Appendix P: Regulatory model and mechanisms

This appendix describes the key features of our existing economic regulatory model, along with adjustments to the regulatory model that we are proposing. This is in line with CAP 2160, in which the CAA invited us to consider with our customers how the current uncertainty about future demand should be managed by providing additional flexibility through the design of the regulatory framework.

Regulatory model

Our plan covers three regulated services:

- En route service
- London Approach service
- Oceanic service

To the first service above, the overall UK en route unit rate is the aggregate of the following components:

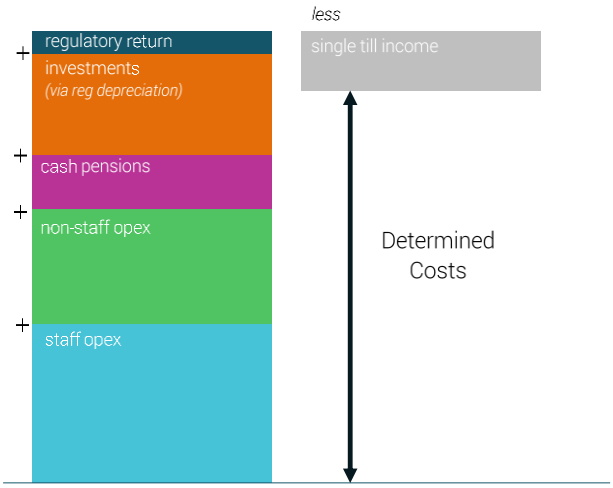
- NERL: costs of providing UK en route services
- CAA: costs for safety and airspace regulation activities and (from January 2023) the costs of the CAA's economic regulation of NERL
- Department for Transport (DfT): largely the UK's allocation of Eurocontrol fees
- Met Office: costs of providing weather forecasts for civil aviation

Our business plan concerns only the NERL portion of the UK en route unit rate, together with the London Approach and oceanic services.

Building blocks

Economic regulation for en route services follows a price cap model, which specifies an aggregate cost of providing air navigation services for which we will be remunerated via charges in each year of the regulatory period (determined costs).

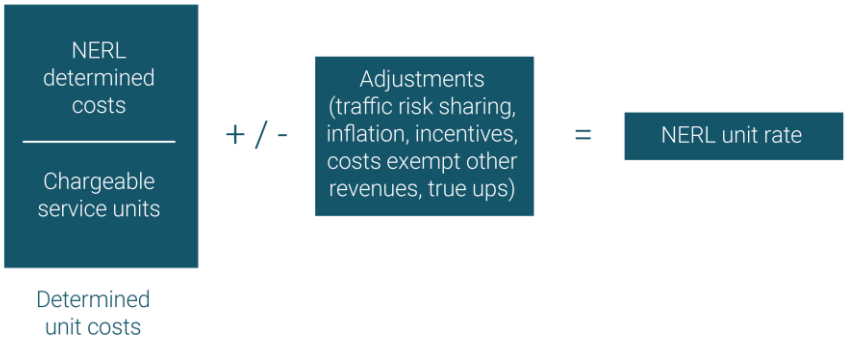
The determined costs comprise the core building blocks: efficient operating costs; depreciation of the regulated asset base (RAB) over 15 years; regulatory return (weighted average cost of capital (WACC) multiplied by the RAB); and single till (non-regulated) income.



NERL's determined costs building blocks

En route prices

Our component of the UK unit rate is calculated by dividing our determined costs by the forecast service units (the defined measure of traffic, combining data for each flight on distance flown and weight of aircraft). This ascertains the determined unit cost (DUC), and is the metric currently applied to measure cost efficiency improvements.



Calculating the DUC and unit rate

In practice, the unit rate actually paid by customers each year is calculated by applying a number of adjustments to determined costs. These include:

- Traffic risk sharing (TRS): Actual traffic levels may turn out either higher or lower than the forecast traffic levels in the agreed performance plan. The risk to revenues that arises from any variation of actual traffic to forecast traffic levels is shared between airlines and air navigation service provider (ANSP). For NR23, this includes the recovery of revenue shortfalls associated with 2020, 2021 and 2022
- Inflation adjustment: The price is adjusted for the difference between the forecast inflation underpinning determined costs and the actual level of inflation, as measured by the Consumer Price Index (CPI)
- Incentives: The payment of penalties to customers or bonuses by customers for under/over performance respectively

- **Costs exempt from cost sharing:** This includes the risk/saving on certain cost items, for example cash pension costs, including employees leaving the defined benefit scheme for a pension cash alternative (PCA). This means that the difference between the assumptions underpinning determined costs and actual costs is passed through in full within charges to airspace users
- **Other revenues:** This included, until recently, EU Innovation and Networks Executive Agency (INEA) funds that are passed through to customers in accordance with the mechanism set out below
- **True-ups:** This term accounts for any deviation between actual and assumed traffic levels, which would otherwise result in us either under- or over-recovering the adjustments described above under TRS

The principles for establishing the cost base for NERL are set out in the Eurocontrol principles[1].

London Approach prices

The London Approach determined costs are calculated by applying NATS cost allocation drivers to the en route determined costs. These were reviewed by the CAA and its consultants in 2019 as part of the RP3 review[2]. We do not intend to adjust the cost allocation drivers for NR23.

The London Approach service has characteristics of both terminal and en route functions. To address this, the London Approach terminal charge reflects around 37% of the total costs associated with the function with the remainder allocated to the en route charge. This is supported by previous analysis provided to the CAA for RP3 which indicated that allocating the London Approach costs between en route (≥ 20 km from the airport) and terminal (≤ 20km from the airport, less the area estimated to be handed over to the airport tower for control) resulted in charges materially consistent with those derived from NERL's cost allocation methodology[3] . The cost reflectivity of the London Approach service is unchanged from RP2 and RP3, and we have not received any further guidance from the CAA, nor any representations from our customers which suggest the cost reflectivity should be adjusted. We also note it was not altered by the CMA in its review of the RP3 determination.

Oceanic prices

Oceanic prices per flight are composed of a core charge, calculated in the same way as the en route DUC, and consistent with International Civil Aviation Organisation (ICAO) principles, plus an additional charge for the cost of satellite based ADS-B. There are two different oceanic prices, depending on the airspace:

- **North Atlantic charge:** for flights crossing the North Atlantic, comprises the core charge plus the North Atlantic ADS-B charge
- **Tango charge:** for flights in 'Tango' airspace, comprises the core charge plus the Tango ADS-B charge

For flights that cross borth North Atlantic and Tango airspace, only the North Atlantic charge applies.

[1] Eurcontrol, Principles for establishing the cost-base for en route charges and the calculation of the unit rates, December 2020
[2] NERL's Cost Allocation and Non-Regulatory Income Forecasts, CEPA report for the CAA, January 2019
[3] CAP 1758 Draft UK Reference Period 3 Performance Plan proposals, February 2019

Planning assumptions

We have based our business plan on a set of key regulatory and financial planning assumptions, which we described to the CAA in April 2021[4], and to which the CAA provided further business planning guidance in June 2021[5]. The key regulatory planning assumptions, which are fundamental to this plan, are as follows:

- There is no change to the current structure of London Approach charges or method of calculation
- The existing pension pass-through mechanism is retained, including for the PCA mentioned above, and remains subject to the CAA's Regulatory Policy Statement issued in March 2021 (CAP 2119)
- Pass-through of NR23 capex is allowed where we meet customer consultation and efficiency tests, as defined in the CAA's Final Decision for RP3 in December 2020[6]
- The existing TRS mechanism will continue to apply very largely as it has done hitherto. We make specific proposals for some updates, reflecting evidence on the scale of demand risk now facing our business:
  - for en route, to delay and extend the period of revenue recovery in the event of a major traffic downturn, thereby moderating the price impact for customers in the period shortly after the traffic shock
  - for oceanic, to introduce a traffic revenue risk sharing mechanism, as for en route, which applies to approximately two thirds of charge revenues related to NERL's own costs. This excludes around one third of the charges, relating to ADS-B data costs which NERL recovers through charges and then pays to the data supplier, Aireon.

Financial incentive schemes for NR23

We propose the continuation of two financial incentive schemes for capacity and environment. These are very closely based on the RP3 financial incentive schemes, which we consider remain fit for purpose, and are well understood by NERL, the CAA and customers. We propose some modifications to focus the incentive on us to improve service outcomes for our customers more closely on the areas within our control:

- for capacity (delay) measures C2 and C3, targets and the thresholds at which bonuses and penalties would be payable would be modulated for actual traffic during NR23 (see Appendix E for further details)
- for the environment measure 3Di, targets and the thresholds at which bonuses and penalties would be payable would be modulated for actual traffic during NR23 (described fully in Appendix F), and there would be a mechanism to exclude from the measure flights affected by permanent and significant changes affecting our airspace management

[4] NERL, NERL response to CAA consultation CAP 2119, April 2021
[5] CAA, Economic regulation of NATS (En Route) plc: further update on approach to the next price control review ("NR23"), CAP2160, June 2021
[6] CAA, Economic regulation of NATS (En Route) plc: Decision on licence modifications and guidance, CAP 2011, December 2020

In addition, recognising that the traffic modulation mechanism and exclusion mechanism will reduce (but not remove) uncertainties of external influence on 3Di, the so called 'deadband' between the upper and lower thesholds at which penalties and bonuses would be incurred would be narrowed to 4% either side of the 'par' value (currently 5%) to sharpen the incentive on NERL to meet or exceed the targets.

Our proposed schemes retain the relative weighting between bonuses and penalties which the CAA determined for RP3. Bonuses/penalties would be payable in year N+2, matching existing schemes.

Measure	Bonus	Penalty
	maximum, as % of determined costs	
C1	0%	0%
C2	0.05%	0.25%
C3	0.25%	0.75%
C4	0%	0.25%
3Di	0.5%	0.5%
Total	0.8%	1.75%

Proposed service performance incentive schemes

Options considered

We put forward for consultation the option to increase the maximum level of financial incentive for the 3Di metric to 1% of determined costs, from its current 0.5%. This proposed increase in maximum incentive would apply equally to bonus and penalty. As described in Appendix B, airline customers indicated that they considered the current weighting of financial incentives between capacity (delay) and environment performance outcomes was appropriate, and that their priorities are equally around capacity and environment. There was therefore limited appetite to rebalance incentives, and airlines noted that measures which helped to reduce delay were often beneficial to overall environmental impact, for example, by reducing airborne holding. In light of this feedback, we have not included this option within our NR23 plan.

Capacity incentive scheme

The proposed incentive scheme is based on our capacity metrics and targets (C1, C2, C3 and C4), as set out in Appendix E. As is currently the case, we propose that the C1 metric, relating to delay from all causes, is not used in the incentives mechanism as it would expose us to financial risk through causes of delay that are outside our control.

We propose to retain current gradients of the sliding scales for the financial incentives (FC2, FC3 and FC4).

For FC2, for delay that is attributable to NERL:

- There is a deadband of -15% to +15% around the C2 par value (bonuses are paid when delay is less than 85% of par value, and penalties are incurred when the delay is more than 115% of the par value)
- Bonuses/penalties are accrued on a smooth sliding scale where maximum bonus is at 45% of par value and maximum penalty is at 155% of par value

For FC3, for delay at key/peak times of the day for airlines:

- The par values for are modulated in the event of unexpectedly high or low (4% each way) levels of traffic
- Bonuses are accrued on a smooth sliding scale up to a maximum bonus
- Penalties are accrued on a smooth sliding scale up to a maximum penalty

For FC4, for individual delays with long durations:

- No bonus is payable
- Where C4 < the par value, no penalty is payable
- Where C4 >= the par value, penalties are accrued on a smooth sliding scale up to a maximum penalty

As described in Appendix E, we are proposing explicit exclusions from the delay measures of flights affected by space launch activity, and the application of exemption days in which planned system changes or airspace changes resulted in delay.

Environment incentive scheme

The proposed incentive scheme is based on our refined 3Di measure, as set out in Appendix F. The financial incentive (F3Di) is calculated in line with the following principles:

- There is a deadband around the par value
- Bonuses are accrued on a smooth sliding scale up to a maximum bonus (of 0.5% of revenue)
- Penalties are accrued on a smooth sliding scale up to a maximum penalty (of 0.5% of revenue)

Proposed changes to regulatory mechanisms

Our plan proposes a number of changes to regulatory mechanisms which serve to provide some stability in our costs and revenues over time, insulating the business from the more severe impacts of traffic volatility, and mitigating the risks of a further reopener given the uncertainty at the time we developed our plan. This helps all of our customers by enabling us to plan and invest efficiently to deliver and evolve a safe, resilient service which can cope with a range of economic scenarios. The importance of the central mechanism, the traffic risk sharing scheme, has been demonstrated clearly since March 2020: investors' confidence in the principle of TRS as a means of deferring revenue recovery and in the CAA's duties towards NERL's financeability enabled NERL to access current liquidity and long term debt financing efficiently.

Traffic risk sharing

The TRS mechanism is fundamental to the appropriate balance of financial incentives and risk for NERL, given the high operational leverage and relative fixity of our costs, alongside the volatility of demand which we face. The first two factors have been well established over successive price control reviews, including the 2019 appeal to the CMA. The importance of the third factor on demand volatility came into sharp focus during Covid-19. Its repercussions continue to affect investors' perceptions of risk to debt and equity investment in NERL. Together, these factors continue to support the maintenance of the TRS mechanism for the NR23 period.

However, the severe impact of Covid-19 on traffic in the period 2020-22 justifies a modification of the operation of the TRS mechanism for these years, and the continuing heightened uncertainty about traffic demand over the NR23 period justifies our proposed refinement of the measure for the future. These two changes are described below.

TRS for 2020-22 period

The CAA set out its decision on the modification of the TRS mechanism for the 2020-22 period in its consultation on licence modifications to deal with the exceptional circumstances arising from the impact of the pandemic[7]. This stated that:

- the recovery of TRS revenue in 2022 should be set to zero
- TRS revenues would be recovered over one or two price control periods, starting in 2023, to smooth the impact on airspace user charges while continuing to take account of the financial impact on NERL
- the amount to be recovered would be determined by the CAA's analysis on the efficient cost baseline for 2020-2022
- the TRS revenue to be recovered would be added to the RAB and paid back over the set period. The CAA will consider further what level of investment return to allow on this part of the RAB

We have recognised since the onset of the Covid-19 shock to aviation and the wider economy that the current regulatory framework, including the TRS mechanism, would need to be temporarily modified to mitigate adverse charging impacts for our customers, while retaining the revenue recovery principle on which our financial structure is based. We stated in our response[8] to the CAA's first consultation on the RP3 interim price control review[9] that:

"the adjustment of the revenue Traffic Risk Sharing (TRS) mechanism should be both temporary and tailored to deal with Covid-19 impacts specifically, which is the approach that has been adopted by the European Commission and National Supervisory Authorities for their European ANSPs … We support broadly basing TRS changes on those introduced by the European Commission, following consultation with stakeholders, for the Single European Sky Performance and Charging Regime. This would be one element of a balanced realignment that shares burdens between NERL and our customers. It would also mean that our customers do not face any extra burdens from misalignment in this aspect of ANS charging between the UK and the rest of Europe."

Our plan assumes the following in relation to the TRS mechanism for 2020-22:

- The allowed revenue subject to the TRS for each of 2020, 2021 and 2022 to be based on the determined costs for each year (determined by the CMA in its 2020 price control appeal determination), as adjusted by the CAA's cost reconciliation exercise, scheduled for early 2022[10]

[7] CAA, Economic regulation of NATS (En Route) Plc: decision on licence modifications to implement exceptional measures, CAP 2279, November 2021
[8] NERL, NERL response to CAA consultation on RP3 interim price controls review (CAP 1994), 12 January 2021
[9] CAA, Economic regulation of NATS (En Route) plc: consultation on approach to the next price controls review, CAP 1994
[10] CAA, Economic regulation of NATS (En Route) plc: working paper on the reconciliation review for NR23, including the request for information, CAP2291, November 2021

- The period for revenue recovery is changed from recovery in a single year two years after the traffic shortfall (described as N+2), to recovery starting in 2023 and extending over 10 years. The majority of the allowed revenue (75%) would be recovered in equal instalments over NR23, 2023-27, with the remaining 25% recovered in equal annual instalments over NR28, 2028-32
- To enable the substantial increase in debt arising from the operation of the modified TRS mechanism to be securely and efficiently financed, the deferred revenue accruing each year should, as now, be treated as an increase to NERL's working capital and therefore an increase in the RAB. This provides transparency and certainty for investors as to the future recovery of these deferred revenues
- As now, the deferred revenue should earn a return on capital, at the allowed real weighted average cost of capital applying to the RAB as a whole
- Given the very protracted period of revenue recovery, from two years to up to ten, which will erode the real value of the deferred revenue by around 10% over the NR23 and NR28 periods[11], we consider that our investors should be appropriately compensated for carrying this inflation cost by adjusting the outstanding stock of TRS debtor in the RAB for inflation. This would put the treatment of TRS debtor deferred over this extended period in line with the treatment of capital expenditure, on which investors in NERL earn a reasonable rate of return incorporating both the real cost of capital and the costs of inflation.

The magnitude of the regulatory debt arising from the TRS mechanism is material to date and projected to increase further over 2022. The TRS debtor is now projected to account for around 45% of the average RAB in 2022:

- 2020: Increases in working capital of £357m in 2020, principally due to the operation of the current TRS, represented a 37% increase in the opening RAB
- 2021: As traffic in 2021 is projected currently to be nearly 60% below that forecast by the CAA in the RP3 price control, a similar sized absolute increase in working capital arising from TRS debt is likely for this year as well
- 2022: A smaller amount (around 50% of 2020 level) is expected for 2022, as traffic is currently forecast to be around one-third lower than that forecast for the RP3 price control.

Given the absolute scale of the TRS debtor and the size relative to NERL's RAB, it is vital that we are able to continue to raise finance efficiently to provide liquidity for the ongoing safe and resilient operation of the business. Debt and equity investors will only continue to provide funding on economic terms if they have confidence in the ability of NERL to repay and to generate dividends over the medium term, which in turn depends on investors' confidence in the stability of the regulatory framework. The RAB rules are a central part of this framework, and are a visible means by which the CAA demonstrates consistently over time that it is adhering to its duty to enable NERL to finance its activities without undue difficulty. Any undermining of investors' confidence in the RAB and their reasonable expectations of its operation would serve to increase materially the cost and difficulty for

[11] Comparing the impact of 3% annual retail price index (RPI) inflation over two years (for the standard TRS mechanism) versus an average of six years for the modified 75/25% TRS recovery over NR23 and NR28 respectively.

NERL to raise finance. This in turn would lead to higher medium term costs for customers and potential constraints on the level of future investment programmes, to the detriment of outcomes desired by customers.

In summary, the current regulatory framework has enabled NERL to raise finance quickly and efficiently to cope with the initial liquidity impact arising from Covid-19 and resulting traffic shock, allowing us to inject significant supporting liquidity into the sector. Any material deviation from this, to the detriment of NERL, its investors and customers, would undermine the long term financeability of the company, with long lasting repercussions in terms of higher costs and constrained investment.

We address the CAA's proposals for its cost reconcililation review in our response to the CAA's CAP 2245 document on licence modifications, the key points from which are:

- The cost reconciliation should be based on reasonably efficient costs incurred with the benefit of information available at the time, taking into account the degree of economic and political uncertainty surrounding the impact of Covid-19 and the UK Government's response over the period from March 2020.
- Where costs have increased in the near term to enable NERL to achieve savings over the medium term, and the overall cost benefit analysis supports such "spend to save" actions as efficient, then customers should benefit from the lower than otherwise costs which NERL would incur in the medium term. To balance, NERL should be allowed to recover the initial cost increase which enabled these savings to be achieved. Examples of this type of expenditure include the voluntary redundancy scheme which enabled a timely and significant reduction in NERL's non-operational staff level, and the costs associated with retiring NERL's previous outstanding bonds and replacing them with a more flexible and less expensive debt structure.

TRS for NR23 (en route)

The design of the current en route TRS mechanism has proved to be robust to both negative traffic shocks (eg following the financial crisis of 2008-10) and positive ones (eg the buoyant traffic growth in the period to 2019). The risk sharing parameters of the mechanism were initially determined by the European Union (EU) Single European Sky Performance Regime regulations in 2010, with no scope for national variation. National supervisory authorities gained the freedom to modify these parameters while maintaining at least the same level of overall risk exposure, from the start of the RP3 period in 2020. The CAA chose not to exercise this flexibility, and confirmed in its RP3 decision in 2019 that the TRS parameters should remain unchanged:

"we proposed to retain the default traffic risk sharing mechanism as defined in the performance regulation. We consider it provides a strong incentive on NERL to mitigate the impact of lower traffic levels (for example, by reducing costs) and shares a large proportion of the upside of higher than expected traffic levels with users. Adopting a mechanism with a greater level of revenue at risk may not represent an efficient outcome for users, given the potential to increase NERL's required cost of capital."[12]

[12] CAA, UK RP3 CAA Decision Document, CAP 1830, 2019

We agree with the CAA's assessment regarding the degree of revenue risk at stake, and the strong incentives it provides on NERL to seek to reduce costs where traffic falls below the level forecast. We consider, though, that the mechanism could be adjusted to change the timing of revenue recovery following any significant traffic downturn, to deliver benefit to customers in the form of a smoother price profile over a longer period, thereby avoiding a price spike which would follow two years after such a downturn. As evident from the development of the TRS mechanism in the EU, and the CAA's emerging thinking in this area, there is general acceptance that it is in users' interests to seek to avoid sharp increases in prices following major shocks to the aviation sector, while recognising that a clear and secure regulatory policy on the ultimate recovery of allowed revenues is vital to underpin the efficient long term financing of the ANSPs.

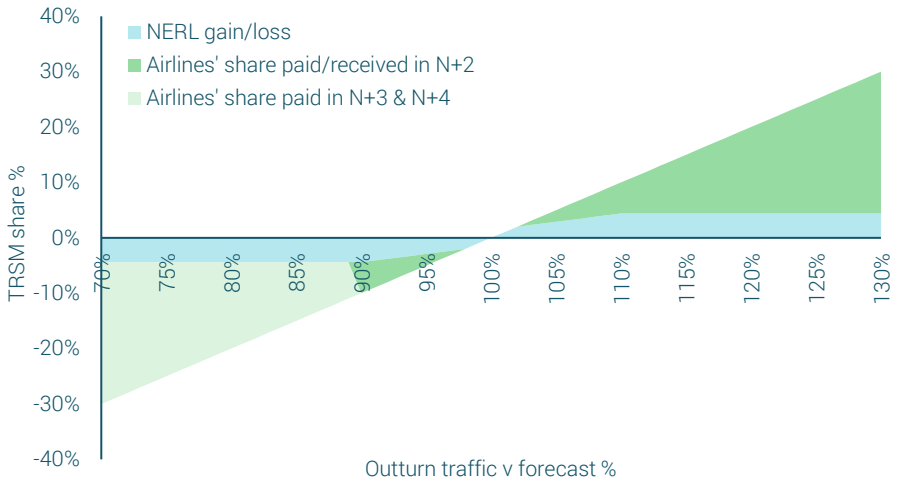
Our proposal is motivated by two further factors:

- Significant and unavoidable uncertainty inherent in the traffic forecast on which the NR23 plan is based, including a much greater downside risk of significantly lower traffic emerging compared to a smaller range of upside traffic risk. We have built our plan to enable us to meet users' needs for a safe, resilient service on a base forecast of strong traffic recovery. There is therefore an asymmetry between the downside and upside traffic scenarios around this base. This leads to consideration of how the current TRS mechanism would operate if further significant negative traffic were experienced in NR23, and how any adverse impacts on customers might be mitigated

- The proposed recovery of TRS revenues from the period 2020-22, as described above, will result in a material increase in charges for customers in the NR23 period. In the event of a further significant traffic downturn relative to forecast, the normal operation of the TRS mechanism would add a further increase to charges. This would not be in customers' interests and could be alleviated by NERL agreeing in advance to take longer to recover the allowed revenue. Our proposed adjustment to the TRS mechanism would avoid this outcome for consumers were this to happen. Provided this mechanism were clearly articulated in our Licence and allowed for a reasonable return for investors' capital which would be tied up in an extended TRS recovery period, it would be consistent with the efficient financing of NERL

We propose that for any significant traffic downturn in NR23 (ie in the range -10 to -30% from forecast), instead of TRS revenue recovery in year N+2, we recover the allowed revenue over two years, starting in year N+3. This delayed and extended revenue recovery would support customers by smoothing the impact on charges. We would retain the risk sharing parameters of the TRS, which limit the maximum revenue exposure for NERL to 4.4% for each year affected by traffic variance from forecast. We would also retain the current treatment of TRS debt as working capital addition to the RAB, where it is remunerated at the prevailing allowed cost of capital.

Our proposed traffic risk sharing mechanism is shown in the chart below.



Proposed traffic risk share mechanism

We consulted airline customers on this option during customer consultation in autumn 2021. The feedback we received was broadly supportive of this proposed change as a pragmatic response to the heightened risk of further traffic shocks in NR23. On that basis, we are including this option in our NR23 business plan.

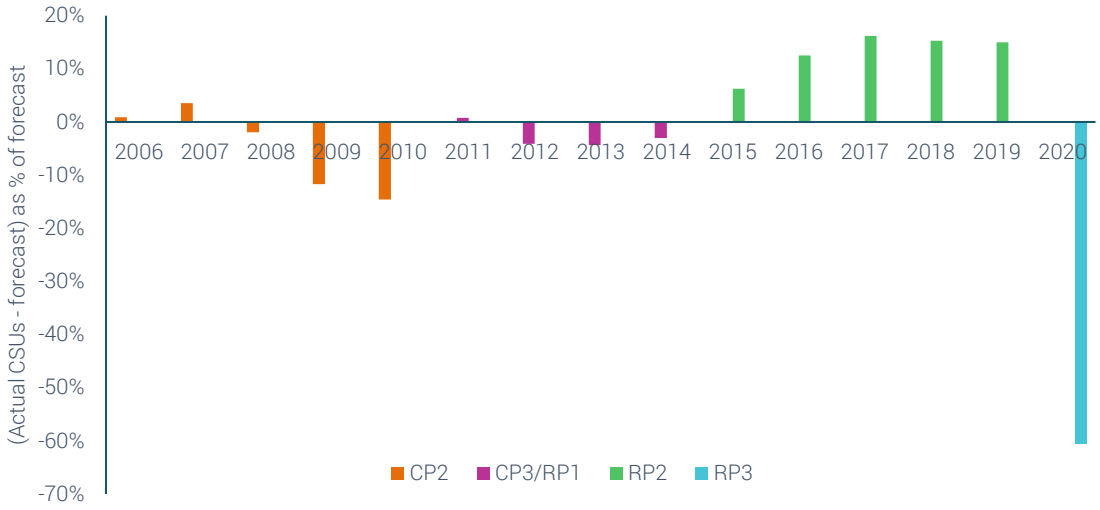
TRS for NR23 (oceanic)

Unlike the en route service, oceanic does not have a TRS mechanism within the charging formula. NERL does benefit, however, from a cost risk sharing mechanism with its data supplier Aireon, under which the costs to NERL of ADS-B data services (around 40% of total in normal traffic) are adjusted for the volume of traffic, and NERL in turn passes on these variable costs to oceanic customers.

In the RP3 review, NERL argued for a TRS mechanism for oceanic, to cover the c.60% of core costs which are outside the ADS-B data services contract with Aireon. The CAA decided against this, on the grounds that a large proportion of the traffic risk had been mitigated via the variable pricing for ADS-B data services.

Covid-19 has created and revealed greater absolute traffic uncertainty for oceanic, and highlighted the relative volatility of revenues vs the en route service. In light of this new information, which we explore below, we set out the case for introducing a TRS mechanism for oceanic for the NR23 period.

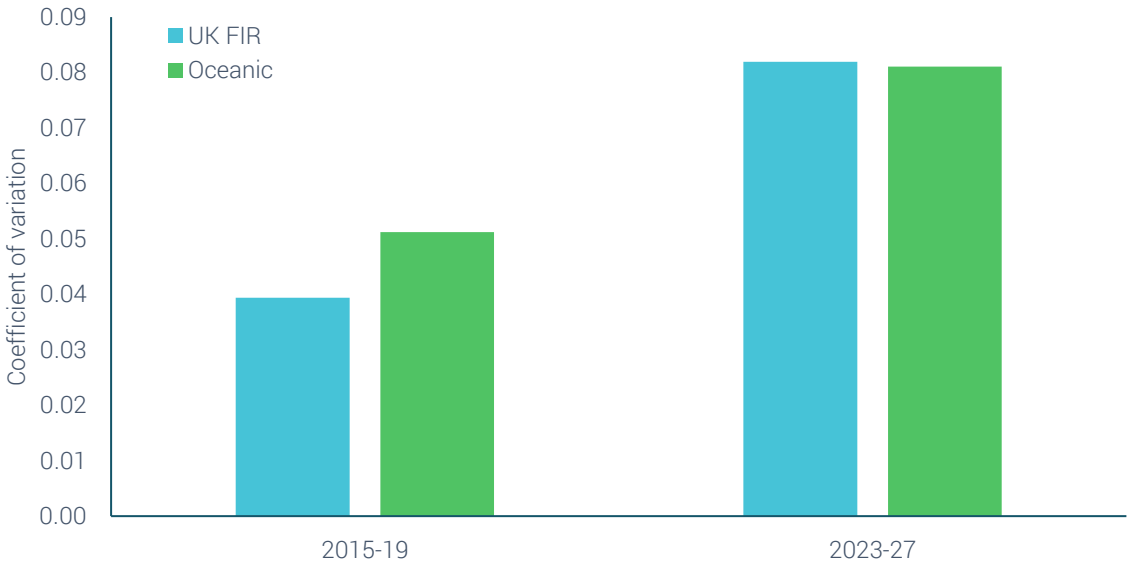
Oceanic has shown similar patterns of actual vs forecast traffic to en route over the past two decades, notably the forecast in excess of actual following the downturn from 2008 caused by the global financial crisis, and the impact of Covid-19 in 2020, which led to around a 60% decline in traffic vs forecast in both oceanic and en route. But oceanic traffic volumes are more volatile than en route: from 2000 to 2019, oceanic traffic was two-thirds more volatile (measured by coefficient of variation on annual traffic volumes). Both oceanic and en route were affected similarly by the pandemic shock in 2020.



Actual vs forecast oceanic traffic, 2006 - 2020

Oceanic regulatory returns have been significantly more volatile than those for en route in the decade to 2019: the standard deviation of oceanic returns is some three times that of en route, 2010-19. The greater traffic volatility for oceanic was compounded by the absence of a TRS mechanism. In strong traffic growth, NERL earns above-forecast returns – in 2013-19, the oceanic return on RAB was on average 7 percentage points higher than for en route; had a TRS mechanism been in place, customers would have benefitted through a reduction in prices. The absence of TRS for oceanic and the existence of TRS for en route shows in the disparity in regulatory returns for 2020: for oceanic it was -42%, while for en route it was -1%.

Looking ahead, the traffic volatility currently forecast is projected to be higher for both oceanic and en route than in the most recent completed regulatory period 2015-19, based on variation in annual changes in traffic as shown in the chart below.



Forecast traffic volatility

On the costs side, oceanic's capital structure was, up to 2019, broadly similar to that of en route, with a RAB/revenue ratio of around 140-150%. This results in a similarly high level of operational gearing – small movements in operating costs can dominate the allowed return on the RAB.

In 2020, ADS-B costs were projected by the CAA to be 37% of total costs. In practice, as traffic declined by 60% vs 2019, so did actual ADS-B costs (levied by Aireon on a per flight hour basis), and in parallel the ADS-B charge levied by NERL (on a per flight basis) to cover these costs. The remaining 60+% of oceanic costs is subject to similar constraints as for en route, imposed by NERL's service obligations and the technology of its operations. This limits very significantly the extent to which cost can be reduced in response to traffic reductions.

With similar cost structure to en route, and no TRS mechanism for 60% of its total costs, oceanic faces significantly greater financial risk than en route. This additional risk is not compensated in either the allowed cost of capital for oceanic or en route, reflecting a clear gap in the regulatory framework for oceanic.

For the RP3 review, NERL estimated that the asset beta of the oceanic business, if its cost of capital were estimated on a stand-alone basis, would need to increase to 0.71. This was similar to the then average asset beta of international airports facing full demand risks. Using a similar methodology now, based on the latest 5-year asset betas for the comparator group of airports used to estimate the asset beta for NERL as whole, would lead to an asset beta for oceanic around 0.80-0.85. This would increase the real cost of capital by some 1 percentage point, vs the estimate for en route. There is therefore a gap in the risk framework for oceanic, equivalent to some £0.5m per year (1.5-2% of determined costs) when calculated as a differential return on RAB.

We propose to close the gap in the regulatory framework for oceanic by addressing the issue at source, through introducing a TRS mechanism for oceanic. This would cover the revenue from the core NERL charge (which covers NERL's own costs), and not cover the ADS-B data charge which, as noted above, already varies by actual traffic. We propose to apply exactly the same risk sharing parameters for the oceanic TRS as for the existing en route TRS. This reflects a similar underlying cost structure and operational gearing, as well as being a simple pragmatic approach and avoiding undue complexity in the regulatory mechanisms. We also propose to introduce for oceanic the enhancement to the TRS we are proposing for en route, under which NERL would defer and extend the period of revenue recovery following a significant negative traffic shock, so that TRS revenue is recovered equally in charges in years N+3 and N+4 rather than all in year N+2.

We consider that this approach would deliver benefits to customers:

- Better cost reflectivity between oceanic and en route customers; each pays for their respective service and associated financial risk
- More stability for oceanic revenues which would enable better longer term planning of service and investment, to the benefit of customers
- Avoids delivering windfall profits to NERL when traffic exceeds forecast
- NERL remains incentivised to reduce controllable costs when traffic falls below forecast, as it would face 100% of revenue risk when traffic is up to 98% below forecast, and 30% of risk when traffic is 90-98% below forecast

Cost risk sharing

Protecting airline customers from cost impact of new airspace users

Given rapid development in technology, business models, commercial investment and Government regulatory support for new airspace users, we envisage a potentially significant increase in the demand placed on NERL during the NR23 period to design and manage airspace to enable safe and efficient use by all users. New demand is likely to emerge for the management of Uncrewed Aircraft Systems (UAS, most commonly known as drones) and for the design and management of airspace to enable the launch of space vehicles.

In the RP3 period, we included around £7m (2020 prices) in our baseline operating costs to fund a package of measures to protect the safety of commercial air traffic from the emerging risk posed by drone operations. We would continue to maintain a level of safety-related activity in NR23 and will fund this through our baseline operating costs.

We anticipate though that there will be additional demands in NR23 where we are asked to provide safety, regulatory, airspace design and/or air traffic services to those running or providing services to drone operations. Since such services from NERL would directly benefit drone operators, and not our en route or oceanic customers, we would want to protect our customers from bearing these costs, and would instead seek to recover costs from the UAS sector.

Similarly for the emerging UK space sector, we anticipate that there could be significant demand on NERL in the NR23 period for airspace design to provide safe exclusion zones for launch of vehicles. We are working with the CAA and the Government to consider possible models for the funding of the necessary safety, airspace design and regulatory activity by NERL.

In each case (UAS and space), we propose to protect our commercial aviation customers from the potential cost impacts arising from new users by excluding any costs for supporting such new activity from our NR23 business plan. We will however maintain funding, in line with RP3, to uphold the safety of the UK FIR for commercial aviation. This proposal received strong support from airlines during our customer consultation process.

Pending any further specific guidance on this issue from the CAA, we propose the following mechanism:

- We would seek to recover any costs incurred by NERL during NR23 in supporting the development of UAS and space through specific bilateral commercial charges
- Where NERL's activities in support of new users draw on resources funded primarily to deliver the UKATS service, then revenue from commercial charges to new users accruing during NR23 would be returned to NERL's existing customers as soon as practicable via an adjustment to charges in year N+2
- Where NERL is not able to recover costs for servicing new users, then such costs would be logged up, to be assessed and then approved by the CAA as reasonably and efficiently incurred in support of the Government's wider policy goal for the effective use of the UK's airspace, and then recovered by any new charging mechanism established by the CAA

Pension cost reduction risk sharing

NERL operates three pension schemes (as described in Appendix K): defined benefit (DB), defined contribution (DC) and pension cash alternative (PCA). We will maintain the cost risk sharing mechanism, which was in place for the RP2 period and in our RP3 plan, so that customers continue to benefit when NERL employees switch from the higher cost DB scheme to the lower cost PCA and NERL is financially neutral from such transfers.

In 2016-17 more than 900 NERL members of the DB scheme chose to defer their membership or transfer out of the DB scheme to take advantage of the PCA. The Government announced in the 2021 budget that the pension lifetime allowance (LTA) would be frozen (in nominal terms) at its current level of around £1m until April 2026, and there remains a risk that the LTA could be further reduced in any future Budget. Taxation changes of that nature are likely to lead more NERL members to transfer out of the DB scheme and into the PCA. The timing and scale of such transfers are not able to be forecast, though, as they depend upon the sum of individual decisions by DB scheme members, based on a range of financial and personal considerations to which NERL as the employer is not privy.

Under the pension cost pass through arrangements, where a NERL member of the DB scheme switches to the PCA within the regulatory period, the cost of future service accrual (65% on average in NR23) of the employee's pensionable pay ceases while NERL incurs the cost of providing the PCA (29% of pensionable pay in NR23, comprising a 25% contribution plus a further 4% for employers' earnings related national insurance and apprentice levy contributions). These arise because the PCA is a cash allowance and therefore taxable. The net cost reduction is passed back, in full, to customers via adjustments to the RAB, which feed through to prices in the subsequent regulatory period. Airline customers will benefit regardless of whether we forecast DB scheme opt outs, and since it is not possible to predict when and how many current members of the DB scheme might transfer to the PCA, our cost projections include a neutral assumption of no transfers in the NR23 period.

By way of illustration, if 100 NERL members switch from DB to PCA in NR23, assuming an average pensionable pay of £80k, this would give rise to PCA costs of around £2m each year. DB pension costs would reduce by around £5m. Customers would therefore benefit by around £3m each year. Several hundred members currently have cash equivalent transfer values which may mean they are in a position where a switch to the PCA may be beneficial from a taxation perspective, should they choose to do so.

We therefore propose that the additional PCA and associated employers' national insurance costs arising within NR23 from the transfer of a NERL member from the DB to PCA scheme should be included within the pension cost pass through arrangements. This would mitigate the risk to NERL of a potentially material cost impact if large numbers of staff decided to switch schemes, perhaps prompted by any future policy change by Government. Customers would continue to benefit within NR23 from the net difference between contribution rates for the DB and PCA schemes, and in the medium term from the continuing lower cost and lower funding risk of the PCA.