

Economic regulation of NATS (En Route) plc: Consultation on licence modifications and guidance

CAP 1967

A large, abstract blue graphic that occupies the bottom two-thirds of the page. It features a gradient from a light sky blue on the left to a darker, almost navy blue on the right. The shape is roughly a large triangle with a curved bottom edge, pointing downwards.

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About this document

This consultation relates to the price controls for NATS (En Route) plc's (NERL's) regulated activities under its air traffic services licence for the period 2020 to 2022. It follows on from our August 2019 RP3 price control decisions, the subsequent reference to the Competition and Markets Authority (CMA) and the CMA's final report on NERL's price control arrangements. The consultation is pursuant to the statutory requirements, under the Transport Act 2000 (the Act), to consult on licence modifications before implementation.

The document encompasses:

- having regard to the CMA's final report, the modifications to the licence conditions that we think are needed to remedy or prevent the adverse effects specified in the final report;
- our proposal to introduce a new condition to NERL's licence establishing processes and procedures to coordinate airspace modernisation (Condition 10a – Airspace modernisation);
- some minor licence modifications to improve the clarity of certain obligations created by the licence; and
- a consultation on guidance relating to NERL's capital expenditure incentives.

Views invited

We welcome representations on the licence modifications and guidance set out in this document to economicregulation@caa.co.uk by 21 October 2020.

We expect to publish the representations on our website for other interested parties to read after the period for written representations expires. Any material that is regarded as confidential should be clearly marked as such and provided in a separate appendix.

Please note that we have powers and duties with respect to information under Section 102 of the Act and the Freedom of Information Act 2000.

If you have any questions on this document please contact Rod Gander at rod.gander@caa.co.uk.

Summary and introduction

In autumn 2019, NERL rejected the CAA's proposals for new RP3 price controls and these matters were referred to the Competition and Markets Authority (CMA) to determine.

The significant impact on global aviation of the Covid-19 pandemic became apparent in spring 2020, but after the CMA had conducted its substantive analysis on the RP3 reference. Following its provisional findings, the CMA conducted a further consultation on what approach it should adopt to reflect the impact of Covid-19. The CAA, NERL and some other stakeholders proposed that the CMA could not reasonably take account of the impact of Covid-19 in its final report, as there would still be material uncertainty on its impact on air traffic management for the foreseeable future, and that the CMA should proceed to final report on the basis of its pre-Covid-19 provisional findings. The CAA also committed to conduct a further review of NERL's price controls when better information about the impact of Covid-19 was available.

The CMA made its final report to the CAA in July 2020, which was substantively based on its provisional findings. To reflect the ongoing uncertainty in relation to the impact of Covid-19, the CMA determination covered only the period 2020 to 2022 inclusive, rather than the full five-years of RP3. It also envisaged that the CAA would bring forward new price controls sooner if suitable information becomes available.

Under the Transport Act 2000, the CAA must propose and consult on the licence modifications it considers necessary to remedy or prevent the adverse effects specified in the CMA report, and also have regard to the modifications specified by the CMA. The CMA report is clear on the adverse effects and has specified the modifications it considers necessary to remedy those effects – and these modifications are dealt with in this consultation.

The CMA also set out its views on the necessary accompanying guidance for capital expenditure incentives. We are therefore also consulting on guidance consistent with the CMA report.

Through the development of our RP3 programme of work we have been clear that NERL, as the licensed monopoly provider of air traffic services, should have a key role in supporting the development and implementation of airspace modernisation in the UK. While the context has changed as a result of Covid-19, there remain benefits from an appropriately scoped strategy and programme. Therefore, in addition to the modifications referred to in the CMA report, we are also consulting on a new licence condition in respect of airspace modernisation, which places an obligation on NERL to set-up and manage an Airspace Change Organising Group (ACOG) and develop an airspace change masterplan in support of the UK Airspace Modernisation Strategy.

This consultation also covers a number of minor changes to NERL's licence designed to improve the clarity of certain of the obligations on NERL created by the licence.

Introduction

1. NATS (En Route) plc (NERL) is the monopoly provider of en route and certain approach air traffic services (ATS) in the UK. NERL is currently subject to economic regulation of its en route services both under the European Union Single European Sky (EU SES) performance scheme, and the Transport Act 2000 (the Act) and licence conditions. We are required by the performance scheme regulation to set targets and incentives for NERL with regard to four key performance areas – safety, capacity, environment and cost efficiency – over five-year reference periods. The targets and incentives are part of the UK Performance Plan for RP3.¹ NERL's licence also includes a five-year price control for its charges for air traffic services for flights through airspace over parts of the Atlantic Ocean (Oceanic service).
2. The current Reference Period (RP3) started on 1 January 2020 and will end on 31 December 2024. On 29 August 2019 we published our price control decisions for NERL in the UK Performance Plan and Oceanic charges for RP3.² These decisions (our “RP3 decision”) were rejected by NERL³ and on 19 November 2019 we referred the matter to the Competition and Markets Authority (CMA) under section 12 (s.12) of the Act for resolution.⁴
3. On 23 July 2020 the CMA sent us its final report on the reference.⁵ The CMA determined that appropriate modifications to NERL's licence were required to enable us to exercise regulatory control over NERL in RP3 so that NERL was constrained in setting higher prices than necessary. The CMA considered that the outcomes the licence modifications should achieve are to:

¹ In the event that the UK leaves the EU without an agreement it is proposed that the provisions in The Air Traffic Management (Amendment etc.) Regulations 2019 would revoke the EU SES Implementing Regulations and so our economic regulation of NERL would be based solely on the provisions in the Transport Act 2000 and the CAA's licencing scheme.

² [CAP 1830 – 'UK RP3 CAA Decision Document' \(August 2019\)](#)

³ [NATS \(En route\) Plc/CAA Regulatory Appeal – Final Report \(August 2020\)](#) – paragraph 2.65, page 30

⁴ [NATS En route Limited \(NERL\) Price Determination case page on CMA website](#)

⁵ [NATS En-route PLC/CAA Regulatory Appeal – Final report \(August 2020\)](#)

- allow an appropriate remuneration of NERL's investments, properly reflecting the risks to which investors are exposed;
- provide NERL with financial resources to achieve airspace modernisation while maintaining reasonable pressure to continue to deliver operational efficiencies;
- provide appropriate incentives to protect the quality of service to airspace users;
- strengthen NERL's accountability for carrying out its investment plans by putting in place appropriate incentive arrangements and encouraging NERL to develop new and improved governance arrangements; and
- provide for technological enhancements in the Oceanic service necessary to create safety benefits.

4. In particular, the CMA determined that NERL's licence should be modified to implement:

- new price controls for NERL's Eurocontrol, London Approach and Oceanic services. The Oceanic price control allows NERL to recover the costs of using newly-introduced satellite surveillance data. The price controls were for three years from 2020 to 2022;
- an enhanced role for the Independent Reviewer (IR) of NERL's capital expenditure (capex);
- quarterly updates on NERL's Service and Investment Plans (SIPs);
- a new capex efficiency incentive, with reference to a Regulatory Policy Statement (RPS) on its operation; and
- a new capex engagement incentive, with reference to CAA guidance on its operation.⁶

⁶ The CMA set out the licence modifications it expected us to make in appendix F of its final report.

Licence modifications

5. Having regard to the CMA's final report, the modifications to the licence conditions that we think are needed to remedy or prevent the adverse effects specified in the final report, and on which we are inviting representations, are:
 - Condition 10 – Business Plans, Service and Investment Plans and Periodic Reports. This Condition sets out capex governance requirements on NERL
 - Condition 21 – Control of Eurocontrol Service Charges
 - Condition 21a – Control of London Approach Charges
 - Condition 22 – Oceanic Charges
6. We are also inviting representations on:
 - a proposal to introduce a new condition to NERL's licence establishing processes and procedures to coordinate airspace modernisation (Condition 10a – Airspace modernisation); and
 - some minor licence modifications to improve the clarity of certain obligations created by the licence.

Guidance

7. In its final report, the CMA said that it was appropriate to set out our approach to the capex efficiency incentive and capex engagement incentive in a regulatory policy statement and guidance, respectively. Furthermore, the CMA noted that these should be available alongside Condition 10 when it is consulted on. While not subject to the statutory provisions of the Act, through this consultation we are seeking stakeholder views to assist with the process of finalising:
 - the draft RPS for the capex efficiency incentive; and
 - the capex engagement incentive draft guidance.

Legal framework

8. The statutory requirements and processes for modifying NERL's licence are set out in the Act. The requirements and processes are different for those conditions that were within the scope of the CMA's reference and those that were not.

Licence modifications following a reference to the CMA – implementation of CMA determination

9. Under s.14(2) of the Act, following receipt of the CMA's final report, we must suggest such modifications of the licence conditions as we think are needed to remedy or prevent the adverse effects specified in the final report. Under s.14(3) and (4) of the Act, before making the suggested modifications, we must have regard to the modifications specified in the final report and publish a notice setting out our suggested modifications, stating their effect and the reasons for proposing them, and stating a period of not less than 28 days within which representations may be made regarding the suggested modifications. This document constitutes such a notice (the "s.14(4) notice").
10. Following this consultation, under s.14(5) of the Act we are required to give notice to the CMA (the "s.14(5) notice") setting out our suggested modifications to implement its determination and the reasons for the suggestions. We must also send the CMA any representations made in response to the s.14(4) notice.
11. Under s.15(2) of the Act the CMA may direct us not to make any or certain of the suggested modifications notified to the CMA in the s.14(5) notice, but it may do so only if it thinks the modifications set out in our notice are not modifications which are needed to remedy or prevent the adverse effects specified in the CMA's final report. If the CMA does not direct us, we must make the modifications set out in the s.14(5) notice.
12. If the CMA directs us not to make some of the suggested modifications, we will not make any such modifications, but we must make those modifications to which the CMA's direction does not apply.
13. If the CMA directs us not to make any or certain of the suggested modifications, the CMA shall, under s.16(4) of the Act, publish a notice inviting representations on such modifications it thinks are needed to remedy or prevent the adverse effects specified in its final report. The CMA must, taking account of any representations it receives, then make such modifications to the licence conditions as it thinks are needed to remedy or prevent such adverse effects as are specified in its final report and, where the CMA has directed us not to make certain of the suggested modifications, which would not be remedied or

prevented by the modifications we proposed and to which the CMA's direction does not apply.

Other licence modifications – airspace modernisation and modifications to improve clarity

14. Under s.11(1) of the Act we may modify the conditions of a licence if its holder consents to the modifications. NERL has agreed to the modification proposed to introduce Condition 10a (in the form attached to this document at appendix B) and to the minor changes summarised in chapter 3.
15. Under s.11(2) and (3) of the Act, before making modifications to a licence the CAA must publish a notice setting out the proposed modifications, their effect and the reasons for the proposal. The CAA must also state the period (of not less than 28 days) within which representations may be made regarding the proposed modifications. This document constitutes such a notice. Detail of the modifications, their effects and the reasons supporting the modifications are set out in chapters 2, 3 and appendices B and C.

NERL 2020 charges

16. NERL's allowed charges to users for 2020 were set according to our RP3 decision. The CMA's final report and determination decided on a higher level of allowed costs, and therefore higher charges. As part of the work we intend to do in 2021 we will consider how best to allow for any revenue corrections for 2020 and 2021, given the extraordinary impact of Covid-19 on the aviation sector. For the avoidance of doubt in conducting this assessment our assumption on the charges that NERL would have been entitled to recover will be the assumptions set out in the CMA's final report.
17. We note that we have said in our submissions to the CMA that, guided by our statutory duties, we will review NERL's 2020 actuals and latest forecast 2021 costs and that the review process will include consideration of what revenue correction, if any, should be applied for those years.⁷

⁷ www.caa.co.uk/cap1910A (paragraphs A24 to A26).

Views invited and next steps

Views invited

18. We invite representations on the suggested modifications to implement the CMA determination, the proposal to introduce a new Condition 10a, the minor modifications to improve clarity, draft RPS and draft guidance to economicregulation@caa.co.uk by 21 October 2020.
19. We expect to publish the representations on our website for other interested parties to read after the period for written representations expires. Any material that is regarded as confidential should be clearly marked as such and included in a separate annex. Please note that we have powers and duties with respect to information under Section 102 of the Act and the Freedom of Information Act 2000.
20. If you have any questions on this document please contact Rod Gander at rod.gander@caa.co.uk.

Licence modifications following a reference to the CMA

21. As mentioned in paragraph 9, we will consider any representations received in accordance with this consultation and we will then make the suggested modifications, except in any cases where the CMA directs us not to make any modifications.
22. If the CMA directs us not to make any of the suggested modifications, the CMA shall publish a notice under s.16(4), inviting representations on any such modifications it proposes to make instead.

Other licence modifications

23. We will consider any representations about our proposed new Condition 10a and minor modifications to improve clarity, before deciding whether to introduce the new condition to NERL's licence or make the minor modifications.

Draft RPS and draft guidance

24. While outside of the formal statutory consultation process for licence modifications, we will consider any representations on the draft RPS and draft guidance before issuing the final RPS and final guidance. In considering the representations we will be mindful that in its final report, the CMA said both the RPS and guidance should be substantially consistent with the draft RPS and draft guidance we submitted in response to its provisional findings, other than to reflect the changes specified by the CMA on the draft guidance (or where changes are appropriate to address any issues that have not already been considered as part of the CMA's assessment).

Structure of this document

25. The structure of this consultation document is as follows:
- chapter 1 summarises the licence modifications required to implement the CMA's final report and determination;
 - chapter 2 summarises the new Condition relating to airspace modernisation requirements;
 - chapter 3 summarises some minor licence modifications to improve clarity;
 - chapter 4 summarises our guidance in relation to capex incentives;
 - appendix A sets out the revised licence conditions relating to the CMA's final report and determination;
 - appendix B sets out the new licence condition and accompanying guidance in respect of airspace modernisation;
 - appendix C sets out the minor licence modifications to improve clarity;
 - appendix D sets out our regulatory policy statement on the application of the demonstrably inefficient and/or wasteful capex incentive;
 - appendix E sets out our guidance on the application of the capex engagement incentive; and

- appendix F reproduces Condition 21 of the NERL licence as at 1 January 2019. Paragraphs 7 and 18 of the revised Condition 21 in appendix A refer to the Condition 21 of the Licence in effect on 1 January 2019 – this is reproduced for ease of reference.

Chapter 1

Licence modifications to implement the CMA's determination

- 1.1 The modifications we consider are needed to remedy or prevent the adverse effects specified in the CMA's final report are set out below. The effects of these modifications, which implement the CMA's determination, will be to achieve the outcomes set out in paragraph 3 of this document. Full versions of the modified conditions are in appendix A.

Condition 10 – Business plans, service and investment plans and periodic reports

Additional requirements to implement CMA determination

- 4(c) – Requiring NERL to send us and users quarterly updates on its service and investment plan in April and October each year.⁸
- 7 – Subjecting NERL to a financial incentive in respect of its capex efficiency. The incentive shall be based on whether any NERL's capex has been demonstrably inefficient and/or wasteful. The assessment shall be carried out following criteria in an RPS we produce. Any penalty shall be applied in the following regulatory period.
- 8 – Subjecting NERL to a financial incentive in respect of the quality of its engagement on its capex programme. The incentive shall be based on the following assessment criteria:
 - timeliness;
 - user-focus;
 - proportionality;

⁸ We propose to reorder the paragraphs in Condition 10 to make it easier to read. The paragraph numbers in this chapter refer to the numbers in the suggested new Conditions.

- optioneering;
- responsiveness; and
- mitigating/corrective actions.

The penalty shall be related to NERL's return on equity on its actual capex in the reference period.

The process we shall use to assess NERL's performance against the incentive shall be set out in guidance we publish.

- 9 – The IR's role shall be expanded to include:
 - assessing whether NERL has sufficiently explained and justified its capex in its SIPs;
 - assessing and proposing scores for NERL's engagement with users against the criteria in the engagement incentive and published guidance;
 - tracking and assessing NERL's progress in delivering its capex programme and achieving the associated benefits; and
 - reporting on the cost efficiency of NERL's capex and its implementation.

Other proposed modifications to Condition 10

- With NERL's consent we are also proposing to put back by one month the dates in paragraph 4 by which NERL has to submit SIPs and interim SIPs to 31 January and 31 July respectively. This is so that the dates relate more closely to NERL's planning and reporting processes.
- With NERL's consent we are also proposing to delete outdated requirements for NERL to produce detailed and outline technology programmes, detailed airspace programme and an outline of options for implementing lower level airspace changes in London terminal and related airspace redesign area as these relate specifically to RP2. However, we still expect NERL to provide, and report progress on, in its SIPs, a sufficiently detailed capex baseline covering its airspace and technology programmes during RP3;

Condition 21 – Control of Eurocontrol service charges

Changes to implement CMA determination⁹

- 1 - Changing the price control formula to take account of the CMA's determination. This includes adding determined costs, carry-overs from RP2 resulting from the implementation of the cost sharing mechanism and forecast total service units for 2020, 2021 and 2022.
- 2 – Adding inflation reference values for HICP for 2020, 2021 and 2022.
- 3 – Changing the inflation adjustment to apply to 2020, 2021 and 2022.
- 4 and 5 – Changing the formulae to apply to 2020, 2021 and 2022.
- 6 – Adding the C1 target values for 2020, 2021 and 2022.
- 7 – Changing the financial incentive calculations to apply to 2020, 2021 and 2022.
- 8 – Addition of C2 target values for 2020, 2021 and 2022.
- 9 – Addition of C3 target values for 2020, 2021 and 2022.
- 11 – Changing the definition of thresholds at which C3 bonuses and penalties become payable so they refer to 2020, 2021 and 2022.
- 13 and 15– Adding the total number of exemption days to 60 in 2020, 2021 and 2022.¹⁰
- 16 – Changing the flight efficiency incentive calculations so they refer to 2020, 2021 and 2022.

Other proposed modifications to Condition 21

- 1 – adding terms to return Innovation and Networks Executive Agency (INEA) funding and any unspent portion of the FAS Facilitation Fund to users;

⁹ Although the changes will provide the legal basis for NERL's charges in 2020 to be based on the CMA's determination, NERL's charges were set according to our RP3 decision. This means that NERL's charges are lower than they would be if set according to the CMA decision. The difference will be taken into account in our next price control review, as stated in paragraph 16.

¹⁰ In our RP3 decision we decided there should be 100 exemption days over the five year period. That is 20 days per year. The CMA agreed with our number of exemption days. As the CMA set a price control for three years, we are suggesting reducing the number of exemption days pro rata to 60 days over the three years.

- 15 – updating the list of exemptions from C3 and C4 capacity incentives;
- 16 – adding references to the updated flight efficiency metric calculation and annual review protocol.

Condition 21a – Control of London Approach charges

- 1 - Changing the London Approach charge control to take account of the CMA's determination. This includes adding determined costs and forecast total London Approach service units for 2020, 2021 2022, and adding an other revenues term that includes revenues collected from Biggin Hill.
- 2 – Adding inflation reference values for HICP for 2020, 2021 and 2022.
- 3 – Changing the inflation adjustment to apply to 2020, 2021 and 2022.
- 4 – Changing the formulae to apply to 2020, 2021 and 2022.
- 5 – Adding other revenues term.

Condition 22 – Oceanic charges

- 1 – Adding an explanation that the Oceanic charging area comprises two areas, Atlantic and Tango, with different charges, and that a flight will only incur one charge;
- 2 – Adding Atlantic and Tango charge formulae to implement the CMA's determination. The charges comprise of a base charge and a satellite data (ADS-B) charge, with adjustments for differences between forecast and actual inflation and traffic levels. The Tango, but not the Atlantic, ADS-B charge includes an adjustment related to differences between actual and forecast traffic in the Tango area.
- 3 – Adding HICP inflation forecasts for 2020, 2021 and 2022.
- 4 – Adding calculation of inflation adjustment term.
- 5 – Adding calculation of traffic adjustment term.
- 6 – Adding definition of Tango flight.
- 7 – Adding definition of Atlantic flight.
- 8 – Adding requirement for NERL to certify that it is operating a fully ADS-B based service to 99% of flights in the Oceanic area;

- 9 – Adding requirement for NERL to commission an independent review of whether the benefits of providing ADS-B service outweigh the costs of providing the service no later than two years and six months after certifying it is providing a full ADS-B service.

Chapter 2

New Condition 10a: Airspace modernisation

2.1 A key strategic consideration in our RP3 decision was to enable NERL to support the implementation of the UK's Airspace Modernisation Strategy (AMS),¹¹ which is intended to deliver a once in a generation upgrade to modernise critical national infrastructure and deliver a broad range of benefits to consumers, the aviation industry and local communities. We and the Department for Transport (DfT) co-sponsor airspace modernisation through setting the overall strategy and governance for the programme. More details on the AMS are in our RP3 Decision document¹² and on our website.¹³

2.2 NERL's roles in supporting the AMS include:

- to begin to develop a coordinated implementation plan for airspace changes (an airspace change masterplan) in the south of the UK; and
- to create a coordination group (the Airspace Change Organising Group (ACOG)).

In our RP3 decision we included a draft licence condition to underpin these requirements through NERL's licence.

2.3 While the context for airspace modernisation has changed as a result of Covid-19, we consider there remain benefits from an appropriately scoped strategy and programme and have retained the licence obligations. The draft licence condition (Condition 10a) sets out our expectations of NERL, to help it to understand what we and the DfT expect, and to clarify how it is accountable for delivery. The draft condition will require NERL to establish, maintain and manage ACOG, and create and maintain an airspace masterplan, in line with requirements or guidance provided by the co-sponsors and taking into account the expertise of

¹¹ [CAP 1711 UK Airspace Strategy \(December 2018\)](#)

¹² [UK RP3 Decision document, paragraphs 1.4-1.13 \(August 2019\)](#)

¹³ <https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-Modernisation-Strategy/About-the-strategy/>

airport operators and views of stakeholders. It will also require NERL to prepare and submit changes to airspace design and airspace change proposals (ACPs) we instruct, and, where necessary, to assist other stakeholders with preparing and submitting ACPs.

Modifications

2.4 In our RP3 decision we proposed the following provisions in a draft of Condition 10a:

- 1 – NERL to establish, maintain and manage ACOG;
- 2 – NERL to create and maintain UK airspace change masterplan;
- 3 – Masterplan must be consistent with Airspace Modernisation Strategy, meet criteria set by CAA and DfT, comply with any requirements or guidance from DfT or CAA, and take into consideration views of stakeholders;
- 4 – masterplan to be assessed and accepted by CAA in consultation with DfT;
- 5 – NERL to make changes to masterplan as reasonably proposed by CAA;
- 6 – NERL to update masterplan as reasonably requested by CAA;
- 7 – NERL to prepare and submit to CAA ACPs related to the airspace for which it provides en-route air traffic control services;
- 8 – NERL to prepare and submit to CAA any proposal to change airspace design when instructed by the CAA;
- 9 – NERL may provide support to ACPs proposed by other bodies with agreement of CAA;
- 10 – NERL to assist sponsors with preparation and submission of airspace changes in the masterplan. NERL to keep CAA and DfT informed on progress of preparation and submission of ACPs in the masterplan;
- 11 – NERL to report to CAA progress against the masterplan by 1 November in each year and on request; and
- 12 – NERL to be responsible for other activities under the masterplan it is required to take under other legislation.

2.5 The impact of Covid-19 on traffic levels has reduced the urgency of the need for airspace modernisation, but has not removed the requirement to re-model airspace to provide the capacity to handle increase traffic levels expected in the long-term, and to provide more efficient routes and environmental improvement. This has led to some changes in the proposed Condition 10a from the draft version in our RP3 decision. These changes are:

- 2 - removing the requirement for NERL to submit the first phase of the masterplan by June 2020. This is because the sponsors of the airspace changes paused their work meaning that NERL could not coordinate the production of a masterplan by this deadline, furthermore this date is already past;
- 3b – for clarification “criteria” has been qualified as “criteria for a masterplan”; and
- 3c – the requirement for the masterplan to comply with the requirements of Airspace Masterplan iteration one (Southern UK) co-sponsor assessment guidance has been removed as this assessment document was never approved for publication and ACOG’s work has shifted the masterplan in a new direction, rendering feedback on earlier drafts less relevant.

2.6 The effects of introducing the new Condition 10a will be to set out NERL’s roles and responsibilities in supporting AMS in a formal and transparent manner.

2.7 The delay to airspace modernisation has also led to some changes in our guidance to NERL. The changes have been agreed with NERL. A full version of the proposed Condition 10a and accompanying guidance to NERL are in appendix B.

Chapter 3

Minor licence modifications to improve clarity

- 3.1 As we are modifying NERL's licence to implement the CMA's final report and introduce Condition 10a, we intend to take the opportunity to make some other minor modifications to improve clarity (in particular on the target level of gearing and the definition of finance leases as summarised below). Other changes (dealt with in appendix C) focus on correcting typos and updating references.

Target level of gearing

- 3.2 Currently, Condition 5(26)(b)(ii) requires NERL to explain any difference between expected average gearing at 31 March each year and the 'target' gearing level of 60%. However, we do not set a target gearing level for NERL, as we consider that its gearing level is a matter for it to decide, as long as it does not exceed the gearing cap level of 65%. The gearing cap was introduced to NERL's licence in December 2010 to enable it to maintain sufficient financial robustness to enable delivery of its regulatory obligations. Therefore, we intend to amend the description of 60% gearing from the 'target' level to the more neutral 'monitoring threshold' level of gearing to avoid giving the impression that we consider that NERL should be trying to achieve a gearing level of 60%.

Definition of finance leases

- 3.3 We also intend to add a definition of finance leases to Condition 5(29) to clarify their treatment in the calculation of NERL's gearing in the licence. The definition clarifies that finance lease costs that are treated as operating rather than capital costs for the purpose of setting NERL's price controls are not included in the net debt used to calculate gearing. This is the same approach that NERL uses to calculate gearing in its regulatory accounts but different from the approach used in its statutory accounts.

Chapter 4

Capex efficiency RPS and engagement incentive guidance

Introduction

4.1 In its provisional findings, the CMA found that NERL's capex should be subject to two financial incentives. An efficiency incentive that would formalise our approach to the assessment at each price control review of whether any capex should be disallowed from NERL's regulatory asset base (RAB), and a new incentive based on the quality of NERL's engagement with its users on its capex programme.

RPS *ex post* efficiency assessment of NERL's capex

4.2 On the efficiency incentive, the CMA considered that the lack of any published policy on how we would apply the incentive did not provide NERL with sufficient safeguards with respect to its application. The CMA considered that a licence condition that appropriately constrained the circumstances under which it would be reasonable for us to find that capex should be disallowed from NERL's RAB following an *ex post* efficiency review could help to address these concerns. It considered that the Demonstrably Inefficient and/or Wasteful Expenditure (DIWE) test similar to the arrangements for Northern Ireland electricity would be an appropriate test for NERL. The CMA also invited us to develop a policy statement on these matters to increase the transparency and certainty associated with the licence condition. In response, we produced a draft regulatory policy statement (RPS) taking into account the CMA's provisional findings, along with other regulatory precedent, to set out the principles and procedure we would expect to follow in determining whether any of NERL's capex should not be included in the RAB at the next price control review.

- 4.3 In its final report, the CMA welcomed our draft RPS and considered it sufficiently specified the basis upon which we would expect to apply a disallowance of capex, following an *ex post* efficiency review.¹⁴
- 4.4 We have made minor amendments to the draft RPS, so that it is a standalone document, but have not changed how we intend to assess whether any of NERL's capex is demonstrably inefficient and/or wasteful. The draft RPS is in appendix D.

Guidance on NERL capex engagement incentive

- 4.5 In its provisional findings, the CMA invited both us and NERL to submit a proposed design for a capex engagement incentive building on the CMA's initial specification, including:
- how performance should be defined; and
 - how financial penalties would be calculated.
- 4.6 We then produced draft guidance taking into account the CMA's provisional findings, along with other regulatory precedent, to set out the principles and procedure we would expect to follow in operating a financial incentive on NERL's engagement on its capex programme.
- 4.7 In its final report on the reference, the CMA said we should produce guidance that would be substantially consistent with our draft guidance, subject to us amending it to take account of the CMA's conclusions on:¹⁵
- us publishing the IR's assessment of NERL's scores against the assessment criteria;
 - removing the scope for a penalty uplift;
 - revising downwards the score at which the maximum penalty would be reached; and

¹⁴ [NATS \(En route\) Plc/CAA Regulatory Appeal – Final Report \(August 2020\)](#) – paragraph 9.137(c), pages 135-136

¹⁵ [NATS \(En route\) Plc/CAA Regulatory Appeal – Final Report \(August 2020\)](#) – paragraph 9.137(f)(g), pages 136-137

- limiting any adjustments to the guidance within RP3 to minor adjustments unless they were part of a wider review of the price control and licence.

4.8 We have made these changes and the revised draft guidance is in appendix E.

Non-statutory process

4.9 In accordance with the CMA's final report, the draft RPS for the efficiency incentive and the draft guidance for the capex efficiency incentive are referenced in the draft licence conditions. However, as both the RPS and guidance will be detailed working documents, the CMA considered that they should not be part of the licence. This means that the RPS and guidance are not subject to the statutory process required to make licence modifications. Nonetheless, we provide them here to assist stakeholders in understanding the associated licence modifications and invite views, as part of a non-statutory process, to assist with the finalising the guidance.

APPENDIX A**Modified Conditions to implement CMA final report**

Condition 10: Business Plans, Service and Investment Plans and Periodic Reports

1. The Licensee shall prepare a full business plan fulfilling the requirements of paragraph 3 of this Condition. The business plan must be consistent with any overall business plan of the Licensee but, provided that it fulfils the requirements of paragraph 3, for the avoidance of doubt need not constitute the entirety of any such overall business plan.

2. Business plans prepared under paragraph 1 shall be submitted to the CAA not less than twelve months before each Plan Renewal Date or at a later date agreed with the CAA, and shall relate to the period beginning on that Plan Renewal Date (or the period until expiry of the Licence whichever is the shorter period). Later business plans shall always supersede any earlier business plan in respect of a period which is covered by both. Business plans shall also comply with the relevant requirements for a business plan set out in Commission Implementing Regulation (EU) 2017/373 (and as amended by the Air Traffic Management (Amendment etc)(EU Exit) Regulations 2020 when the Air Traffic Management (Amendment etc)(EU Exit) Regulations 2020 come into force on IP completion day (as defined in section 39(1) of the European Union (Withdrawal Agreement) Act 2020)) and any relevant legislation and/or guidance issued by the Secretary of State arising out of or in connection with the withdrawal of the UK from the European Union.

3. The purpose of each business plan shall be to describe in detail the Licensee's plans and expectations for each of the En route Businesses and London Approach Service including its capital expenditure and operational plans, together with measures which it proposes to take to improve the efficiency and effectiveness of its operation in providing the services required by this Licence. Business plans shall include such information as is reasonably necessary to achieve this including, but not limited to, details concerning the following:
 - (a) the demands, in terms of the volumes of flights, which the Licensee forecasts that it will be required to serve in meeting its general obligation under Condition

2 together with the principal factors which it expects to determine those demands;

- (b) the standards of service that the Licensee plans to meet in serving the demands in sub-paragraph (a), including the expected levels of and variations in delays to the flights in respect of which services are provided, and other appropriate measures;
- (c) the capacities which the Licensee plans to provide in order to meet the demands in sub-paragraph (a) at the standards of service in sub-paragraph (b);
- (d) any underlying assumptions regarding airspace;
- (e) the likely level of and developments in any constraints on the volume of services which the Licensee may provide in each of the Licensed Areas and any proposed changes thereto;
- (f) the Licensee's capital expenditure plans and how these will contribute to the provision of the planned outputs;
- (g) the Licensee's plans with respect to operating and human resources and practices, operating expenditure and how these will contribute to the provision of the planned outputs; and
- (h) forecasts of the Licensee's financial results in terms of a regulatory income statement with associated cash flow statements and the effects on the regulatory asset base projection.

4. Every year the Licensee shall submit:

- (a) not later than 31 January in each year, a service and investment plan fulfilling the requirements of paragraph 5 of this Condition;

- (b) not later than 31 July in each year, an interim service and investment plan fulfilling the requirements of paragraph 5 of this Condition;
 - (c) not later than 30 April and 31 October in each year, an update to the service and investment plan; and
 - (d) with effect from 1 January 2020, not later than seven months after the end of the regulatory year, a business plan report fulfilling the requirements of paragraph 6 of this Condition which shall relate to the previous regulatory year.
5. Each service and investment plan and interim service and investment plan shall provide an update of:
- (a) the Licensee's investment plans, including its technology and airspace programmes;
 - (b) the Licensee's delivery of the investment plans, as measured against the capital expenditure programme milestones set out in the Licensee's business plan and as amended to be consistent with the price controls in Conditions 21, 21a and 22;
 - (c) material changes in the Licensee's expectations as to the level and quality of the services it will provide, the means by which the services will be provided, and the likely implications for charges to Users beyond the expiry of the period for which charges are for the time being set pursuant to the Charge Control Conditions. Service and investment plans shall include such information as is reasonably necessary to achieve this including, but not limited to, material changes in the Licensee's expectations as to its operating practices and resources.
6. Each business plan report shall provide a description of progress achieved in relation to the business plan and the latest service and investment plan or interim service and investment plan, reconciling actual performance against these plans. Each business

plan report shall also include information on the performance of the Licensee against its obligations in Condition 2(1)(a) of this Licence.

7. The Licensee shall be subject to a financial incentive in respect of the efficiency of its capital expenditure programme. The financial incentive shall be based on whether the Licensee has incurred any demonstrably inefficient and/or wasteful capital expenditure and shall be carried out following the criteria set out in a Regulatory Policy Statement produced by the CAA. Any penalty shall be calculated using the principles set out in the Regulatory Policy Statement and will be applied in the next reference period.
8. The Licensee shall be subject to a financial incentive in respect of the quality of its engagement on its capital expenditure programme. The incentive shall be based on the following assessment criteria:
 - (a) the timeliness of information the Licensee provides to Users, including the provision of early warning and explanation of factors that may put planned delivery timelines at risk;
 - (b) the information and mechanism of delivery is focused on the priorities and resource constraints of Users so that it is clear and accessible;
 - (c) the proportionality of the information to the materiality of change under consideration;
 - (d) the range of reasonable options that the Licensee engages on with Users that might be adopted where practical and opportunities provided for engagement and scrutiny of those options;
 - (e) the Licensee's responsiveness to User and Independent Reviewer submissions including the clear explanation of how it has considered and taken account of those submissions; and
 - (f) whether the Licensee has taken the appropriate mitigation and corrective actions in the light of User and Independent Reviewer submissions.

The maximum value of any penalty with respect of the quality NERL's engagement on its capital expenditure programme in a reference period shall be limited to the Licensee's return on equity on its actual capital expenditure in the reference period and shall be applied in the next reference period.

The process that the CAA shall use to assess the Licensee's performance against the engagement incentive and determine the level of penalty (if any) to be applied shall be set out in a guidance document published by the CAA.

9. The CAA may appoint an Independent Reviewer to report on the Licensee's delivery of and engagement on its capital expenditure programme. The reports shall:
 - a) review the timeliness and accuracy of the Licensee's reporting in its service and investment plans;
 - b) assess whether the Licensee has sufficiently explained and justified its capital expenditure programme in its service and investment plans;
 - c) assess and propose scores for the Licensee's engagement with Users against the assessment criteria referred in paragraph 8 and the CAA's published guidance;
 - d) track and assess the Licensee's progress on delivering its capital expenditure programme and achieving the associated benefits; and
 - e) report on the cost efficiency of the Licensee's capital expenditure and its implementation.

The CAA may publish the reviews, assessments and reports of the Independent Reviewer. Unless the CAA directs otherwise, the Independent Reviewer will be paid for by the Licensee.

10. The form, scope and level of detail of the Licensee's plans referred to in this Condition shall be as reasonably approved by the CAA and shall take into account the views of Users consulted in accordance with Condition 16.
11. Subject to paragraph 12, the Licensee shall make available a copy of the latest business plan, business plan report, service and investment plan and interim service and investment plan to any person who requests a copy of such plan or report.
12. The Licensee may with the prior consent of the CAA (provided that such consent is not unreasonably withheld or delayed) omit from any document made available under

paragraph 11 any details as to the terms of any agreement between the Licensee and any User, or other information disclosure of which the Licensee satisfies the CAA, or the CAA otherwise considers, would seriously and prejudicially affect the commercial interests of the Licensee or any third party.

13. The Licensee may make a charge for any copy document given or sent pursuant to paragraph 11 of an amount reflecting the Licensee's reasonable costs of providing such copy document.

14. In this Condition:

“Plan Renewal Date”

means 1 January 2015 and every fifth anniversary thereof.

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 2020, 2021 and 2022, the maximum Permitted Average Charge Per Service Unit shall be calculated as follows:

Maximum Charge_t =

$$\frac{DC_t + INF_t + ReS_t + TRS_t + CSM_t + FI_t + MOD_t + Tvar_t - VFR_t - INEA_t - FAS_t}{ForecastTSU_t}$$

DISCOUNT_t

Where:

Maximum Charge _t	means the Maximum Permitted Average Charge Per Service Unit in Eurocontrol Relevant Year t.	
DC _t	means the determined costs, expressed in nominal terms for relevant year t.	
	Year t	(£)
	2018	589,585,024
	2019	579,006,611
	2020	689,955,378
	2021	674,270,832
2022	688,739,423	
INF _t	means the adjustment of the difference between forecasted and actual inflation in relevant year t calculated in accordance with Paragraph 3 of this condition.	
INEA _t	means any assistance provided by the Innovation and Networks Executive Agency (INEA) or other similar public funding in relevant year t, where funding is to be returned to users via a specific unit rate reduction as calculated and agreed with the CAA.	
FAS _t	means any unspent portion of the FAS Facilitation Fund in relevant year t, where funding is to be returned to users via a specific unit rate reduction as calculated and agreed with the CAA.	
ReS _t	means the restructuring costs in relevant year t authorised in accordance with Article 2(18) of Commission Implementing	

	Regulation (EU) No 2019/317. For all years $t = 2020, 2021, \text{ and } 2022$ $ReS_t = 0$	
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	(£)
	2020	1,590,664
	2021	7,943,638
	2022	8,029,814
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 32 of Commission Implementing Regulation (EU) No 2019/317.	
$Tvar_t$	means the over-or under-recoveries resulting from traffic variations as defined in Paragraph 5 of this condition.	
VFR_t	means the expected cost of services to traffic operating under Visual Flight Rules in relevant year t. For all years $t = 2020, 2021 \text{ and } 2022$, $VFR_t = 0$	
$DISCOUNT_t$	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.	
$ForecastTSU_t$	means the forecast of Total Service Units for relevant year t established at the beginning of the reference period as follows:	
	Year t	TSU
	2018	10,758,000
	2019	10,940,000

	2020	12,647,945
	2021	12,891,000
	2022	13,183,000
Total Service Units (TSUs)	means the route service units calculated in accordance with Article 25 and Annex VIII of Commission Implementing Regulation (EC) 2019/317 as amended from time to time <i>including</i> the service units relating to military exempt flights.	

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 (the index base is 2012=100 up to 2019 and 2017=100 thereafter), which shall be:		
	Year t	Index (base 2012=100)	Index (base 2017=100)
	2018	112.90	
	2019	115.15	
	2020		106.44
	2021		108.57
	2022		110.74

Inflation Adjustment

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

For t = 2020, 2021, and 2022,	
$INF_t = DC_{t-2} \left(\frac{HICP_{t-2}}{FHICP_{t-2}} - 1 \right)$	
Where $HICP_{t-2}$ is calculated as follows:	
Year t-2	Calculation
2018	110.4
2019	$HICP_{2019} = 110.4 \times (1 + Inflation_{2019})$
2020	$HICP_{2020} = 102.5 \times (1 + Inflation_{2019}) \times (1 + Inflation_{2020})$
2021	$HICP_{2021} = 102.5 \times (1 + Inflation_{2019}) \times (1 + Inflation_{2020}) \times (1 + Inflation_{2021})$
2022	$HICP_{2022} = 102.5 \times (1 + Inflation_{2019}) \times (1 + Inflation_{2020}) \times (1 + Inflation_{2021}) \times (1 + Inflation_{2022})$
Where:	
$Inflation_t$	means the annual average 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 27 of Commission Implementing Regulation (EU) 2019/317 sets out the basis of traffic risk sharing.

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

For t = 2020, 2021 and 2022		
$TRS_t = RSF_{t-2} \times DC_{t-2}$		
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:	$0.98 \leq \frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} \leq 1.02$ $RSF_{t-2} = 0$

	Where:	$1.02 \leq \frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} \leq 1.10$ $RSF_{t-2} = -0.7 \left[\frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} - 1.02 \right]$
	Where:	$0.90 \leq \frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} \leq 0.98$ $RSF_{t-2} = -0.7 \left[\frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} - 0.98 \right]$
	Where:	$\frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} < 0.90$ $RSF_{t-2} = - \left[\frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} - 0.90 \right] + 0.056$
	Where:	$\frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} > 1.10$ $RSF_{t-2} = - \left[\frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} - 1.10 \right] - 0.056$
Where:	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> <p>For t = 2020,2021 and 2022</p> $TVar_t = (INF_{t-2} + TRS_{t-2} + CSM_{t-2} + INEA_{t-2} + FAS_{t-2} + FI_{t-2} + TVar_{t-2}) \times \left(1 - \frac{ActualTSU_{t-2}}{ForecastTSU_{t-2}} \right)$
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Calculation of Capacity Target (C1)

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

$C1_t$	means the average minutes of en route air traffic flow management (ATFM) delay in relevant year t. Where: $C1_t = \frac{EnRouteDelay_t}{Flights_t}$	
$EnRouteDelay_t$	means the en route ATFM flight delay from all causes which has been attributed by Eurocontrol to the UK in relevant year t.	
$Flights_t$	means the STATFOR determined count of all IFR flights for the UK for year t. For the avoidance of doubt these include flights which depart or arrive at airports in the UK or which overfly the UK FIR	
$C1Target_t$	means the target set in the performance plan which have the following values:	
	Year t	$C1Target_t$
	2020	0.26
	2021	0.32
	2022	0.32

Calculation of financial incentives (FI)

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

For FI_{2020} and FI_{2021}	FI_{2020} and FI_{2021} 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 2019.	
For FI_{2022} , FI_{2023} and FI_{2024}	$FI_t = FC2_{t-2} + FC3_{t-2} + FC4_{t-2} + F3DI_{t-2}$	
Where:	$FC2_{t-2}$	means the financial incentive for the C2 measure of the Licensee's 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:			
	Regulation Cause	NM Code	Regulation Location	
	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 2020, 2021 and 2022 (relating to penalties or bonuses in 2022, 2023 and 2024 respectively).

$FC2_{t-2}$	<p>If $C2_{t-2} > 1.15 \times C2ParValue_{t-2}$ (where $1.15 \times C2ParValue_{t-2}$ is rounded to 2 significant figures.)</p> $FC_{t-2} = - \text{MIN} \left[\left(\frac{C2_{t-2} / C2Target_{t-2} - 1.15}{0.4} \right) \times (0.0025 \times REV_{t-2}), (0.0025 \times REV_{t-2}) \right]$
	<p>If $C2_{t-2} < 0.85 \times C2ParValue_{t-2}$ (where $0.85 \times C2ParValue_{t-2}$ is rounded to 2 significant figures.)</p>

	$FC_{t-2} = + MIN \left[\left(\frac{0.85 - C2_{t-2} / C2Target_{t-2}}{0.4} \right) \times (0.0005 \times REV_{t-2}), (0.0005 \times REV_{t-2}) \right]$
	Otherwise $FC_{t-2} = 0$
$C2_{t-2}$	<p>means the average minutes of en route ATFM delay in relevant year t.</p> $C2_{t-2} = \frac{\text{Licensee Attributable En Route ATFM Delay}_{t-2}}{FLT_{t-2}}$ <p>Where: Licensee Attributable En Route ATFM Delay_{t-2} has the meaning in Paragraph 7 of this condition; and FLT_{t-2} has the meaning in Paragraph 7 of this Condition.</p>
$C2ParValue_{t-2}$	<p>means the par values for C2 which have the following values in the relevant years:</p> <p>t-2 = 2020 $C2ParValue_{t-2} = 0.20$</p> <p>t-2 = 2021 and 2022 $C2ParValue_{t-2} = 0.25$</p>
REV_{t-2}	<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: $REV_{t-2} = \text{Maximum Charge}_{t-2} \times \text{ActualTSU}_{t-2}$ Where Maximum Charge_{t-2} and ActualTSU_{t-2} 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 $FC3_{t-2}$ shall be calculated in accordance with the following formulae where Eurocontrol relevant years t-2 are 2020, 2021 and 2022 (relating to penalties or bonuses in 2022, 2023 and 2024 respectively).

$FC3_{t-2}$	If $C3_{t-2} > C3Upper_{t-2}$
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	$FC3_{t-2} = -MIN [(C3PenRate_{t-2} (C3_{t-2} - C3Upper_{t-2}) FLT_{t-2}), 0.0075 \times REV_{t-2}]$
	If $C3_{t-2} < C3Lower_{t-2}$ $FC3_{t-2} = +MIN [(C3BonusRate_{t-2} (C3Lower_{t-2} - C3_{t-2}) FLT_{t-2}), 0.0025 \times REV_{t-2}]$
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: $C3PenRate_{t-2} = \text{£}0.076 \times \frac{HICP_{t-2}}{100}$
$C3BonusRate_{t-2}$	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) $C3BonusRate_{t-2} = \text{£}0.038 \times \frac{HICP_{t-2}}{100}$
$C3Upper_{t-2}$	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 ≥ 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	means flights in relevant year t-2 with an off-block

	(p=2)	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-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:		
		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

Definition of Thresholds at which Bonuses or Penalties for C3_{t-2} become payable

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

Where	$LFT_{t-2} \leq FLT_{t-2} \leq UFT_{t-2}$									
		$C3Uppert-2 = jt$ $C3Lowert-2 = kt$								
where	$LFT_{t-2} > FLT_{t-2}$									
		$C3Uppert-2 = jt \left(1 + \frac{5(FLT_{t-2} - LFT_{t-2})}{LFT_{t-2}} \right)$								
		$C3Lowert-2 = kt \left(1 + \frac{5(FLT_{t-2} - LFT_{t-2})}{LFT_{t-2}} \right)$								
Where	<p>j_t and k_t are factors for each year based on C2 values (as defined in Paragraph 8) x60x2 for Upper Threshold (j_t) and j_t x2/3 for Lower Threshold.</p> <p>If t=2020, $j_t=24$ and $k_t=16$ If t=2021 or 2022, $j_t=30$ and $k_t=20$</p>									
where	$FLT_{t-2} > UFT_{t-2}$									
		$C3Uppert-2 = jt \left(1 + \frac{5(FLT_{t-2} - UFT_{t-2})}{UFT_{t-2}} \right)$								
		$C3Lowert-2 = kt \left(1 + \frac{5(FLT_{t-2} - UFT_{t-2})}{UFT_{t-2}} \right)$								
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}	$UFT_{t-2} = 1.04 \times FFlight_{t-2}$									
$FFlight_{t-2}$	<p>means the forecast of flights for relevant year t established at the beginning of the reference period as set out as follows:</p> <table border="1"> <thead> <tr> <th>t-2</th> <th>$FFlight_{t-2}$</th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>2,649,000</td> </tr> <tr> <td>2021</td> <td>2,686,000</td> </tr> <tr> <td>2022</td> <td>2,737,000</td> </tr> </tbody> </table>		t-2	$FFlight_{t-2}$	2020	2,649,000	2021	2,686,000	2022	2,737,000
t-2	$FFlight_{t-2}$									
2020	2,649,000									
2021	2,686,000									
2022	2,737,000									

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:	$C4_{t-2} \geq 1800$	
		$FC4_{t-2} = -MIN[C4PenRate_{t-2} \times (C4_{t-2} - 1800) \times FLT_{t-2}, 0.0025 \times REV_{t-2}]$
Where:	$C4_{t-2} < 1800$	
		$FC4_{t-2} = 0$
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:
		$C4PenRate_{t-2} = 0.00167094 \times \frac{HICP_{t-2}}{100}$

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 flights reported to the CAA by the Central Route Charges

		Office.
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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 the Licensee 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	has the following meaning: $C3_d = \frac{\sum w_{p,b}d_{p,b}}{DailyFlights_d}$ for all flights in day d Where: $\sum w_{p,b}d_{p,b}$ has the meaning in Paragraph 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 new systems or airspace changes are being implemented and transitioned into the operation;
 - Users have been notified and consulted in advance over the timing of such exemptions under currently existing consultation mechanisms (e.g. the Service and Investment Plan (SIP)) or targeted consultation;
 - The total number of days falling into such periods designated by the Licensee shall not exceed 60 in aggregate for the period of the three Eurocontrol relevant years 2020 to 2022 inclusive, considered as a whole;
 - The length of any given transition period should be limited to three weeks (unless otherwise agreed with users) and will be agreed in advance as well as the amount of days from the overall cap that the Licensee wishes to use towards this transition;
 - The number of days agreed during the consultation will be fixed (unless subsequently revised with the agreement of users) but the particular exempt days within the agreed transition period would not need to be specified as part of the consultation;
 - The Licensee will carry out the transition by means of the detailed steps and timing that are most operationally practical. The Licensee will nominate the exempt days ex-post (up to the pre-agreed maximum) for the transitional period;
 - If at the end of the transition period the Licensee does not use the pre-agreed amount of exempt days, these will still count against the overall 60 day cap (i.e. the Licensee cannot roll over unused exclusions).

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 2020, 2021 and 2022 (relating to penalties or bonuses in 2022 and 2023 and 2024 respectively):

$3DI_{t-2}$	means the average 3Di score for all flights for year t-2 as calculated by NERL in accordance with the flight efficiency metric calculation and annual review protocol. ¹⁶													
Where:	$3DI_{t-2} > 3DIUpper_{t-2}$													
	Then	$F3DI_{t-2} = -MIN [3DIPenRate_{t-2} (3DI_{t-2} - 3DIUpper_{t-2}), REV_{t-2} \times 0.005]$												
Where:	$3DI_{t-2} < 3DILower_{t-2}$													
	Then	$F3DI_{t-2} = MIN [3DIBonusRate_{t-2} (3DILower_{t-2} - 3DI_{t-2}), REV_{t-2} \times 0.005]$												
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" style="margin-left: 20px;"> <thead> <tr> <th>t-2</th> <th>$3DILower_{t-2}$</th> <th>$3DIUpper_{t-2}$</th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>26.4</td> <td>29.2</td> </tr> <tr> <td>2021</td> <td>26.2</td> <td>28.9</td> </tr> <tr> <td>2022</td> <td>25.9</td> <td>28.6</td> </tr> </tbody> </table>	t-2	$3DILower_{t-2}$	$3DIUpper_{t-2}$	2020	26.4	29.2	2021	26.2	28.9	2022	25.9	28.6
t-2	$3DILower_{t-2}$	$3DIUpper_{t-2}$												
2020	26.4	29.2												
2021	26.2	28.9												
2022	25.9	28.6												
	$3DIPenRate_{t-2}$	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" style="margin-left: 20px;"> <thead> <tr> <th>t-2</th> <th>$3DIBonusRate_{t-2}$</th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>$(0.005 \times REV_{2020}) / 5.6$</td> </tr> <tr> <td>2021</td> <td>$(0.005 \times REV_{2020}) / 5.5$</td> </tr> </tbody> </table>	t-2	$3DIBonusRate_{t-2}$	2020	$(0.005 \times REV_{2020}) / 5.6$	2021	$(0.005 \times REV_{2020}) / 5.5$						
t-2	$3DIBonusRate_{t-2}$													
2020	$(0.005 \times REV_{2020}) / 5.6$													
2021	$(0.005 \times REV_{2020}) / 5.5$													

¹⁶ CAA (January 2015) “Flight efficiency metric calculation and annual review protocol” available [online](#). Note that the protocol will be updated for RP3 – a draft version of the updated protocol is published on the CAA website.

		2022	$(0.005 \times REV_{2020}) / 5.5$
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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
18. Financial Incentives Carried Forward From RP2

In respect of charges in year 2020		
$FI_{2020} = FC2_{2018} + FC3_{2018} + FC4_{2018} + F3DI_{2018}$		
In respect of charges in year 2021		
$FI_{2021} = FC2_{2019} + FC3_{2019} + FC4_{2019} + F3DI_{2019}$		
Where:		
FC2 ₂₀₁₈	FC2 ₂₀₁₉	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 2019.
FC3 ₂₀₁₈	FC3 ₂₀₁₉	
FC4 ₂₀₁₈	FC4 ₂₀₁₉	
F3DI ₂₀₁₈	F3DI ₂₀₁₉	

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 2020, 2021 and 2022, the maximum Permitted Average Charge Per London Approach Service Unit shall be calculated as follows:

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

Where:

Maximum Charge _t	means the Maximum Permitted Average Charge Per London Approach Service Unit in Relevant Year t.	
LDC _t	Means the determined costs, expressed in nominal terms for relevant year t.	
	Year t	(£)
	2020	13,554,700
	2021	13,505,263
	2022	14,448,079
LINF _t	means the adjustment of the difference between forecasted and actual inflation calculated in accordance with Paragraph 3 of this condition.	
LReS _t	means the restructuring costs authorised in accordance with Article 2(18) of Commission Implementing Regulation (EU) No 2019/317. For all years t =2020, 2021, 2022, ReS _t = 0	
LTRS _t	means the Traffic Risk Sharing element from previous years calculated in accordance with Paragraph 4 of this condition.	
LOR _t	Means Other revenues, including revenues collected from Biggin Hill, as agreed with the CAA, to be returned to airspace users and reflected within the Central Route Charges Table 2. Note – LOR is a negative number as the revenues are returned to airspace users.	
LCSM _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) No391/2013; For all years t =2020, 2021, 2022,	

	LCSM _t = 0	
LFI _t	means the Financial Incentives relating to performance. For all years t =2020, 2021, 2022 LFI _t = 0	
LMOD _t	means the over-or under-recoveries that may result from the modulation of air navigation charges in accordance with Article 32 of Commission Implementing Regulation (EU) No 2019/317. For all years t= 2020,2021,2022 LMOD _t = 0	
LTvar _t	means the over-or under-recoveries resulting from traffic variations as defined in Paragraph 5.	
LVFR _t	means the expected cost of services to traffic operating under Visual Flight Rules. For all years t =2020, 2021, 2022, LVFR _t = 0	
LDISCOUNT _t	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 _t	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
	2018	940,093
	2019	958,830
	2020	1,005,900
	2021	1,015,600
	2022	1,041,800
Total London Approach Service Units	means the terminal service units calculated in accordance with Article 25 and Annex VIII of Commission Implementing Regulation (EU) 2019/317 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.	

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 (the index base is 2012=100 up to 2019 and 2017=100 thereafter), which shall be:		
	Year t	Index (base 2012 = 100)	Index (base 2017 = 100)
	2018	112.90	
	2019	115.15	
	2020		106.44
	2021		108.57
	2022		110.74

Inflation Adjustment

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

For t = 2020, 2021 and 2022	
$INF_t = LDC_{t-2} \left(\frac{HICP_{t-2}}{FHICP_{t-2}} - 1 \right)$	
Where $HICP_{t-2}$ is calculated as follows:	
Year t-2	Calculation
2018	110.4
2019	$HICP_{2019} = 110.4 \times (1 + Inflation_{2019})$
2020	$HICP_{2020} = 102.5 \times (1 + Inflation_{2019}) \times (1 + Inflation_{2020})$
2021	$HICP_{2021} = 102.5 \times (1 + Inflation_{2019}) \times (1 + Inflation_{2020}) \times (1 + Inflation_{2021})$
2022	$HICP_{2022} = 102.5 \times (1 + Inflation_{2019}) \times (1 + Inflation_{2020}) \times (1 + Inflation_{2021}) \times (1 + Inflation_{2022})$
Where:	
$Inflation_t$	means the annual average 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).
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Traffic Risk Sharing

4. The Traffic Risk Sharing (LTRS_t) term shall be calculated as follows:

For t = 2020, 2021 and 2022 $LTRS_t = (LDC_{t-2} \times LRSF_{t-2})$		
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:	$1.02 \leq \frac{ActualLTSU_{t-2}}{ForecastLTSU_{t-2}} \leq 1.10$ $LRSF_{t-2} = -0.7 \left[\frac{ActualLTSU_{t-2}}{ForecastLTSU_{t-2}} - 1.02 \right]$
	Where:	$0.90 \leq \frac{ActualLTSU_{t-2}}{ForecastLTSU_{t-2}} \leq 0.98$ $LRSF_{t-2} = -0.7 \left[\frac{ActualLTSU_{t-2}}{ForecastLTSU_{t-2}} - 0.98 \right]$
	Where:	$\frac{ActualLTSU_{t-2}}{ForecastLTSU_{t-2}} < 0.90$ $LRSF_{t-2} = - \left[\frac{ActualLTSU_{t-2}}{ForecastLTSU_{t-2}} - 0.90 \right] + 0.056$
	Where	$\frac{ActualLTSU_{t-2}}{ForecastLTSU_{t-2}} > 1.10$ $LRSF_{t-2} = - \left[\frac{ActualLTSU_{t-2}}{ForecastLTSU_{t-2}} - 1.10 \right] - 0.056$
Where:	$ActualLTSU_{t-2}$	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)

5. The LTVar component shall be calculated as follows:

LTVar _t	<p>is an adjustment to allow for variations between actual and forecast LTSUs in the year that a correction originally takes place.</p> $LTVar_t = (LINF_{t-2} + LTRS_{t-2} + LOR_{t-2} + LTVar_{t-2}) \times \left(1 - \frac{Actual\ LTSU_{t-2}}{Forecast\ LTSU_{t-2}}\right)$
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Condition 22: Oceanic Charges

1. The Oceanic charging zone comprises two areas, 'Atlantic' and 'Tango'. Flights will either incur an Atlantic or Tango area charge. If a flight is solely in the Tango area it will only incur a Tango charge, otherwise it will incur an Atlantic charge.
2. Without prejudice to Condition 25 (Suspension and Modification of Charge Control Conditions) the Licensee shall use its best endeavours to ensure that in each Oceanic Relevant Year beginning on 1 January 2020, 2021 and, 2022:

The Average Charge Per Atlantic Flight shall not exceed the Maximum Permitted Average Charge Per Atlantic Flight calculated in accordance with the following formula:

$$A_t = U_t + ADA_t + AINF_t + ATVAR_t$$

The Average Charge Per Tango Flight shall not exceed the Maximum Permitted Average Charge Per Tango Flight calculated in accordance with the following formula

$$T_t = U_t + ADT_t + TINF_t + TDTRS_t + TTVAR_t$$

where:

A_t	means the Maximum Permitted Average Charge Per Atlantic Flight in Oceanic Relevant Year t.	
T_t	means the Maximum Permitted Average Charge Per Tango Flight in Oceanic Relevant Year t.	
U_t	is a base charge per Oceanic Flight in Oceanic Relevant Year t, expressed in nominal terms:	
	Relevant Year t	U_t
	2020	56.56
	2021	55.21
	2022	55.26
ADA_t	<p>means the price charged per Atlantic Flight for the use of the ADS-B service, expressed in nominal prices.</p> <p>When the ADS-B service is not fully available for Atlantic flights $ADA_t=0$</p> <p>When the ADS-B service is fully available:</p>	

	Relevant Year t	ADA _t
	2020	33.30
	2021	33.97
	2022	34.65
AINF _t	means the adjustment to the ADS-B North Atlantic charges to account for the difference between forecast and actual inflation in relevant year t calculated in accordance with Paragraph 4 of this condition.	
ATVAR _t	means the adjustment to account for the difference between forecast and actual number of North Atlantic flights in the relevant year t calculated in accordance with Paragraph 5 of this condition. For 2020 and 2021 ATVAR _t = 0	
ADT _t	means the price charged per Tango Flight for the use of the ADS-B service, expressed in nominal prices. When the ADS-B service is not fully available for Tango flights ADT _t =0 When the ADS-B service is fully available:	
	Year t	ADT _t
	2020	5.15
	2021	5.08
	2022	5.02
TINF _t	means the adjustment to the ADS-B Tango charges to account for the difference between forecast and actual inflation in relevant year t calculated in accordance with Paragraph 4 of this condition.	
TDTRS _t	Means the adjustment to account for the difference between forecast and actual Tango data charge. For 2020 and 2021 TDTRS _t = 0 For 2022 $TDTRS_t = ADT_{t-2} \times \left(1 - \frac{\text{Actual Tango Flights}_{t-2}}{\text{Forecast Tango Flights}_{t-2}}\right)$	

TTVAR _t	means the adjustment to account for the difference between forecast and actual number of Tango flights in the relevant year t calculated in accordance with Paragraph 5 of this condition. For 2020 and 2021 TTVAR _t = 0	
Forecast Tango Flights _t	means the forecast of Tango Flights for relevant year t established at the beginning of the reference period as follows:	
	2020	31,000
	2021	32,000
Forecast Atlantic Flights _t	2020	497,000
	2021	507,000
	2022	519,000

Inflation assumptions

3. The Oceanic base charge (U_t) and ADS-B North Atlantic (ADA_t) and Tango (ADT_t) charges are set above in *nominal* prices, and therefore include the CAA's assumed forecast of CPI inflation.

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 (the index base is 2017=100), which shall be:	
	Year t	Index
	2020	106.4
	2021	108.6
	2022	110.7

Inflation Adjustment

4. The adjustment for the difference between forecast and actual inflation shall be calculated as follows:

For t = 2020, 2021 and 2022:

$$AINF_t = (U_{t-2} + ADA_{t-2}) \times \left(\frac{HICP_{t-2}}{FHICP_{t-2}} - 1 \right)$$

and	
$TINF_t = (U_{t-2} + ADT_{t-2}) \times \left(\frac{HICP_{t-2}}{FHICP_{t-2}} - 1 \right)$	
Where $HICP_{t-2}$ is calculated as follows:	
Year t-2	Calculation
2018	102.5
2019	$HICP_{2019} = 102.5 \times (1 + Inflation_{2019})$
2020	$HICP_{2020} = 102.5 \times (1 + Inflation_{2019}) \times (1 + Inflation_{2020})$
2021	$HICP_{2021} = 102.5 \times (1 + Inflation_{2019}) \times (1 + Inflation_{2020}) \times (1 + Inflation_{2021})$
2022	$HICP_{2022} = 102.5 \times (1 + Inflation_{2019}) \times (1 + Inflation_{2020}) \times (1 + Inflation_{2021}) \times (1 + Inflation_{2022})$
Where:	
$Inflation_t$	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).

5. Traffic adjustments

TVar Adjustments

These are adjustments to allow for variations between actual and forecast number of flights in the year that a correction originally takes place." For 2020 and 2021 both terms as defined below will equal 0.

For 2022

$$ATVAR_t = (((AINF_{t-2} + ATVar_{t-2}) \times \text{Forecast Atlantic Flights}_{t-2})$$

$$\times \left(1 - \frac{\text{Actual Atlantic Flights } t-2}{\text{Forecast Atlantic Flights } t-2} \right))$$

$$/ \text{Forecast Atlantic Flights}_t$$

and

$$TTVAR_t = (((TINF_{t-2} + TTVAR_{t-2}) \times \text{Forecast Tango Flights}_{t-2})$$

$$\times \left(1 - \frac{\text{Actual Tango Flights } t-2}{\text{Forecast Tango Flights } t-2} \right))$$

$$/ \text{Forecast Tango Flights}_t$$

Other licence conditions

6. Tango flight means a flight only operating along the length of ATS routes T9 and T290, as defined and promulgated within the UK AIP, within a defined volume of airspace bounded by coordinates 4500N01000W - 4500N00845W - 4834N00845W - 4841N01000W – 4500N01000W and not elsewhere in the En route (Oceanic) Area.
7. Atlantic flight means any flight in the En route (Oceanic) Area that is not a Tango flight.
8. The ADS-B service is fully available when the Licensee's Board has certified that it is operating a fully ADS-B based service in the En route (Oceanic) Area and 99% of flights, that have the correct and functioning equipment, regulatory approval and plan to use it, crossing the En route (Oceanic) Area are being provided with an ADS-B enabled service for the whole time the flights are within the En route (Oceanic) Area. At all other times the ADS-B service is unavailable. The certificate may say that the ADS-B service is fully available for both Atlantic flights and Tango flights; or is fully available for Atlantic flights but not for Tango flights; or the ADS-B service is fully available for Tango flights but not for Atlantic flights.
9. By no later than two years and six months after the licensee has certified it is operating a fully ADS-B based service in the En route (Oceanic) Area, or at a later date agreed with the CAA, the Licensee shall commission an independent review of whether the benefits of providing a fully ADS-B based service outweigh the costs of providing the service.

APPENDIX B**New 'Condition 10a – Airspace modernisation**

Condition 10a: Airspace modernisation

1. The Licensee must maintain an Airspace Change Organising Group (ACOG). ACOG shall be a unit within the Licensee, separate and impartial from the Licensee's other functional units set up for the purpose of carrying out the functions set out in paragraphs 2, 3, 5 and 10 below. ACOG will be subject to oversight from a Steering Committee to assist with its impartiality and engagement of relevant stakeholders relevant to the delivery of this function. The Licensee shall appoint the Head of ACOG and the Chair of the Steering Committee following consultation with the CAA and DfT. The Steering Committee will include at least one representative from the Licensee, airlines, airports, the general aviation community and independent members with appropriate experience. The Licensee remains accountable for the outputs of ACOG.,
2. The Licensee must create and maintain a single coordinated implementation plan for airspace changes in the UK for the period to 2040 ("airspace change masterplan" or "the masterplan").
3. The masterplan must:
 - a. be consistent with the delivery of airspace modernisation as described in the Airspace Modernisation Strategy (CAP 1711 or any successor publication) published by the CAA in accordance with Direction 3(e) of the Civil Aviation Authority (Air Navigation) Directions 2017 (the "Airspace Modernisation Strategy");
 - b. meet the criteria for a Masterplan set out in paragraph 6 of the Department for Transport ("DfT") and CAA's joint letter to the licensee of 2 November 2018 (see Annex B);
 - c. comply with any requirements or guidance associated with the requirements set out in paragraphs 3a to 3b above, as provided by the Secretary of State

- or CAA as co-sponsors of the Airspace Modernisation Strategy, including on the content or the methods by which the masterplan is to be produced;
- d. take into consideration the information provided by and expertise of the airport operators and other ANSPs in the relevant part of the managed area; and
 - e. take into consideration the views of the entities listed as representatives of a stakeholder group, or as a conduit to them, identified in the Airspace Modernisation governance annex to the Airspace Modernisation Strategy.
4. The masterplan shall be subject to assessment in accordance with the criteria set out in paragraphs 3 a to e above and any further guidance issued by the CAA and subsequent acceptance by the CAA, who shall consult with the Secretary of State in making such assessment.
 5. The Licensee shall make any changes to the masterplan as are reasonably proposed by the CAA in order to comply with and meet the objectives of the Airspace Modernisation Strategy.
 6. The Licensee shall prepare and submit to the CAA the airspace change proposals related to the airspace in which the Licensee provides UK en route air traffic control services. Such requirement may be identified in the masterplan or other work undertaken by the Licensee pursuant to its activities under this licence.
 7. Subject to coordination with relevant stakeholders and the agreement of the CAA, the Licensee may provide support to airspace change proposals proposed by other bodies where other bodies are designated as responsible for such airspace change proposals in the masterplan.
 8. The Licensee shall encourage such sponsors to follow the coordinated programme plan in the masterplan including, where appropriate, providing advice and coordination to sponsors on the implementation of the airspace changes identified in the masterplan.
 9. The Licensee shall periodically update the masterplan as reasonably requested by the CAA and the Licensee shall provide a report to the CAA and the DfT on progress against the masterplan and related activities on 1 November each year and at any time it is requested to do so by the CAA.

10. The Licensee shall be responsible for other activities identified in the Airspace Modernisation Strategy which the Licensee is required to undertake pursuant to legislation.

Guidance note: NERL Licence Condition 10a – Airspace modernisation

Introduction

1. The purpose of this note is to provide guidance on the CAA's expectations for how NATS (En Route) Plc – referred to as NERL – works with and uses the Airspace Change Organising Group (ACOG) in delivering condition 10a of the NERL Licence and how it will be assessed as to whether it has met the requirements of this condition.
2. This note does not override the obligations of the Licence but is intended to provide some additional information about the CAA's approach to assessment of performance against it. In summary, the CAA recognises and will note when considering compliance with this Licence condition that NERL does not have absolute control over all the stakeholders and all the issues that are required to deliver the requirements set out in condition 10a. The CAA has asked NERL to establish an ACOG to assist with the delivery of NERL's requirements in this Licence condition and to effect some impartial governance through the establishment of the ACOG Steering Committee. Nevertheless, NERL is well placed to substantially (positively or negatively) both influence the other stakeholders and mitigate the impacts of any issues that arise. The CAA therefore expects NERL to use its reasonable endeavours to deliver the requirements of condition 10a of the Licence.
3. While, in the CAA's view, NERL continues to do so it will not reach a conclusion that NERL has breached this Licence condition.

NERL's relationship with its ACOG team

4. Airspace Modernisation is a complex programme that involves many stakeholders and a series of separate, but in some cases interdependent, airspace changes. All parties recognised some time ago that a high level of coordination was required between geographically adjacent airspace changes in the South and the North of the UK and that while NERL had many of the skills and experience to carry out this coordination, given the wide number of stakeholders and the complexity of the relationships between each other, some impartial coordination would be of value. For this reason and purpose, NERL was asked to establish and maintain ACOG. Moreover, the Department for Transport (DfT) and the CAA recognised that a masterplan was required to identify potential conflicts between individual airspace change requests and, subsequently, NERL was asked to produce and maintain a UK masterplan,

engaging with relevant stakeholders in order to do so. NERL started work on the masterplan, and since its creation in late 2019, the ACOG team within NERL has been leading the development of this masterplan.

5. ACOG is a unit within the Licensee, separate and acting impartially. This impartiality is in part achieved through a Steering Committee set up by NERL to provide external challenge and support to the work of ACOG. This is particularly important given the wide range of stakeholders that need to be involved in the airspace masterplan process. The Licensee appoints and employs the Head of ACOG and the Chair of the Steering Committee following consultation with the CAA and the DfT. The
6. Steering Committee will include at least one representative from the Licensee, airlines, airports, the general aviation community and independent members with appropriate experience.
7. Licence condition 10a requires NERL to establish an Airspace Change Organising Group (ACOG) to assist it with the masterplanning task. ACOG was established before the start of Reference Period 3 (RP3) with airspace user funding in 2019. For the period of RP3 (1 January 2020 to 31 December 2024), the CAA has made an additional allowance of £15m of operating costs, within NERL's determined costs, to provide resources for the masterplanning task, including the costs of running ACOG but excluding the costs of implementing individual airspace changes. The CAA expects NERL to efficiently manage this allowance to deliver the masterplan and, as with all aspects of NERL's operating costs allowance, the money allowed for the ACOG unit is part of normal incentive regulation, and it is for NERL to manage the ACOG unit to efficiently deliver its expected outputs. In the event that there is a very material change to the scope of the masterplanning task such that it includes tasks not reasonably foreseeable, NERL would be able to make an application to access the Opex Flexibility Fund (OFF) contained within the RP3 decision. Additionally, should NERL be directed under the powers in the proposed ATM and Unmanned Aircraft Bill to progress another sponsors' airspace change proposal, the CAA confirm that NERL would be able to apply to the OFF to cover the operating costs of doing so. Such applications will be determined by the governance process that applies to the OFF.
8. While under Licence condition 10a NERL has overall accountability for creating the masterplan, the CAA's current expectation is that (in order to achieve the impartiality this task demands) this will be carried out by ACOG, hence the requirement in condition 10a to establish and maintain ACOG. Condition 10a also requires NERL to use constructively the other skills and resources that NERL, including ACOG, have at its disposal to further the delivery of the development and completion of the masterplan in the interests of all stakeholders.

9. For the avoidance of doubt, noting of course their ultimate corporate responsibility as Directors for all aspects of NERL, the CAA does not expect NERL's senior leadership team to exert day to day operational control over the ACOG team.

Nature of NERL's accountability for delivery of the Licence obligation

10. There are a number of factors that the CAA will take into account in determining whether NERL is delivering the requirements of condition 10a of the Licence. Some of these factors are within NERL's direct control and some are within NERL's (positive or negative) influence. These factors include:
- The CAA has asked NERL to establish some impartial challenge to ACOG via the Steering Committee and it acknowledges that the work of ACOG will be influenced by this Steering Committee.
 - That a full masterplan can only be delivered with the coordination and positive engagement of the airports within its scope – and that NERL cannot force the coordination of those airports to happen, though the level and nature of this coordination and engagement is within its influence. The CAA expects any masterplan to report faithfully on the degree of appetite and collaboration from airports, and the extent to which completing the overall plan can/cannot be achieved without any that are reluctant or disengaged.
 - The current Government strategy for airspace modernisation and the policy framework is described in the CAA's Airspace Modernisation Strategy and is sourced from Section 70 of the Transport Act 2000, the Air Navigation Directions and Guidance, and policy publications including the Airports National Policy Statement. This framework is determined by Government and may be reviewed and revised. In the event that relevant aspects of that framework are changed, the CAA's Airspace Modernisation Strategy would change and the objectives of the masterplan and the associated criteria for its creation may also change. In those circumstances, the CAA would seek to understand the extent to which NERL's masterplan had achieved the government policies in place at the inception of their work, and the extent to which it could/could not meet the policies in place at the time of the change and work with NERL to make clear what is needed to continue to meet this Licence condition.
8. While NERL has the overall accountability for delivering the masterplan, the CAA currently expects ACOG to make the most significant contribution (within NERL) in delivering this obligation. In the event that ACOG does not deliver what is asked of it, the CAA expects NERL to work constructively with work completed to date and

relevant stakeholders to deliver the best outcome possible within the overall operating costs provisions for RP3.

9. In assessing NERL's performance in meeting the requirements of the Condition 10a of the Licence, the CAA will take all these factors into account and the extent to which NERL has used its reasonable endeavours to positively deliver them.

UK Civil Aviation Authority

September 2020

APPENDIX C

Minor licence modifications to improve clarity

Condition	Paragraph(s)	Change
5	7(b)	Formatting, delete (c) before "In the opinion..."
5	14(g) and (i)	Delete "sub-paragraph deleted" and change subsequent numbering
5	9	Delete "paragraph 9 deleted".
5	26(b)(i)	Change "2015" and "2020" with "2020" and "2024"
5	26(b)(ii)	Replace "target level of gearing" with "monitoring threshold level of gearing"
5	29 on page 39	Delete para on operating leases starting "At the time of inception"
5	29	Definition of Connected Business, replace "paragraph 30" with "in this Condition"
5	29	Definition of Finance Leases missing. Added as: "Finance Leases" means, all leases entered into by the Licencee, except those that are treated as though they were operating leases (and therefore included within operating costs) in any relevant national performance plan (or equivalent regulatory document)."
5	29	Definition of relevant asset last word change from "situate" to "situated"
6	4	Changed from 2015 to 2020 as original text was referring to RP2, not RP3: "regulatory year commencing on 1 January 202015"
20	"Reference period"	Added RP3 to the definition of "Reference Period".
23	Title	Delete "and London Approach Service" as London Approach Charges no longer covered in Condition 23 if 23(2) deleted
23	2	Paragraph deleted as the requirements in this paragraph were duplicated in Condition 24(4) - so it seemed sensible to delete one of them and retain the other.
24	1(ii), 2(ii) and 3(ii)	Change reference to paragraph 7 to paragraph 6
24	5	Deleted an erroneous 'r' in line 3 of paragraph 5.

APPENDIX D

DRAFT Regulatory Policy Statement - *ex post* efficiency assessment of NERL's capital expenditure

Introduction

1. NATS (En Route) plc (NERL) holds an economic licence issued under the Transport Act 2000 to provide en route air traffic services in the UK. On 29 August 2019, we published proposed modifications to NERL's licence for the economic regulation of NERL during the period 2020 to 2024 (RP3). The proposals included the introduction of an *ex post* efficiency assessment of NERL's capital expenditure (capex). NERL rejected our decision and on 19 November 2019 the matter was referred to the Competition and Markets Authority (CMA) for resolution.
2. In its provisional findings, the CMA agreed with the introduction of the *ex post* efficiency assessment and invited us to develop a policy statement to explain how we would judge any disallowance of capex, following the *ex post* efficiency review.
3. In response we produced a draft regulatory policy statement (RPS) taking into account the CMA's provisional findings, along with other regulatory precedent, to set out the principles and procedure we would expect to follow in determining whether any of NERL's capex should not be included in the regulatory asset base (RAB) at the next price control review.
4. On 23 July 2020, the CMA sent us its final report on the reference. The CMA welcomed our draft RPS and considered it sufficiently specified the basis upon which we would expect to apply a disallowance of capex, following an *ex post* efficiency review. The CMA did not think the level of detail in the RPS to be suitable for inclusion in NERL's licence. However, it considered that the Demonstrably Inefficient and/or Wasteful Expenditure (DIWE) test and the RPS should be referred to in the licence.
5. The purpose of this RPS is to provide guidance to NERL and other stakeholders on the principles and approach we intend to apply in deciding whether to disallow capex from NERL's RAB.
6. In developing the RPS we considered the following:
 - our statutory duties, which include a duty to have regard to NERL's financeability;

- precedent from *ex post* reviews we have carried out as the economic regulator for Heathrow airport;
 - the 'Demonstrably Inefficient and/or Wasteful Expenditure' (DIWE) model used in the economic regulation of the energy sector;
 - user support for capex projects and the evidence base for our decisions on capex efficiency in RP3, which will be enhanced by the strengthened role of the Independent Reviewer (IR); and
 - the timing of the *ex post* reviews, noting that some capex projects may span more than one regulatory period.
7. We do not consider that user support should be a prerequisite for NERL's capex. However, if NERL were to invest in projects that do not have user support and do not have net benefits to users, then such projects could be considered to be demonstrably wasteful. Nonetheless, in considering the costs and benefits of projects we would also consider the impact on NERL's own operational efficiency (which should benefit users in the longer term) and the importance of NERL efficiently and effectively complying with its statutory and regulatory obligations.

Definition

8. In order to assess the relative efficiency of given expenditure, it is important to establish a definition of what might be considered to be inefficient:¹⁷

'DIWE means [capital] expenditure which the CAA has (in a published decision giving reasons) determined to be demonstrably inefficient and/or wasteful, given the information reasonably available to NERL at the time that it made the relevant decision about that expenditure. For the avoidance of doubt, no expenditure is Demonstrably Inefficient or Wasteful Expenditure simply by virtue of a statistical or quantitative analysis that compares very aggregated measures of the NERL's costs with the costs of other companies.'

Interpretation of DIWE

9. The use of the word 'Demonstrably' serves to reverse the normal burden of proof and places the onus on the CAA to demonstrate that NERL has been inefficient in its expenditure.
10. Where NERL is requesting allowances – whether before the start of the price control period, or by way of approvals for expenditure incurred in period – it is

¹⁷ We have based our DIWE definition on that used by Northern Ireland's Utility Regulator, with minor changes to reflect its application to NERL. DIWE is defined in the licence of the SONI Transmission Systems Operator (paragraph 1.1 of Annex 1) and both NIE Networks Ltd's transmission and distribution licences (paragraph 1.1 of Annex 2). The Utility Regulator has also published '[Guidance on the interpretation and application of the Demonstrably Inefficient or Wasteful Expenditure \(DIWE\) Provision](#)'.

usually for NERL to show that the allowances that it seeks represent efficient expenditure. However, where we decide that expenditure which has already been incurred is to be disallowed as DIWE, we should be able to reasonably demonstrate that the expenditure which was incurred was inefficient and/or wasteful.

11. The starting point is, therefore, that expenditure which is potentially subject to DIWE is presumed efficient; unless and until we establish that it is not. This approach provides some mitigation to the risk that we might unduly penalise NERL for decisions made at the time, but with the benefit of hindsight turn out not to be efficient.
12. The words 'inefficient' and 'wasteful' are to be given their natural meaning.

Factors to be taken into account in the application of DIWE

13. Where we choose to consider whether certain NERL expenditure may be DIWE, we will take into account the relevant circumstances. This will include, but may not be limited to, consideration of the following factors, to the extent that they are relevant:
 - a) The extent to which NERL identified and utilised appropriate resources.
 - b) The process by which any third-party contract was procured.
 - c) The extent to which NERL was, or ought to have been, able to control the relevant expenditure, including:
 - i. whether NERL had in place appropriate processes to oversee and control its internal costs;
 - ii. whether NERL had in place appropriate contract management processes to oversee and control third-party costs;
 - iii. to what extent these processes were applied effectively.
 - d) The information that was reasonably available to NERL and/or its third-party contractors, at the time that it and/or they made any relevant decisions in relation to expenditure or the control of expenditure. This includes information relating to stakeholder views in relation to that expenditure.
 - e) The extent to which any expenditure involved an unnecessary duplication of activity on the part of NERL and/or its third-party contractors.
 - f) The extent to which any expenditure was increased by any material error or mistake on the part of NERL and/or its third-party contractors.
 - g) The extent to which any expenditure was increased by any avoidable delay on the part of NERL and/or its third-party contractors.

- h) The extent to which any expenditure was proportionate to the outputs which that expenditure was intended to, and/or did, deliver.
 - i) The extent to which those outputs were appropriate outputs to be delivered in the context of creating (direct and indirect) benefits for the users of its services or in facilitating NERL's efficient compliance with regulatory or statutory obligations.
- 14. In accordance with the definition of DIWE, we will not determine any expenditure to be DIWE solely because of a comparative financial analysis of the costs of NERL as against those of other companies. However, such an analysis may be one factor which we take into account.
- 15. Our ability to demonstrate inefficiency or wastefulness may be dependent on information from NERL that could, potentially, be withheld. To ensure that our ability to reach a view on whether NERL is investing efficiently is not frustrated by information asymmetries between us and NERL, we consider the capex engagement incentive and the role of the IR will be important in helping us make properly informed decisions on any potential capex disallowances.

The procedure

- 16. We will retain discretion to decide whether or not to undertake an assessment of whether specified expenditure is DIWE. We may (but shall not be required to) do so where information has come to our attention that expenditure incurred by NERL might be DIWE. We may do so from time to time, by way of occasional audit, in relation to a sample of expenditure, without any specific information that expenditure might be DIWE.
- 17. We will usually seek to notify NERL as soon as reasonably practicable if we decide to assess whether any expenditure is DIWE. However, we reserve the right to carry out an assessment at any time without such notice having been given.
- 18. We will follow such procedures as we consider appropriate in each case for the purpose of determining whether expenditure is DIWE. These may (without limitation) include the use of any audit, assessment or consultation in respect of the expenditure and the conduct of NERL and/or its third-party contractors in relation to it.
- 19. In considering whether expenditure is DIWE, we will have regard to all relevant information submitted by NERL, and may request further information as part of our review. We will also have regard to all relevant information available to us, including through our broader regulatory oversight of NERL, and the advice of the IR.

20. Where we identify expenditure that we consider may be DIWE, we will invite NERL and other stakeholders to make representations on these matters, and will take those representations into account before making our final determination.
21. Where we determine that any expenditure is DIWE, we will, in accordance with the definition of that term, provide NERL with reasons for our decision.
22. Where, having determined any expenditure is DIWE, we will ensure any decision to disallow the capex from NERL's RAB is consistent with our duty,¹⁸ under the Transport Act 2000, to ensure that NERL does not find it unduly difficult to finance its regulated activities.

Timing of assessment and application of any disallowance

23. We recognise that in practice not all of NERL's capex projects planned for RP2 were completed in RP2, or they are planned to be completed in RP3. Similarly, some RP3 projects will only be delivered towards the end of RP3, or during RP4. In relation to such projects, any assessment of the capex efficiency may not take place until late in RP3 or in a subsequent reporting period. The outcome of any efficiency assessment not completed in time to affect NERL's starting RAB at the beginning of a reporting period will be taken into account at the beginning of the next reporting period.
24. As well as retaining discretion to decide whether to undertake an assessment of whether specified expenditure is DIWE, we also retain discretion to decide when to undertake such an assessment. However in relation to NERL's capex projects directly impacted by the Covid 19 pandemic, we may engage with NERL and stakeholders as appropriate, when considering the timing of any assessment of the capex efficiency we decide to undertake and, where relevant, the timing of when to apply any decision to disallow capex.

¹⁸ Section 2 of the [Transport Act 2000](#), sets out the CAA's duties.

APPENDIX E

DRAFT Guidance on NERL Capital Expenditure Engagement incentive

Introduction

1. NATS (En Route) plc (NERL) holds an economic licence issued under the Transport Act 2000 to provide en route air traffic services in the UK. On 29 August 2019, we published proposed modifications to NERL's licence for the economic regulation of NERL during the period 2020 to 2024 (RP3). Our proposals included introducing a financial incentive on NERL based on the delivery of its capital expenditure (capex) programme. NERL rejected the proposed modifications and on 19 November 2019 we made a reference to the Competition and Markets Authority (CMA) to investigate and report on the proposed modifications.
2. In its provisional findings the CMA did not support our proposed delivery incentive but instead provisionally found that NERL should be subject to a financial incentive based on its engagement with users on its capex programme. The CMA invited both us and NERL to submit a proposed design for a capex engagement incentive building on the CMA's initial specification, including:
 - how performance should be defined; and
 - how financial penalties would be calculated.
3. In response we produced draft guidance taking into account the provisional findings, along with other regulatory precedent, to set out the principles and procedure we would expect to follow in operating a financial incentive on NERL's engagement on its capex programme.
4. On 23 July 2020, the CMA sent us its final report on the reference. The CMA concluded that a new capex incentive based on the quality of NERL's engagement, and actions in response to engagement should be added to its licence. The CMA said that the licence should also refer to:
 - a guidance document setting out the process through which, and the basis upon which, we would assess NERL's performance under the new incentive and determine the level of penalty (if any) to be applied; and

- details of how the penalty cap should be calculated. This should provide that the level of the penalty cap will be calculated using an approach that is, and assumptions that are, consistent with that which we used when calculating our proposed £36 million capex delivery incentive penalty, but that the cap should be determined on the basis of NERL's actual capex rather than on the level of its capex allowance.

5. The CMA said that our guidance should be published alongside the licence modification and be substantially consistent with the draft guidance we submitted in response to the CMA's provisional findings, subject to the following:

- it should include a statement that the role of the Independent Reviewer (IR) would include providing its assessment of NERL's scores in relation to each relevant programme/project and criterion, following user engagement, and that this assessment should be published;
- the scope for a penalty uplift in our proposed guidance should be removed;
- the calculation of the standard penalty should be revised that:
 - no penalty would apply when there was an overall weighted average score of 3 or above;
 - the maximum penalty would apply when there was an overall weighted average score of 1.5 or below;
 - the penalty level would increase linearly as the overall weighted average score reduced, in units of 0.1 from 3 to 1.5;
- our statement that appropriate adjustment may be made within RP3 if issues were identified in the first years of operation, should be qualified to highlight that such adjustments would be limited to minor refinements, unless they formed part of a more fundamental review that involved licence modifications and/or provided for appropriate appeal opportunities.

Guidance

6. This guidance sets out how we intend to assess NERL's performance in respect of the capex engagement incentive set out in Condition 10 of the NERL Licence. Subject to appropriate engagement and consultation, and taking account of our statutory duties, it may be revised from time to time to reflect best practice, the law and our developing experience; and while we will have regard to this guidance, we may adopt a different approach if the facts of an individual case reasonably justify it.
7. This guidance addresses the following issues.

- **Measuring performance:** building upon the CMA's list of proposed criteria, we set out more details on how we intend to assess NERL's capex engagement.
- **Process and timings:** we discuss the processes and timings involved in the assessment of NERL's capex **engagement**.
- **Calculating financial penalties:** building upon the CMA's suggestions, we set out more details on how financial penalties **should** be calculated.

Measuring Performance

Criteria for assessment

8. In assessing the quality of NERL's engagement on its capex plans we intend to use the following criteria:
 1. **Timeliness:** NERL should provide information (to users, the IR and us) in a timely manner. This should include providing early warning and explanation of factors that may put planned delivery timelines at risk.
 2. **User-focus:** NERL should provide information in forms, and through mechanisms, that reflect user priorities and resource constraints, such that it is clear and accessible.
 3. **Proportionality:** the level of substantiation NERL provides should reflect the materiality of the change under consideration.
 4. **Optioneering:** NERL should seek to identify a range of different responses that might be adopted where practicable, and to provide opportunities for user and IR engagement and scrutiny of those options.
 5. **Responsiveness:** NERL should respond constructively to user, IR and our submissions, and explain clearly how it has considered and taken account of those submissions.
 6. **Mitigating/corrective actions:** NERL should take appropriate mitigating and/or corrective actions in the light of user, IR and our submissions.
9. We consider that these criteria will form a reasonable basis for assessing the quality of NERL's engagement on its capex plan. In broad terms criteria 1 to 4 address the quality of NERL's submissions, while criteria 5 and 6 address the quality of NERL's response to stakeholders.
10. We agree with the CMA's statement in its provisional findings that "*NERL's engagement with users on risks associated with its capex plan should include explicit attention being given by NERL to identifying the opex effects that may be*

*associated with different changes to that plan, and different options with respect to how NERL might respond*¹⁹. The context here is that if NERL were to change its approach to capital projects and expenditure then this may have implications for the level of operating expenditure (opex) it incurs.

11. NERL should be transparent about the expected impact on opex of its capital projects and engage with stakeholders on these matters. We expect to assess NERL's approach to these matters under the 'Optioneering' criterion.

A scoring system for assessment

12. We will use a scoring system that is intended to provide sufficient clarity on how the level of any penalty would be determined while also allowing sufficient flexibility to reflect the range of circumstances that may need to be addressed. The penalty assessment process also takes account of where NERL is found to have performed well.
13. We have developed a points-based methodology to assess the appropriate level of a penalty taking account of performance across a number of areas. In doing so we have drawn upon Ofgem's Electricity System Operator (ESO) incentive arrangements.²⁰

ESO reporting and Incentive Arrangements

The Electricity System Operator (ESO), which is currently part of National Grid Electricity Transmission plc, is regulated by Ofgem. The ESO's regulatory framework includes a set of incentive arrangements that aim to create transparency around the ESO's performance and make it clearly accountable to its stakeholders.

Each year at an end of year review, the ESO's performance is scored against seven 'Principles' (overarching behavioural standards). For each of the seven Principles, the ESO is scored on a scale of 1 to 5, where a score of 3 corresponds to 'baseline expectations'.

Each year, the ESO receives a reward/penalty of up to ±£30 million, split equally among each of the Principles. For each Principle the reward/penalty is linearly increasing in the score achieved. A score of 3 merits no reward or penalty payment. In some circumstances the final reward/penalty may be adjusted by the regulator within a range around the default incentive payment for the achieved score. This may be done to ensure the reward/penalty is proportionate to consumer benefit/harm or if there is a particularly close call between two scores in the scoring decision.

14. The points-based scoring system we will use is as follows.

¹⁹ [NATS \(En Route\) Plc/CAA Regulatory Appeal – Provisional findings report, paragraph 8.78 \(March 2020\)](#)

²⁰ https://www.ofgem.gov.uk/system/files/docs/2018/03/esori_arrangements_guidance_document.pdf

15. For each capex project,²¹ we will score NERL for each of the performance criteria above (Timeliness, User-focus, etc.) on a scale of 1 to 5, where:
 1. = Weak
 2. = Poor
 3. = Average ('baseline expectations')
 4. = Good
 5. = Excellent
16. This scoring system is directly based on the ESO arrangements. It is based around the concept of 'baseline expectations', which for the purpose of the incentive mechanism means a reasonable level of performance (as described further in Figure 1 below).
17. The IR will score the quality of NERL's capex engagement in two rounds, with only the scores from the final round being used for the calculation of any penalty payments. This would allow NERL early indication as to where we deem that they are exceeding/falling below baseline expectations. NERL would then have scope to adjust and improve the quality of its engagement before the final round of assessment. We will publish the IR's scores.
18. We will take account of the findings of the IR and representations from stakeholders (including NERL) in forming our assessment. We will make the final decision on scoring NERL's performance. If our score is different to the IR's score we will clearly explain why we have done so. Nonetheless, the final penalty (if any) will be calculated and applied at the following price control review, which will provide NERL with an opportunity to appeal (in addition to its procedural rights to judicial review). Wider issues on timing of the various elements of these incentive arrangements are discussed further below.
19. Guidance on how scoring could be applied in practice is provided in Figure 1.

²¹ Below, we discuss whether we would assess NERL's performance for each individual capex project, whether we would assess its performance at the level of capex programmes (i.e. with multiple projects per programme), or whether we would agree with airspace users and NERL to consider only a shortlist of projects which are identified as high priority for airspace users.

Figure 1 Guidance on scoring

	Underperformance		Baseline	Outperformance	
	Weak (1)	Poor (2)	Average (3)	Good (4)	Excellent (5)
1. Timeliness	Substantial delay in providing information, very little early warning of factors that may affect delivery.	Some delay in providing information, limited early warning of factors that may affect delivery.	Information provided in a timely manner, reasonable early warning (where possible) of factors that may affect delivery.	Information provided proactively and promptly, good quality early warning and explanation of factors that may affect delivery.	Information provided proactively and promptly, excellent quality early warning and explanation of factors that may affect delivery.
2. User-focus	Very unclear and inaccessible information provided in format not reflecting user priorities or resource constraints.	Unclear, inaccessible or perfunctory provision of information with limited regard for user priorities and resource constraints.	Reasonably clear and accessible information provided with reasonable regard for user priorities and resource constraints.	Very clear and accessible information with good regard for user priorities and resource constraints.	Extremely clear and accessible information with excellent consideration of user priorities and resource constraints.
3. Proportionality	Very little additional information provided for very material changes in capex plan.	Limited additional information provided for material changes in capex plan.	The level of substantiation provided reasonably reflects the materiality of the change under consideration.	Good substantiation for all material changes in capex plan under consideration.	Excellent substantiation for all material changes in capex plan under consideration.
4. Optioneering	Very little information on alternative options presented (including no discussion of opex interactions), no real opportunity for users and IR to scrutinise relative merits of different options.	Limited information on alternative options presented (including limited discussion of opex interactions), limited opportunity for meaningful scrutiny of relative merits of different options by users and IR.	A range of different options identified where possible (including explicit consideration of opex interactions), reasonable opportunities for meaningful user and IR engagement and scrutiny.	Good information provided on alternative options where possible (including explicit consideration of opex interactions), good opportunities for meaningful scrutiny.	Excellent information provided on alternative options where possible (including explicit consideration of opex interactions), extensive opportunities for meaningful scrutiny.
5. Responsiveness	Very limited response to user and IR submissions, does not appear that submissions have been accounted for.	Perfunctory response to user and IR submissions, insufficiently clear how these submissions have been accounted for.	Constructive response to user and IR submissions, reasonably clear explanation of how these submissions have been accounted for.	Engaged and constructive response to user and IR submissions, clear explanation of how these submissions have been meaningfully accounted for.	Engaged and highly constructive response to user and IR submissions, very clear evidence that submissions have been meaningfully accounted for after substantial consideration.
6. Mitigating / corrective actions	Very little evidence of mitigating and/or corrective actions, where appropriate, following user and IR submissions.	Limited evidence of mitigating and/or corrective actions, where appropriate, following user and IR submissions.	In most cases reasonable mitigating and/or corrective actions taken, where appropriate, following user and IR submissions. Actions communicated to stakeholders.	In almost all cases mitigating and/or corrective actions taken promptly, where appropriate, following user and IR submissions. Actions clearly explained to stakeholders.	In all cases mitigating and/or corrective actions taken promptly and proactively, where appropriate, following user and IR submissions. Actions very clearly explained to stakeholders.

Calculating an overall capex engagement score

20. To assess the overall level of performance across criteria and across projects the IR will calculate an overall capex engagement score. To do this it will first calculate an average final score for each project by taking the simple average across the scores for each performance criterion. It will then calculate an overall capex engagement score as the weighted average of project scores, where the weights used are each project's capex value as a proportion of total capex.²² Figure 2 provides a stylised example for how the overall capex engagement score would be calculated.

Figure 1 Overall Capex Engagement Score Example

Project	Value (£m)	Weight	Timeliness score	User-focus score	Proportionality score	Optioneering score	Responsiveness score	Mitigating actions score	Average project score
1	£10	0.07	2	3	3	2	2	3	2.5
2	£20	0.13	2	3	3	2	3	2	2.5
3	£5	0.03	2	2	3	2	4	3	2.7
4	£15	0.10	3	5	3	1	4	4	3.3
5	£10	0.07	2	4	4	2	4	4	3.3
6	£10	0.07	4	4	2	4	3	4	3.5
7	£20	0.13	3	4	2	1	4	3	2.8
8	£25	0.17	2	4	2	4	2	2	2.7
9	£25	0.17	4	2	3	3	4	2	3.0
10	£10	0.07	2	4	4	3	2	3	3.0
Total	£150								
Weighted Average Overall Capex Engagement Score									2.90

Projects included in the capex engagement assessment

21. There is a question as to which projects are included in the assessment. This could be every individual capex project, a smaller number of programmes (with multiple projects per programme), or a shortlist of projects/programmes which are identified as high priority by airspace users.
22. There are pros and cons to the different approaches. Assessing the quality of NERL's engagement on every individual project could involve a significant regulatory burden. However, including only a shortlist of projects would mean

²² We note that over the course of RP3, the value of projects may change – e.g. projects may be dropped or rescoped into a larger projects. We discuss this in the next section on process

that NERL would not be assessed or held to account for the quality of its engagement on all projects.

23. We will engage with NERL and airspace users to agree on the projects to include, and currently have a preference to condense individual projects into a smaller number of larger programmes to be reviewed together. We envisage having a relatively small number of projects/programmes (for example, 10) which collectively represent a large share of NERL's overall total capex. We expect to engage with NERL and users on the projects captured by the incentive when NERL consults on its annual Service and Investment Programme (SIP).

Process and timings

24. In this section we propose more details on the process and timings that would be involved in the assessment of NERL's capex engagement.

Proposed steps

25. The assessment would occur across the whole of the regulatory period. We note that NERL's consultations with airspace users on its capex plan should be continuous and engagement is not restricted to the SIP. The SIP should be viewed as a summary of NERL's consultations. While the SIP would be a natural basis for our assessment, we will consider the quality of NERL's engagement more broadly.
26. The assessment will proceed in the following steps.

Step 1) Initial updates

- NERL will provide us and users with continuous updates on its capex projects/programmes and engage with users and the IR. The regular SIPs, supplemented by quarterly **updates**, will represent a record of NERL's consultations.

Step 2) Initial capex engagement assessment

- At an early stage for each project/programme, the IR will give initial scores for the quality of NERL's engagement, where appropriate taking account of the views of stakeholders. We can deviate from the IR's score, but if we do so, we will explain why we have done so. We and the IR will work with NERL to make it clear why we have scored its performance as we have and help NERL understand where and how improvements should be made.
- We propose that for each project/programme we would agree with NERL in advance when the initial assessment would take place, noting that projects will be spread out over the course of RP3, and some may continue on into RP4 (which we discuss in more detail below).

Step 3) Further updates

- Taking into account feedback from the IR, airspace users and our initial assessment, NERL will continue to provide us and users with updates on each project/programme and engage with users and the IR.

Step 4) Final capex engagement assessment

- For each project/programme we will agree with NERL in advance when the final assessment should take place, noting that projects will be spread out over the course of RP3. (We discuss in more detail below how we would approach projects/programmes that will continue on into RP4.)

Step 5) Weighted average overall capex engagement score

- Once we have produced a final score for each project/programme we will then calculate the weighted average score across all projects/programmes in line with the approach described above in Figure 2. We presently envisage that steps (5) and (6) would take place at the RP4 price control review.

Step 6) Calculation of penalty (if relevant)

- Based on the final overall capex engagement score a financial penalty may be applied, as described in the next section. This penalty will be increasing with the level of underperformance. The maximum penalty will be capped at a value equal to NERL's return on equity (used in the calculation of NERL's cost of capital in the price control) on its actual capex in the price control period.
- The incentive will be penalty-only. We discuss in more detail in the next section.

Changes to the capex plan within the period

27. The IR will assess the quality of NERL's engagement on its capex plan across a number of projects/programmes. This is important to ensure a sufficiently broad yet proportional appraisal of NERL's capex engagement and in order to identify areas of consistent underperformance. However, we recognise that NERL's capex plan may change over the regulatory period. In fact, this is part of why high-quality engagement is so important. If during the period the value of projects is changed, new projects are added, or projects are discontinued or deferred, it may be appropriate to adjust the weighting of projects in the overall score.
28. When making adjustments to the weighting of projects where the capex plan changes during the period:

- If the budget of a project is reduced or the project is cancelled or deferred, then it is important that NERL is held to account for engaging well with stakeholders on why the decision was made. Therefore, we may not reduce the weighting of such projects or remove them from the assessment, but may keep the initial weights as they were. This would ensure that NERL is still held to account.
- If the budget of a project is increased, then it is important that NERL's accountability is also increased. Therefore, in these instances, we may update the value of the project in the weightings. We would then adjust all weightings such that the overall sum of weightings does not exceed 1.

Projects that continue into RP4

29. We recognise that not all of NERL's capex projects planned for RP3 will be delivered during RP3 as some will continue on into RP4. However, we still believe it is appropriate that NERL continues to engage on these projects during RP3 and that it is held to account on the quality of its engagement.

Calculating financial penalties

30. In this section we set out how NERL's capex engagement scores will be used to calculate the level of any penalties.
31. First, we propose that the incentive is penalty-only, meaning that NERL will incur financial penalties if it underperforms, but it would not receive a financial reward if it outperforms. This is in line with the CMA's final report. Nonetheless, we also note that the CMA "...recommend[s] that the CAA considers ways in which more symmetric incentive arrangements might be applied as part of its RP4 review."

Criteria for calculating penalties

32. The level of penalty shall be guided by the following four factors:
1. The severity of the identified failing, and/or of the effects of that failing.
 2. Evidence on NERL's track record: for example, to what extent has the identified failing (and/or similar types of failing) recurred or persisted over time?
 3. Evidence of actions NERL has taken to address the underlying causes of the failing and to guard against their recurrence. This would include the extent to which NERL has adequately responded to past concerns and proposals presented by users and by the IR.
 4. Evidence of actions NERL took to mitigate the effects of the failing.

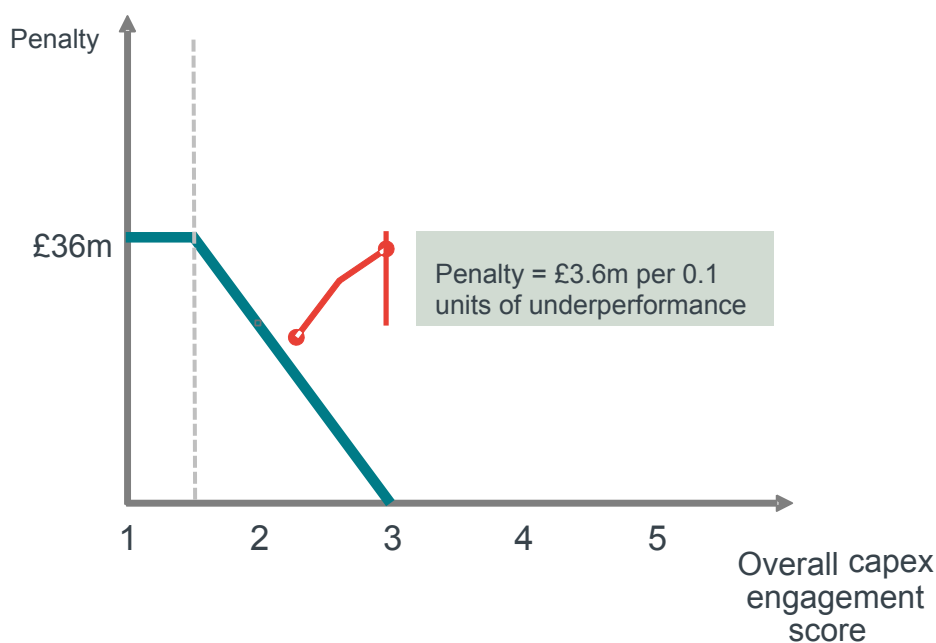
33. The scoring system we have described above captures these factors:
- by weighting projects/programmes through value this should go some way to ensure that failings on the biggest projects receive most weight (addressing at least in part factor 1);
 - by providing initial scores and retaining a penalty only incentive the incentive will target persistent failures (addressing at least in part factors 2, 3 and 4); and
 - assessment of performance criteria 5 and 6, that capture 'responsiveness' and 'mitigating/corrective actions' (that also go towards factors 3 and 4).

Method for calculating penalties

34. The maximum penalty shall be capped at NERL's rate of return on its actual capex in the price control period²³.
35. As described above, NERL would receive an initial score and a final score for each of the individual performance criteria for each of the capex projects/programmes included in the assessment. Only the final scores would be used to calculate penalties. Specifically, we will use the Overall Capex Engagement Score, calculated as the weighted average final score across projects, as described above.
36. The penalty will be calculated as follows:
- No penalty will be applied for a weighted average Overall Capex Engagement Score of 3 or above.
 - Penalties will be applied if performance falls below 3. The maximum penalty will be applied if NERL's Overall Capex Engagement Score is 1.5 or below.
 - The level of the penalty increases linearly with the level of underperformance at a rate of 0.1 units of underperformance, up to the penalty cap.

This is illustrated below.

²³ This is in line with the way we calculated the £36 million penalty in our proposed licence modifications.

Figure 2 Calculation of the penalty

Conclusions

37. We consider the design set out above should help assess and incentivise the quality of NERL's engagement on its capex plan and is intended to ensure that airspace users are well-informed and listened to. The approach of initial and final assessments, project weightings, the range of criteria, and the calculation of penalties should make the approach reasonable and proportional. It will hold NERL to account for the quality of engagement on its capex plan, while also allowing NERL scope to improve the quality of engagement and avoid penalties.
38. However, it is important that all stakeholders have an opportunity to engage on the details of the proposed mechanism. Areas particularly important for discussion include:
- Assessment criteria – ensuring a common understanding of baseline expectations.
 - Projects to be assessed – views on the subset of capex projects/ programmes that would be included in the assessment.
 - Timings – views on the timing of initial and final assessments, noting that some projects may continue on into RP4.
39. We currently expect to engage with NERL and users when NERL consults on its annual SIP.

APPENDIX F**Reproduction of Condition 21 as at 1 January 2019**

Paragraphs 7 and 18 of the revised Condition 21 in appendix A refer to the Condition 21 of the Licence in effect on 1 January 2019. This relates to the application of incentives from the previous reference period and is reproduced below for ease of reference.

Condition 21: Control of Eurocontrol Service Charges (as at 1 January 2019)

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:

Maximum Charge_t =

$$\frac{DC_t + INF_t + ReS_t + TRS_t + CSM_t + FI_t + MOD_t + Tvar_t + Pre2011_t - VFR_t}{ForecastTSU_t}$$

-DISCOUNT_t

Where:

Maximum Charge _t	means the Maximum Permitted Average Charge Per Service Unit in Eurocontrol Relevant Year t.	
DC _t	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_t	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_t	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.	
$Pre2011_t$	means the over- or under-recoveries incurred up to and including the year 2011. For $t = 2015$ $Pre2011_t = 7,844,247 \times \left(1 - \frac{\text{Actual TSU}_{t-2}}{\text{Forecast TSU}_{t-2}} \right) \times (1 + INT_{t-1})^2$	

	<p>For t = 2016</p> $\text{Pre2011}_t = 35,813,019 \times \left(1 - \frac{\text{Actual TSU}_{t-2}}{\text{Forecast TSU}_{t-2}} \right) \times (1 + \text{INT}_{t-1})^2$ <p>For years t = 2017, 2018, 2019, $\text{Pre2011}_t = 0$</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, $\text{VFR}_t = 0$</p>																
DISCOUNT_t	<p>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.</p>																
ForecastTSU_t	<p>means the forecast of Total Service Units for relevant year t established at the beginning of the reference period as follows:</p>																
	<table border="1"> <thead> <tr> <th>Year t</th> <th>TSU</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>10,667,227</td> </tr> <tr> <td>2014</td> <td>11,034,647</td> </tr> <tr> <td>2015</td> <td>10,244,000</td> </tr> <tr> <td>2016</td> <td>10,435,000</td> </tr> <tr> <td>2017</td> <td>10,583,000</td> </tr> <tr> <td>2018</td> <td>10,758,000</td> </tr> <tr> <td>2019</td> <td>10,940,000</td> </tr> </tbody> </table>	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
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Total Service Units (TSUs)	<p>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.</p>																
INT_{t-1}	<p>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 .</p>																

Inflation Assumptions

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

FHICP_t	<p>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</p>
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	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:	
Inflation _t	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).
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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:

<p>For t = 2015 and 2016</p> $TRS_t = RSF_{t-2} \times DC_{t-2} \times (1 + INT_{t-1})^2$ <p>For t = 2017, 2018 and 2019</p> $TRS_t = RSF_{t-2} \times DC_{t-2}$ <p>Where:</p>		
	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:	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> $\text{TVar}_t = (\text{INF}_{t-2} + \text{TRS}_{t-2} + \text{CSM}_{t-2} + \text{Pre2011}_{t-2} + \text{FI}_{t-2} + \text{TVar}_{t-2}) \left(1 - \frac{\text{Actual TSU}_{t-2}}{\text{Forecast TSU}_{t-2}} \right)$ <p>For t = 2015 and 2016 TVar_t = 0.</p>
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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 t.</p> <p>Where:</p> $\text{C1}_t = \frac{\text{FABEnRouteDelay}_t}{\text{FABFlights}_t}$												
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 t.</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 t. 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"> <thead> <tr> <th>Year t</th> <th>C1Target_t</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:		
	Regulation Cause	NM Code	Regulation Location
	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.
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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 $C1_{t-2} > C1Target_{t-2}$ and $C2_{t-2} > 1.1 \times C2ParValue_{t-2}$ (where $C1_t$ and $C1Target_t$ have the meaning in Paragraph 6 of this condition; and $1.1 \times C2ParValue_{t-2}$ is rounded to 2 significant figures.) $FC2_{t-2} =$ $- \text{MIN} \left[\left(\left(\frac{C2_{t-2} / C2Target_{t-2} - 1.1}{0.4} \right) \times 0.0025 \times REV_{t-2} \right), (0.0025 \times REV_{t-2}) \right]$</p>
	<p>If $C1_{t-2} < C1Target_{t-2}$ and $C2_{t-2} < 0.8 \times C2ParValue_{t-2}$ (where $C1_t$ and $C1Target_t$ have the meaning in Paragraph 6 of this condition; and $0.8 \times C2ParValue_{t-2}$ is rounded to 2 significant figures.) $FC2_{t-2} =$ $+ \text{MIN} \left[\left(\left(\frac{0.8 - C2_{t-2} / C2Target_{t-2}}{0.4} \right) \times 0.0025 \times REV_{t-2} \right), (0.0025 \times REV_{t-2}) \right]$</p>
	Otherwise $FC2_{t-2} = 0$
$C2_{t-2}$	<p>means the average minutes of en route ATFM delay in the UK-Ireland FAB in relevant year t. $C2_{t-2} = \frac{\text{LicenseeAttributable En Route ATFM Delay}_{t-2}}{FLT_{t-2}}$ Where: Licensee Attributable En Route ATFM Delayt-2 has the meaning in Paragraph 7 of this condition; and FLT_{t-2} has the meaning in Paragraph 7 of this condition.</p>

C2ParValue _{t-2}	<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_{t-2} = 0.17</p> <p>t-2 = 2016, 2017, 2018, 2019 C2ParValue_{t-2} = 0.18</p>
REV _{t-2}	<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:</p> <p>REV_{t-2} = Maximum Charge_{t-2} x ActualTSU_{t-2}</p> <p>Where Maximum Charge_{t-2} and ActualTSU_{t-2} 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_{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).

FC3 _{t-2}	<p>If $C1_{t-2} > C1Target_{t-2}$ and $C3_{t-2\phi} > C3Upper_{t-1}$</p> <p>FC3_{t-2} = $-\text{MIN} \left[\frac{(C3PenRate_{t-2} (C3_{t-2} - C3Upper_{t-1}))FLT_{t-2}}{(0.0050 \times REV_{t-2})} \right]$</p>
	<p>If $C1_{t-2} < C1Target_{t-2}$ and $C3_{t-2} < C3Lower_{t-2}$</p> <p>FC3_{t-2} = $+\text{MIN} \left[\frac{(C3BonusRate_{t-2} (C3Lower_{t-2} - C3_{t-2})FLT_{t-2})}{(0.0075 \times REV_{t-2})} \right]$</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) $C3BonusRate_{t-2} = \text{£}0.112 \times \frac{HICP_{t-2}}{100}$
$C3Upper_{t-2}$	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 ≥ 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-2 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-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:	
		p=1 Morning Peak Period	p=2 Evening Peak Period
		p=3 Other Times	
	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_{t-2} 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>$FFlight_{t-2}$</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	$FFlight_{t-2}$	2015	2,294,000	2016	2,339,000	2017	2,377,000	2018	2,420,000	2019	2,465,000
t-2	$FFlight_{t-2}$													
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:	$C4_{t-2} \geq 2000$
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		$FC4_{t-2} = -\text{MIN} \left[\begin{array}{l} C4\text{PenRate} \times (C4_{t-2} - 2000) \times \text{FLT}_{t-2}, \\ 0.0025 \times \text{REV}_{t-2} \end{array} \right]$
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.
	$C4\text{PenRate}_{t-2}$	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:
		$C4\text{PenRate}_{t-2} = 0.0008025 \times \frac{\text{HICP}_{t-2}}{100}$

Calculation of C4

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

$C4_{t-2}$	= $C4\text{DailyScore}_d$ 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:	$\frac{\text{DT1}_d}{\text{DailyFlights}_d} \leq 40$
	then	$C4\text{DailyScore}_d = 0$
	Where:	$40 < \frac{\text{DT1}_d}{\text{DailyFlights}_d} \leq 80$
	then	$C4\text{DailyScore}_d = \frac{\text{DT1}_d}{\text{DailyFlights}_d} - 40$
	Where:	$\frac{\text{DT1}_d}{\text{DailyFlights}_d} > 80$
		$C4\text{DailyScore}_d = 40 + 2 \left(\frac{\text{DT1}_d}{\text{DailyFlights}_d} - 80 \right)$
Where:	d is a day in the months April to October inclusive.	
	Where	$\frac{\text{DT1}_d}{\text{DailyFlights}_d} \leq 60$
	then	$C4\text{DailyScore}_d = 0$

	Where	$60 < \frac{DT1_d}{\text{DailyFlights}_d} \leq 110$
	then	$C4\text{DailyScore}_d = \frac{DT1_d}{\text{DailyFlights}_d} - 60$
	Where	$110 < \frac{DT1_d}{\text{DailyFlights}_d}$
	then	$C4\text{DailyScore}_d = 50 + 2 \left(\frac{DT1_d}{\text{DailyFlights}_d} - 110 \right)$
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 $C4\text{DailyScore}_d$ 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:	$ C3\text{PenRate}_{t-2} (C3_d)\text{DailyFlights}_d > C4\text{PenRate}_{t-2} (C4\text{DailyScore}_d)\text{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:	$ C3\text{PenRate}_{t-2} (C3_d)\text{DailyFlights}_d \leq C4\text{PenRate}_{t-2} (C4\text{DailyScore}_d)\text{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:	$C3\text{PenRate}_{t-2}$	has the meaning in Paragraph 9.
	DailyFlights_d	has the meaning in Paragraph 13.
	$C4\text{PenRate}_{t-2}$	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> $C3_d = \frac{\sum w_{p,b} d_{p,b}}{DailyFlights_d}$ <p>for all flights in day d</p> <p>Where:</p> $\sum w_{p,b} d_{p,b}$ <p>has the meaning in Paragraph 10.</p>

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	$F3DI_{t-2} = \text{MIN} \left[\begin{matrix} 3DIBonusRate_{t-2} (3DILower_{t-2} - 3DI_{t-2}), \\ REV_{t-2} \times 0.01 \end{matrix} \right]$																		
Where:	<p>$3DIUpper_{t-2}$</p> <p>$3DILower_{t-2}$</p>	<p>is the upper deadband limit on the flight efficiency metric in year t-2; and</p> <p>is the lower deadband limit on the flight efficiency metric in year t-2: which shall be calculated in accordance with:</p> <table border="1"> <thead> <tr> <th>t-2</th> <th>$3DILower_{t-2}$</th> <th>$3DIUpper_{t-2}$</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 = $3DIBonusRate_{t-2}$																		
	$3DIBonusRate_{t-2}$	<p>Is the bonus rate in year t-2 which is calculated as follows:</p> <table border="1"> <thead> <tr> <th>t-2</th> <th>$3DIBonusRate_{t-2}$</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>$(0.01 \times REV_{2015}) / 6.8$</td> </tr> <tr> <td>2016</td> <td>$(0.01 \times REV_{2016}) / 6.7$</td> </tr> <tr> <td>2017</td> <td>$(0.01 \times REV_{2017}) / 6.7$</td> </tr> <tr> <td>2018</td> <td>$(0.01 \times REV_{2018}) / 6.5$</td> </tr> <tr> <td>2019</td> <td>$(0.01 \times REV_{2019}) / 6.4$</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	$(0.01 \times REV_{2015}) / 6.8$																			
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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:		
$FT1_{2013} + FT2_{2013} + FT3_{2013} \leq \text{£}9,360,000 \frac{CHAW_{Aug2013}}{198.1}$		
$FT1_{2013} + FT2_{2013} + FT3_{2013} \geq -\text{£}19,200,000 \frac{CHAW_{Aug2013}}{198.1}$		
$FEMM_{2013} \geq -\text{£}4,800,000 \frac{CHAW_{Aug2013}}{198.1}$		
$FEMM_{2013} \leq \text{£}2,400,000 \frac{CHAW_{Aug2013}}{198.1}$		
In respect of charges in year 2016		
$FI_{2016} = FT1_{2014} + FT2_{2014} + FT3_{2014} + FEMM_{2014}$		
Subject to:		
$FT1_{2014} + FT2_{2014} + FT3_{2014} \leq \text{£}9,360,000 \frac{CHAW_{Aug2014}}{198.1}$		
$FT1_{2014} + FT2_{2014} + FT3_{2014} \geq -\text{£}19,200,000 \frac{CHAW_{Aug2014}}{198.1}$		
$FEMM_{2014} \geq -\text{£}4,800,000 \frac{CHAW_{Aug2014}}{198.1}$		
$FEMM_{2014} \leq \text{£}2,400,000 \frac{CHAW_{Aug2014}}{198.1}$		
Where:		
$FT1_{2013}$	$FT1_{2014}$	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.
$FT2_{2013}$	$FT2_{2014}$	
$FT3_{2013}$	$FT3_{2014}$	
$FT4_{2013}$	$FT4_{2014}$	
$FEMM_{2013}$	$FEMM_{2014}$	
$CHAW_{Aug2013}$	$CHAW_{Aug2014}$	