units which shall be calculated as follows:
	Where:	$0.98 \leq \frac{\text{ActualTSU}_{t-2}}{\text{ForecastTSU}_{t-2}} \leq 1.02$ $RSF_{t-2} = 0$
	Where:	$1.02 < \frac{\text{ActualTSU}_{t-2}}{\text{ForecastTSU}_{t-2}} \leq 1.10$ $RSF_{t-2} = -0.7 \left[ \frac{\text{ActualTSU}_{t-2}}{\text{ForecastTSU}_{t-2}} - 1.02 \right]$
	Where:	$0.90 \leq \frac{\text{ActualTSU}_{t-2}}{\text{ForecastTSU}_{t-2}} < 0.98$ $RSF_{t-2} = -0.7 \left[ \frac{\text{ActualTSU}_{t-2}}{\text{ForecastTSU}_{t-2}} - 0.98 \right]$
	Where:	$\frac{\text{ActualTSU}_{t-2}}{\text{ForecastTSU}_{t-2}} < 0.90$ $RSF_{t-2} = - \left[ \frac{\text{ActualTSU}_{t-2}}{\text{ForecastTSU}_{t-2}} - 0.90 \right] + 0.056$
	Where:	$\frac{\text{ActualTSU}_{t-2}}{\text{ForecastTSU}_{t-2}} > 1.10$ $RSF_{t-2} = - \left[ \frac{\text{ActualTSU}_{t-2}}{\text{ForecastTSU}_{t-2}} - 1.10 \right] - 0.056$
Where:	$\text{ActualTSU}_{t-2}$	means the actual level of Total Service Units for relevant year t-2 published by Eurocontrol.

## Correction of INF and TRS Adjustments for Subsequent Traffic Variations (TVar)

5. The TVar component shall be calculated as follows:

$TVar_t$	<p>is an adjustment to allow for variations between actual and forecast TSUs in the year that a correction originally takes place.</p> $TVar_t = (INF_{t-2} + TRS_{t-2} + CSM_{t-2} + Pre2011_{t-2} + FI_{t-2} + TVar_{t-2}) \left( 1 - \frac{Actual\ TSU_{t-2}}{Forecast\ TSU_{t-2}} \right)$ <p>For <math>t = 2015</math> and <math>2016</math>  <math>TVar_t = 0.</math></p>
----------	---

## Calculation of FAB Capacity Target (C1)

6. The C1 (FAB capacity target) shall be calculated as follows:

$C1_t$	<p>means the average minutes of en route air traffic flow management (ATFM) delay in the UK-Ireland FAB in relevant year <math>t</math>.</p> <p>Where:</p> $C1_t = \frac{FABEnRouteDelay_t}{FABFlights_t}$												
$FABEnRouteDelay_t$	<p>means the en route ATFM flight delay from all causes which has been attributed by Eurocontrol to the UK or Ireland in relevant year <math>t</math>.</p>												
$FABFlights_t$	<p>means the Network Manager (STATFOR) determined count of all IFR flights for the UK-Ireland FAB as a whole for year <math>t</math>.</p> <p>For the avoidance of doubt these include flights which depart or arrive at airports in the UK or which overfly the area of the Functional Airspace Block (FAB). Any flight which flies through both the relevant UK and Irish airspace is only counted once.</p>												
$C1Target_t$	<p>means the FAB target set in the FAB performance plan which have the following values:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Year <math>t</math></th> <th style="width: 80%;">C1Target<math>_t</math></th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>0.25</td> </tr> <tr> <td>2016</td> <td>0.26</td> </tr> <tr> <td>2017</td> <td>0.26</td> </tr> <tr> <td>2018</td> <td>0.26</td> </tr> <tr> <td>2019</td> <td>0.26</td> </tr> </tbody> </table>	Year $t$	C1Target $_t$	2015	0.25	2016	0.26	2017	0.26	2018	0.26	2019	0.26
Year $t$	C1Target $_t$												
2015	0.25												
2016	0.26												
2017	0.26												
2018	0.26												
2019	0.26												

## Calculation of financial incentives (FI)

7. Financial incentives for capacity and environment performance shall be calculated as follows:

For $FI_{2015}$ and $FI_{2016}$	$FI_{2015}$ and $FI_{2016}$ shall have meanings set out in Paragraph 18 of this condition with reference to Condition 21 of the Air Traffic Services Licence for NATS En Route plc which was in effect on 1 January 2014.		
For $FI_{2017}$ , $FI_{2018}$ , and $FI_{2019}$	$FI_t = FC2_{t-2} + FC3_{t-2} + FC4_{t-2} + F3DI_{t-2}$		
Where:	$FC2_{t-2}$	means the financial incentive for the C2 measure of NERL's contribution to FAB performance for relevant year t-2 as defined at Paragraph 8 of this condition.	
	$FC3_{t-2}$	means the financial incentive from the C3 Impact Score for relevant year t-2 as defined at Paragraph 9 of this condition.	
	$FC4_{t-2}$	means the financial incentive from the C4 Daily Excess Delay Score for relevant year t-2 as defined at Paragraph 12 of this condition.	
	$F3DI_{t-2}$	means the element of financial incentives relating to measure 3DI for relevant year t-2 as calculated in Paragraph 16 of this condition .	
In respect of all the elements of the Financial Incentives:			
Licensee Attributable En Route ATFM Delay	means En Route ATFM Delay attributed by Eurocontrol which meet the regulation cause and regulation location in the following tables:		
	<b>Regulation Cause</b>	<b>NM Code</b>	<b>Regulation Location</b>
	ATC Capacity	C	En route
	ATC Routings	R	En route
	ATC Staffing	S	En route
	ATC Equipment	T	En route
	Military	M	En route
	Special Event	P	En route
En Route ATFM Delay	means en route ATFM delay calculated by the Network Manager 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 Network Manager.		
	$FLT_{t-2}$	means the Network Manager (STATFOR) determined count of all IFR flights for the UK for year t-2.	

### Calculation of FC2

8. For the purpose of Paragraph 7, the term  $FC2_{t-2}$  shall be calculated in accordance with the following formulae where Eurocontrol relevant years t-2 are 2015, 2016 and 2017 (relating to penalties or bonuses in 2017, 2018 and 2019 respectively).

$FC2_{t-2}$	<p>If <math>C1_{t-2} &gt; C1Target_{t-2}</math> and <math>C2_{t-2} &gt; 1.1 \times C2ParValue_{t-2}</math> (where <math>C1_t</math> and <math>C1Target_t</math> have the meaning in Paragraph 6 of this condition; and <math>1.1 \times C2ParValue_{t-2}</math> is rounded to 2 significant figures.) <math>FC2_{t-2} =</math>  <math display="block">- \text{MIN} \left[ \left[ \left( \frac{C2_{t-2} / C2Target_{t-2} - 1.1}{0.4} \right) \times 0.0025 \times REV_{t-2} \right], (0.0025 \times REV_{t-2}) \right]</math> </p>
	<p>If <math>C1_{t-2} &lt; C1Target_{t-2}</math> and <math>C2_{t-2} &lt; 0.8 \times C2ParValue_{t-2}</math> (where <math>C1_t</math> and <math>C1Target_t</math> have the meaning in Paragraph 6 of this condition; and <math>0.8 \times C2ParValue_{t-2}</math> is rounded to 2 significant figures.) <math>FC2_{t-2} =</math>  <math display="block">+ \text{MIN} \left[ \left[ \left( \frac{0.8 - C2_{t-2} / C2Target_{t-2}}{0.4} \right) \times 0.0025 \times REV_{t-2} \right], (0.0025 \times REV_{t-2}) \right]</math> </p>
	<p>Otherwise <math>FC2_{t-2} = 0</math></p>
$C2_{t-2}$	<p>means the average minutes of en route ATFM delay in the UK-Ireland FAB in relevant year t.  <math display="block">C2_{t-2} = \frac{\text{Licensee Attributable En Route ATFM Delay}_{t-2}}{FLT_{t-2}}</math> <p>Where:  Licensee Attributable En Route ATFM Delay<sub>t-2</sub> has the meaning in Paragraph 7 of this condition; and  <math>FLT_{t-2}</math> has the meaning in Paragraph 7 of this condition.</p> </p>



C2ParValue <sub>t-2</sub>	<p>means the UK par values for C2 set in the UK-Ireland FAB performance plan which have the following values in the relevant years:</p> <p>t-2 = 2015 C2ParValue<sub>t-2</sub> = 0.17</p> <p>t-2 = 2016, 2017, 2018, 2019 C2ParValue<sub>t-2</sub> = 0.18</p>
REV <sub>t-2</sub>	<p>means the revenues from that part of the charges paid to Eurocontrol by users which is reimbursed to the United Kingdom and relates to services provided by the Licensee in year t-2.</p> <p>Where: REV<sub>t-2</sub> = Maximum Charge<sub>t-2</sub> x ActualTSU<sub>t-2</sub></p> <p>Where Maximum Charge<sub>t-2</sub> and ActualTSU<sub>t-2</sub> have the meanings in Paragraphs 1 and 4 respectively of this condition.</p>

### Calculation of FC3

9. FC3 is the financial incentive relating to C3 (an Impact Score placing greater weight on long delays and departures in the morning and the evening peaks).

For the purpose of Paragraph 7, the term FC3<sub>t-2</sub> shall be calculated in accordance with the following formulae where Eurocontrol relevant years t-2 are 2015, 2016 and 2017 (relating to penalties or bonuses in 2017, 2018 and 2019 respectively).

FC3 <sub>t-2</sub>	<p>If <math>C1_{t-2} &gt; C1Target_{t-2}</math> and <math>C3_{t-2} &gt; C3Upper_{t-1}</math></p> <p>FC3<sub>t-2</sub> = <math>-\text{MIN} \left[ \frac{(C3PenRate_{t-2} (C3_{t-2} - C3Upper_{t-1})) FLT_{t-2}}{(0.0050 \times REV_{t-2})} \right]</math></p>
	<p>If <math>C1_{t-2} &lt; C1Target_{t-2}</math> and <math>C3_{t-2} &lt; C3Lower_{t-2}</math></p> <p>FC3<sub>t-2</sub> = <math>+\text{MIN} \left[ \frac{(C3BonusRate_{t-2} (C3Lower_{t-2} - C3_{t-2}) FLT_{t-2})}{(0.0075 \times REV_{t-2})} \right]</math></p>

Where:	
$C3_{t-2}$	is defined in Paragraph 10.
$C3PenRate_{t-2}$	means the penalty rate for the reduction of revenues relating to the C3 score in Eurocontrol relevant year t-2 (to take effect in relevant year t) calculated as follows:  $C3PenRate_{t-2} = \text{£}0.112 \times \frac{HICP_{t-2}}{100}$
$C3BonusRate_{t-2}$	means the bonus rate for the reduction of revenues relating to the C3 score in Eurocontrol relevant year t-2 (to take effect in relevant year t) calculated as follows:  $C3BonusRate_{t-2} = \text{£}0.112 \times \frac{HICP_{t-2}}{100}$
$C3Upper_{t-2}$	is the value of the C3 score in Eurocontrol relevant year t-2 above which a penalty becomes payable calculated in Paragraph 11.
$C3Lower_{t-2}$	is the value of the C3 score in Eurocontrol relevant year t-2 below which a bonus becomes payable calculated in Paragraph 11.

### The Calculation of $C3_{t-2}$

10.  $C3_{t-2}$  shall be calculated as follows:

$C3_{t-2}$	$C3_{t-2} = \frac{\sum w_{p,b} d_{p,b}}{FLT_{t-2}}$ For all flights in year t-2	
Where:	Where p denotes that each flight in relevant year t-2 shall be considered as falling into one of three periods:	
	Morning Peak (p=1)	means flights in relevant year t-2 with an off-block estimated time $\geq 0400$ and $< 0800$ UTC in Summer (April –October inclusive) and between $\geq 0500$ and $< 0900$ UTC in Winter (January -March inclusive and November-December inclusive).
	Evening Peak (p=2)	means flights in relevant year t-2 with an off-block estimated time $\geq 1500$ and $< 1900$ UTC in Summer (April –October inclusive) and $\geq 1600$ and $< 2000$ UTC in Winter (January-March inclusive and November-December inclusive).
	Other (p=3)	means flights in relevant year t-2 with 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:		
	$b = d_{p,1}$	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-2 of flights which fall into relevant period p as defined above.	
	$b = d_{p,2}$	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-2 of flights which fall into relevant period p as defined above.	
	$b = d_{p,3}$	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-2 of flights which fall into relevant period p as defined above.	
	$b = d_{p,4}$	means the Licensee Attributable En Route ATFM Delay in seconds over 60 minutes per flight in relevant year t-2 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:	
		<b>p=1 Morning Peak Period</b>	<b>p=2 Evening Peak Period</b>
		<b>p=3 Other Times</b>	
	b=1 (Delay > 0 and <=15 minutes)	3	2
	b =2 (Delay >15 and <= 30 minutes)	6	3
	b =3 (Delay >30 and <= 60 minutes)	9	6
	b =4 (Delay >60 minutes)	18	9

**Definition of Thresholds at which Bonuses or Penalties for C3<sub>t-2</sub> become payable**

11. The thresholds for bonuses or penalties shall be calculated as follows:

Where	$LFT_{t-2} \leq FLT_{t-2} \leq UFT_{t-2}$
	$C3Upper_{t-2} = 24$ $C3Lower_{t-2} = 16$

where	$LFT_{t-2} > FLT_{t-2}$													
		$C3Upper_{t-2} = 24 \left( 1 + \frac{5(FLT_{t-2} - LFT_{t-2})}{LFT_{t-2}} \right)$												
		$C3Lower_{t-2} = 16 \left( 1 + \frac{5(FLT_{t-2} - LFT_{t-2})}{LFT_{t-2}} \right)$												
where	$FLT_{t-2} > UFT_{t-2}$													
		$C3Upper_{t-2} = 24 \left( 1 + \frac{5(FLT_{t-2} - UFT_{t-2})}{UFT_{t-2}} \right)$												
		$C3Lower_{t-2} = 16 \left( 1 + \frac{5(FLT_{t-2} - UFT_{t-2})}{UFT_{t-2}} \right)$												
Where:														
$FLT_{t-2}$		has the meaning in Paragraph 7.												
$LFT_{t-2}$		$LFT_{t-2} = 0.96 \times FFlight_{t-2}$												
$UFT_{t-2}$		$UFT_{t-2} = 1.04 \times FFlight_{t-2}$												
$FFlight_{t-2}$		means the forecast of flights for relevant year t established at the beginning of the reference period as set out as follows:												
		<table border="1"> <thead> <tr> <th>t-2</th> <th>FFlight<sub>t-2</sub></th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>2,294,000</td> </tr> <tr> <td>2016</td> <td>2,339,000</td> </tr> <tr> <td>2017</td> <td>2,377,000</td> </tr> <tr> <td>2018</td> <td>2,420,000</td> </tr> <tr> <td>2019</td> <td>2,465,000</td> </tr> </tbody> </table>	t-2	FFlight <sub>t-2</sub>	2015	2,294,000	2016	2,339,000	2017	2,377,000	2018	2,420,000	2019	2,465,000
t-2	FFlight <sub>t-2</sub>													
2015	2,294,000													
2016	2,339,000													
2017	2,377,000													
2018	2,420,000													
2019	2,465,000													

**Calculation of FC4**

12. FC4 is the financial incentive relating to C4 (a daily excess delay score based on weighted delays exceeding pre-determined thresholds on a daily basis).

For the purpose of Paragraph 7,  $FC4_{t-2}$  shall be calculated in accordance with the following formulae:

Where:	$C4_{t-2} \geq 2000$	
		$FC4_{t-2} = -\text{MIN} \left[ \begin{matrix} C4PenRate \times (C4_{t-2} - 2000) \times FLT_{t-2} \\ 0.0025 \times REV_{t-2} \end{matrix} \right]$
Where:	$C4_{t-2} < 2000$	

		$FC4_{t=2} = 0$
Where:	$C4_{t-2}$	means the annual sum of the weighted daily excess delay score calculated as set out in Paragraph 13.
	$C4PenRate_{t-2}$	means the penalty rate for the reduction of revenues relating to the C4 score in Eurocontrol relevant year t-2 (to take effect in relevant year t) calculated as follows:
		$C4PenRate_{t-2} = 0.0008025 \times \frac{HICP_{t-2}}{100}$

### Calculation of C4

13.  $C4_{t-2}$  shall be calculated as follows subject to the exemption in Paragraph 15:

$C4_{t-2}$	$= C4DailyScore_d$ for all days in year t-2 except where an exemption applies as defined in Paragraph 15.	
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	$C4DailyScore_d = 0$
	Where:	$40 < \frac{DT1_d}{DailyFlights_d} \leq 80$
	then	$C4DailyScore_d = \frac{DT1_d}{DailyFlights_d} - 40$
	Where:	$\frac{DT1_d}{DailyFlights_d} > 80$
		$C4DailyScore_d = 40 + 2 \left( \frac{DT1_d}{DailyFlights_d} - 80 \right)$
Where:	d is a day in the months April to October inclusive.	
	Where	$\frac{DT1_d}{DailyFlights_d} \leq 60$
	then	$C4DailyScore_d = 0$
	Where	$60 < \frac{DT1_d}{DailyFlights_d} \leq 110$

	then	$C4DailyScore_d = \frac{DT1_d}{DailyFlights_d} - 60$
	Where	$110 < \frac{DT1_d}{DailyFlights_d}$
	then	$C4DailyScore_d = 50 + 2 \left( \frac{DT1_d}{DailyFlights_d} - 110 \right)$
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 Network Manager (STATFOR).

### Mitigation of $C3_{t-2}$ or $C4_{t-2}$ scores for equipment failure

14. On days where both the following two conditions apply:

- the scores relate to a day for which the relevant  $C4DailyScore_d$  as calculated in Paragraph 13 is greater than zero; and
- there is a C3 score relating to Licensee Attributable to En Route ATFM
- recorded as equipment failure greater than zero.

The following mitigation should apply:

If:	$ C3PenRate_{t-2} (C3_d)DailyFlights_d >  C4PenRate_{t-2} (C4DailyScore_d)FLT_{t-2}$	
then:	for day d, the C3 numerator for all NERL attributable cause codes shall be included in the annual FC3 penalty or bonus term, the C4 score shall be excluded from the calculation of the annual $FC4_t$ penalty or bonus.	
If:	$ C3PenRate_{t-2} (C3_d)DailyFlights_d \leq  C4PenRate_{t-2} (C4DailyScore_d)FLT_{t-2}$	
then:	for day d the C3 numerator for all NERL attributable technical cause codes shall be excluded from the annual FC3 penalty or bonus term; the C4 score shall be included in the annual $FC4_t$ penalty or bonus term.	
Where:	$C3PenRate_{t-2}$	has the meaning in Paragraph 9.
	$DailyFlights_d$	has the meaning in Paragraph 13.
	$C4PenRate_{t-2}$	has the meaning in Paragraph 12.
	$C4DailyScore_d$	has the meaning in Paragraph 13.

	$FLT_{t-2}$	has the meaning in Paragraph 7.
	$C3_d$	<p>has the following meaning:</p> $C3_d = \frac{\sum w_{p,b} d_{p,b}}{\text{DailyFlights}_d}$ <p>for all flights in day d</p> <p>Where:</p> $\sum w_{p,b} d_{p,b}$ has the meaning in Paragraph 10.

For the avoidance of doubt the C3 and C4 measures are based on different units and the estimation of the penalty for each in the tests above requires the different parameters as specified.

### **Exemptions for $C3_{t-2}$ and $C4_{t-2}$ in respect of Major Changes in Operations**

15. C3 weighted delays and C4 Daily scores for the relevant day shall not be counted for the purposes of calculating  $C3_{t-2}$  or  $C4_{t-2}$  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 75 in aggregate for the period of the five Eurocontrol relevant years 2015 to 2019 inclusive, considered as a whole.

**Calculation of the Flight Efficiency Incentive (F3DI)**

16. For the purpose of Paragraph 7, the term  $F3DI_{t-2}$  shall be calculated in accordance with the following formulae where relevant years t-2 are 2015, 2016 and 2017 (relating to penalties or bonuses in 2017 and 2018 and 2019 respectively):

$3DI_{t-2}$	means the average 3Di score for all flights for year t-2 as calculated by NERL in accordance with the FEM calculation protocol.																			
Where:	$3DI_{t-2} > 3DIUpper_{t-2}$																			
	Then	$F3DI_{t-2} = -\text{MIN} \left[ \begin{array}{l} 3DIPenRate_{t-2} (3DI_{t-2} - 3DIUpper_{t-2}), \\ REV_{t-2} \times 0.01 \end{array} \right]$																		
Where:	$3DI_{t-2} < 3DILower_{t-2}$																			
	Then	$F3DI_{t-2} = \text{MIN} \left[ \begin{array}{l} 3DIBonusRate_{t-2} (3DILower_{t-2} - 3DI_{t-2}), \\ REV_{t-2} \times 0.01 \end{array} \right]$																		
Where:	$3DIUpper_{t-2}$  $3DILower_{t-2}$	is the upper deadband limit on the flight efficiency metric in year t-2; and  is the lower deadband limit on the flight efficiency metric in year t-2: which shall be calculated in accordance with:																		
		<table border="1"> <thead> <tr> <th>t-2</th> <th><math>3DILower_{t-2}</math></th> <th><math>3DIUpper_{t-2}</math></th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>28.2</td> <td>31.2</td> </tr> <tr> <td>2016</td> <td>27.8</td> <td>30.8</td> </tr> <tr> <td>2017</td> <td>27.5</td> <td>30.3</td> </tr> <tr> <td>2018</td> <td>26.7</td> <td>29.5</td> </tr> <tr> <td>2019</td> <td>26.3</td> <td>29.1</td> </tr> </tbody> </table>	t-2	$3DILower_{t-2}$	$3DIUpper_{t-2}$	2015	28.2	31.2	2016	27.8	30.8	2017	27.5	30.3	2018	26.7	29.5	2019	26.3	29.1
t-2	$3DILower_{t-2}$	$3DIUpper_{t-2}$																		
2015	28.2	31.2																		
2016	27.8	30.8																		
2017	27.5	30.3																		
2018	26.7	29.5																		
2019	26.3	29.1																		
	$3DIPenRate_{t-2}$	Is the penalty rate in year t-2 = $3DIBonusRate_{t-2}$																		
	$3DIBonusRate_{t-2}$	Is the bonus rate in year t-2 which is calculated as follows:																		
		<table border="1"> <thead> <tr> <th>t-2</th> <th><math>3DIBonusRate_{t-2}</math></th> </tr> </thead> <tbody> <tr> <td>2015</td> <td><math>(0.01 \times REV_{2015}) / 6.8</math></td> </tr> <tr> <td>2016</td> <td><math>(0.01 \times REV_{2016}) / 6.7</math></td> </tr> <tr> <td>2017</td> <td><math>(0.01 \times REV_{2017}) / 6.7</math></td> </tr> <tr> <td>2018</td> <td><math>(0.01 \times REV_{2018}) / 6.5</math></td> </tr> <tr> <td>2019</td> <td><math>(0.01 \times REV_{2019}) / 6.4</math></td> </tr> </tbody> </table>	t-2	$3DIBonusRate_{t-2}$	2015	$(0.01 \times REV_{2015}) / 6.8$	2016	$(0.01 \times REV_{2016}) / 6.7$	2017	$(0.01 \times REV_{2017}) / 6.7$	2018	$(0.01 \times REV_{2018}) / 6.5$	2019	$(0.01 \times REV_{2019}) / 6.4$						
t-2	$3DIBonusRate_{t-2}$																			
2015	$(0.01 \times REV_{2015}) / 6.8$																			
2016	$(0.01 \times REV_{2016}) / 6.7$																			
2017	$(0.01 \times REV_{2017}) / 6.7$																			
2018	$(0.01 \times REV_{2018}) / 6.5$																			
2019	$(0.01 \times REV_{2019}) / 6.4$																			



17. For the avoidance of doubt, the treatment of C2, C3, C4 and 3DI occurring in 2018 and 2019 will be subject to review before the end of Relevant Year 2019 under the provisions of Commission Implementing Regulation (EU) No 390/2013 and 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 2018 and 2019 into account in the charges for subsequent years as if this condition applied to charges in 2020 and 2021.) Eligibility to earn 3DI bonuses in respect of 2018 and 2019 (to be paid in 2020 and 2021) will be contingent on the successful implementation of a harmonised transition altitude of 18,000 feet by 31 March 2018 (Implementation is subject to successful consultation by the CAA in relation to TA, and also any LAMP dependencies).
18. Financial Incentives Carried Forward From RP1

**In respect of charges in year 2015**

$$FI_{2015} = FT1_{2013} + FT2_{2013} + FT3_{2013} + FEMM_{2013}$$

Subject to:

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

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

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

$$FEMM_{2013} \leq \text{£}2,400,000 \frac{\text{CHAW}_{\text{Aug2013}}}{198.1}$$

**In respect of charges in year 2016**

$$FI_{2016} = FT1_{2014} + FT2_{2014} + FT3_{2014} + FEMM_{2014}$$

Subject to:

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

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

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

$$FEMM_{2014} \leq \text{£}2,400,000 \frac{\text{CHAW}_{\text{Aug2014}}}{198.1}$$

Where:

FT1 <sub>2013</sub>	FT1 <sub>2014</sub>	have the meanings defined in Condition 21 of the Air Traffic Services Licence for NATS En Route plc which was in effect on 1 January 2014.
FT2 <sub>2013</sub>	FT2 <sub>2014</sub>	
FT3 <sub>2013</sub>	FT3 <sub>2014</sub>	
FT4 <sub>2013</sub>	FT4 <sub>2014</sub>	
FEMM <sub>2013</sub>	FEMM <sub>2014</sub>	
CHAW <sub>Aug2013</sub>	CHAW <sub>Aug2014</sub>	

## Appendix D

## Condition 21a with effect from 1 January 2015

### Condition 21a: Control of London Approach Charges

1. Without prejudice to Condition 25 (Suspension and Modification of Charge Control Conditions), for each London Approach Relevant Year beginning on 1 January 2015, 2016, 2017, 2018 and 2019, the maximum Permitted Average Charge Per London Approach Service Unit shall be calculated as follows:

$$\text{Maximum Charge}_t = \frac{\text{LDC}_t + \text{LINF}_t + \text{LReS}_t + \text{LTRS}_t + \text{LCSM}_t + \text{LFI}_t + \text{LMOD}_t + \text{LTvar}_t + \text{LPre2014}_t - \text{LVFR}_t}{\text{ForecastLTSU}_t} - \text{LDISCOUNT}_t$$

Where:

Maximum Charge <sub>t</sub>	means the Maximum Permitted Average Charge Per London Approach Service Unit in Relevant Year t.	
LDC <sub>t</sub>	Means the determined costs, expressed in nominal terms for relevant year t.	
	Year t	(£)
	2015	12,011,867
	2016	12,371,198
	2017	12,749,490
	2018	13,092,087
LINF <sub>t</sub>	means the adjustment of the difference between forecasted and actual inflation calculated in accordance with Paragraph 3 of this condition.	
LReS <sub>t</sub>	means the restructuring costs authorised in accordance with Article 7(4) of Commission Implementing Regulation (EU) No.391/2013. For all years t =2015, 2016, 2017, 2018, 2019, ReS <sub>t</sub> = 0	
LTRS <sub>t</sub>	means the Traffic Risk Sharing element from previous years calculated in accordance with Paragraph 4 of this condition.	

LCSM <sub>t</sub>	means the carry-overs from the previous reference period resulting from the implementation of the cost sharing mechanism referred to in Article 14 of Commission Implementing Regulation (EU) No.391/2013; For all years t =2015, 2016, 2017, 2018, 2019 $LCSM_t = 0$	
LFI <sub>t</sub>	means the Financial Incentives relating to performance. For all years t =2015, 2016, 2017, 2018, 2019 $LFI_t = 0$	
LMOD <sub>t</sub>	means the over-or under-recoveries that may result from the modulation of air navigation charges in application of Article 16 of Commission Implementing Regulation (EU) No391/2013. For all years t= 2015,2016,2017,2018,2019 $LMOD_t = 0$	
LTvar <sub>t</sub>	means the over-or under-recoveries resulting from traffic variations as defined in Paragraph 5.	
LPre2014 <sub>t</sub>	means the over- or under-recoveries incurred up to and including the year 2014. For Year 2016 $LPre2014_t = 0.75 \times (ML_{2014/15} - AL_{2014/15}) \times (1 + INT_{t-1})^2$ Where: ML <sub>2014/15</sub> and AL <sub>2014/15</sub> have the meanings in Condition 21a of the Air Traffic Services Licence for NATS En Route plc which was in effect on 1 January 2014. For years t = 2015, 2017, 2018, 2019, $LPre2014_t = 0$	
LVFR <sub>t</sub>	means the expected cost of services to traffic operating under Visual Flight Rules. For all years t =2015, 2016, 2017, 2018, 2019. $LVFR_t = 0$	
LDISCOUNT <sub>t</sub>	means an adjustment to the maximum charge per LTSU in year t where the Licensee at its own discretion decides to recover less than it would otherwise be allowed to recover and has declared to the CAA that it will not pursue this as under-recovery in subsequent years.	
ForecastLTSU <sub>t</sub>	means the forecast of Total London Approach Service Units for relevant year t established at the beginning of the reference period as set out as follows:	
	Year t	LTSU

	2015	884,691
	2016	905,513
	2017	921,933
	2018	940,093
	2019	958,830
Total London Approach Service Units	means the terminal service units calculated in accordance with Annex V of Commission Implementing Regulation (EC) No391/2013 as amended from time to time <i>including</i> any service units relating to military exempt flights for the aggregate of Heathrow, Gatwick, Stansted, Luton, and London City airports .	
$INT_{t-1}$	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 .	

### Inflation Assumptions

2. The forecast values of the inflation index referenced in paragraph 3 shall be as follows:

$FHICP_t$	means the reference values of the HICP (all items) index in respect of the UK for Eurocontrol Relevant Year t established prior to the control period, consistent with the projections in nominal prices (for years 2015 to 2019 the index base is 2012=100), which shall be:	
	Year t	Index
	2015	106.489
	2016	108.512
	2017	110.683
	2018	112.896
	2019	115.154

**Inflation Adjustment**

1. The adjustment of the difference between forecasted and actual inflation shall be calculated as follows:

<p>For t=2015 and t=2016  <math>LINF_t = 0</math></p> <p>For t = 2017, 2018 and 2019  <math display="block">LINF_t = LDC_{t-2} \left( \frac{HICP_{t-2}}{FHICP_{t-2}} - 1 \right)</math></p> <p>Where <math>HICP_{t-2}</math> is calculated as follows:</p>	
Year t-2	Calculation
2015	$HICP_{2015} = 102.60 \times (1 + Inflation_{2014}) \times (1 + Inflation_{2015})$
2016	$HICP_{2016} = 102.60 \times (1 + Inflation_{2014}) \times (1 + Inflation_{2015}) \times (1 + Inflation_{2016})$
2017	$HICP_{2017} = 102.60 \times (1 + Inflation_{2014}) \times (1 + Inflation_{2015}) \times (1 + Inflation_{2016}) \times (1 + Inflation_{2017})$
Where:	
Inflation <sub>t</sub>	means the annual Inflation rate produced by Eurostat in the Harmonised Index of Consumer Prices in respect of calendar year t as published by Eurostat in April of year t+1 (the published rate of inflation is rounded to one significant place of decimals).

**Traffic Risk Sharing**

3. The Traffic Risk Sharing (  $TRS_t$  ) term shall be calculated as follows:

<p>For t = 2015 ,2016  <math>LTRS_t = 0</math></p> <p>For t = 2017,2018,2019  <math>LTRS_t = (LDC_{t-2} \times LRSF_{t-2})</math></p>	
Where:	$LDC_{t-2}$ has the meaning in Paragraph 1 of this condition.
And	$LRSF_{t-2}$ means the risk sharing factor relating to Relevant year t-2 based on the actual number of Total London Approach Service Units which shall be calculated as follows:
Where:	$0.98 \leq \frac{ActualLTSU_{t-2}}{ForecastLTSU_{t-2}} \leq 1.02$ $LRSF_{t-2} = 0$

	Where:	$1.02 < \frac{\text{ActualLTSU}_{t-2}}{\text{ForecastLTSU}_{t-2}} \leq 1.10$ $\text{LRSF}_{t-2} = -0.7 \left[ \frac{\text{ActualLTSU}_{t-2}}{\text{ForecastLTSU}_{t-2}} - 1.02 \right]$
	Where:	$0.90 \leq \frac{\text{ActualLTSU}_{t-2}}{\text{ForecastLTSU}_{t-2}} < 0.98$ $\text{LRSF}_{t-2} = -0.7 \left[ \frac{\text{ActualLTSU}_{t-2}}{\text{ForecastLTSU}_{t-2}} - 0.98 \right]$
	Where:	$\frac{\text{ActualLTSU}_{t-2}}{\text{ForecastLTSU}_{t-2}} < 0.90$ $\text{LRSF}_{t-2} = - \left[ \frac{\text{ActualLTSU}_{t-2}}{\text{ForecastLTSU}_{t-2}} - 0.90 \right] + 0.056$
	Where	$\frac{\text{ActualLTSU}_{t-2}}{\text{ForecastLTSU}_{t-2}} > 1.10$ $\text{LRSF}_{t-2} = - \left[ \frac{\text{ActualLTSU}_{t-2}}{\text{ForecastLTSU}_{t-2}} - 1.10 \right] - 0.056$
Where:	ActualLTSU <sub>t-2</sub>	means the actual level of Total London Approach Service Units for relevant year t-2 published by Eurocontrol for the aggregate of Heathrow, Gatwick, Stansted, Luton, and London City airports.

**Correction of LINF and LTRS Adjustments for Subsequent Traffic Variations (LTVar)**

4. The LTVar component shall be calculated as follows:

LTVar <sub>t</sub>	<p>is an adjustment to allow for variations between actual and forecast LTSUs in the year that a correction originally takes place.</p> $\text{LTVar}_t = (\text{LINF}_{t-2} + \text{LTRS}_{t-2} + \text{LPre2014}_{t-2} + \text{LTVar}_{t-2}) \times \left( 1 - \frac{\text{Actual LTSU}_{t-2}}{\text{Forecast LTSU}_{t-2}} \right)$
--------------------	---