



5th Floor South
Brettenham House
Lancaster Place
London, WC2E 7EN

CAA
CAA House
45-59 Kingsway
London
WC2B 6TE

31 May 2017

Dear Matt,

NERL response to CAA discussion document on strategic outcomes for the economic regulation of NERL 2020-2024 (CAP 1511)

We welcome the opportunity to respond to the CAA's discussion document on strategic outcomes for the economic regulation of NERL in Reference Period 3 (RP3, 2020 – 2024). These strategic outcomes will set the direction for the development of the UK's ATM system for years to come and it is vital we make the right choices now to further the interests of existing and new airspace users.

Our purpose is to advance aviation and to keep the skies safe. With forecasts of c3 million flights carrying c350 million passengers by 2030 and increased physical and cyber threats, we feel there are other important outcomes in addition to the strategic outcomes within the CAA's discussion document. These are:

- A safe service;
- Modernising our airspace to address capacity constraints and completing the renewal of our ATM systems infrastructure;
- A coherent plan that is flexible enough to respond to changing industry conditions; and
- The right incentives.

We note the CAA's decision not to include safety as a strategic outcome as NERL's pursuit of economic and service quality outcomes will always be in the context of maintaining safety. However, safety is such an important subject that it is essential it is the first strategic outcome above all others. This is particularly true in the light of emerging new challenges described later, including the rise of Unmanned Traffic or "drones". Therefore, safety must be actively and continuously considered above any other outcomes.

We also believe greater clarity is required regarding the service quality strategic outcome to ensure we meet both the requirements of our customers and our licence.

In Annex 1, we describe the seven strategic outcomes that we believe should be pursued along with the relevant background and context as well as a description of the issues relating to each.

In Annex 2, we elaborate on related other issues.

We would be happy to discuss our response with you.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Thea Hutchinson', written in a cursive style.

Thea Hutchinson
Head of Regulation

Annex 1: NERL view on strategic outcomes for RP3

Strategic outcomes

The management of air traffic in UK airspace is approaching a critical point in its evolution. From now until the end of RP3 in 2024, it is likely that it will go through radical changes, the like and scale of which have not been experienced since the introduction of commercial flying.

We envisage an airspace that will need to accommodate more traffic than ever, with more flexibility and a greater range of traffic types than we have faced before. The airspace, particularly nearer the ground, will require fundamental overhaul. This will include airspace around the airports to accommodate increased demand and reduce noise as well as supporting extensive drone operations, potentially including drones carrying passengers.

To continue to do this safely and efficiently requires a completely new form of airspace management and regulation that will need to be developed and integrated into existing systems and procedures, where complete conspicuity of traffic is the norm and classifications of airspace no longer exist.

Air traffic will be managed according to a single comprehensive plan that covers all airports and airlines and extends across international borders. The plan will be developed a year in advance and continually refined on a daily, hourly and minute by minute basis facilitated by data information exchange between all parties. Incidents that occur that have the potential to derail the safe, smooth operation of the sky will be managed with all stakeholders for the best result for the travelling public.

All of this will be underpinned by two major components. First, ATCOs and support staff that are professional, well trained, motivated and dedicated to the service they provide; and, second, comprehensive resilient technical systems that are physically and cyber secure to a new range of emerging threats. All of this needs to happen safely and cost efficiently, 24 hours a day, 365 days of the year.

To deliver this vision, NERL has identified the following strategic outcomes for RP3.

1. A safe service
2. Service quality and resilience that reflects customer requirements and licence compliance*
3. Modernising our airspace to address capacity constraints and completing the renewal of our ATM systems infrastructure
4. Efficient prices*
5. A coherent plan that is flexible enough to respond to changing industry conditions
6. The right incentives
7. Effective accountability mechanisms*

*included in or adapted from the CAA's discussion document

These strategic outcomes are described below, along with their background and context as well as some of the key issues.

Outcome 1 – a safe service

Providing a safe and efficient service is our number one priority and our customers always expect this of us. For RP3, NERL wants to proactively address safety issues for the service it provides, so that potential constraints on capacity necessary to maintain a safe service are minimised.

We note that the CAA's first duty under The Transport Act 2000 (TA00) is to "maintain a high standard of safety in the provision of air traffic services". The definition of safety under TA00 is to comply with the Air Navigation Order. This standard is considered to be an absolute minimum by NERL where the focus over many years has been to recognise and mitigate factors affecting safety on a network wide basis across the whole industry. Maintaining this level of safety needs to be considered both in the current Air Traffic Management (ATM) environment and in the new emerging Unmanned Traffic Management (UTM) environment. The UK Government recognises the potential that the rapidly growing UTM industry can bring to the UK. As noted above, this will lead to a very different balance and mix of traffic requiring a new integrated approach to managing airspace in order to maintain safety. Therefore, the safe introduction of UTM into UK airspace will be an important factor for RP3.

NERL's delivery of a safe service will involve consideration of the following points:

ATM

- A clear understanding of a 'safe service' that is calibrated with guidance on effective measures of safety performance.
- Fulfilling our obligations as required and defined in the UK State Safety Plan
- Aligning our safety requirements with those of EASA.
- Full electronic conspicuity across the London and Scottish Flight Information Regions.

UTM

- The introduction of user and all unmanned aerial systems registration, oversight of access to airspace and enhancements to existing aeronautical information standards.
- The safeguarding of aerodromes and controlled airspace in light of increased numbers of airspace infringements by drones.
- Identification of changes to ground technology and to safety and operational procedures to accommodate the growth of UTM
- Full electronic conspicuity across the London and Scottish Flight Information Regions.
- Consideration of relevant funding for the establishment of a safe operating environment for UTM, taking into account views of all users of UK airspace
- Alignment our safety requirements with those of EASA.

Outcome 2 – service quality and resilience that reflects customer requirements and licence compliance

NERL aims to support our customers' businesses by providing a predictable level of service that meets their operational needs, at a price they can afford. To achieve this, we believe it is critical that both NERL and its customers are entirely clear what service levels have been agreed.

Views expressed by the CAA in its report CAP 1551 have revealed a potential mismatch between NERL's assumption and the CAA's expectations on service quality. In particular, NERL assumed that its Performance Plan would determine the standards of service for which it would be held to account under the Transport Act 2000 and its licence, unless there is evidence of a systematic problem. Therefore, NERL and other stakeholders will need to understand how its minimum licence requirements relate to the targets in its RP3 Performance Plan.

The need for clarity will be even greater in RP3 as NERL faces the challenge of modernising lower airspace and completing the renewal of its ATM systems infrastructure. These processes, which are essential to providing the capacity and performance necessary to handle future traffic growth with resilience, will inevitably affect service levels during periods of implementation in RP3.

Setting the right regulatory framework for meeting customer requirements will require consideration of the following:

Capacity

- Developing a common understanding of the requirements of airspace users for capacity in all its dimensions:
 - Delay – consistent performance within certain parameters, which take into account the need to deliver airspace redesign and also forecast traffic levels.
 - Resilience – fulfilling the system resilience requirements recently agreed with the CAA and ensuring resilience of operational resources and systems taking into account potential changes in circumstances.
 - Optimising the performance of the entire UK airspace network – without undue discrimination or excessive detriment to particular users.
 - Alignment with the European ATM network, striking a balance between avoiding becoming a constraining factor and investing at a level which does not bring additional benefit to the network, because of constraints elsewhere.

- Delivering the capacity described above recognising that customer and CAA expectations on service delivery need to be clear.

Environment

For NERL's environmental performance, there are two key distinct areas: first, airspace efficiency and second, noise.

For airspace efficiency, NERL will continue to provide improvements to flight profiles in areas that it can control to minimise carbon emissions and fuel burn. This is activity that airlines regard as extremely important for the sustainable growth of the industry as well as their financial viability. It also supports airlines' international commitments to carbon neutral growth through IATA. This will need to take account of the impact of numerous extraneous factors that have the potential to affect the ability to deliver airspace efficiency such as:

- Challenges to the delivery of change to low level airspace around airports driven primarily by local resident concerns about noise impacts or even the concept of change itself
- The willingness of airspace users to engage with NERL to understand their role in delivering airspace efficiency in collaboration through improvements to their flight planning and operations, in effect establishing a contract for fuel burn and emissions reductions
- The advent of UTM that will further constrain airspace in already complex low level airspace.

These factors combined will require the recasting of the current 3Di metric to ensure that it remains focused on delivering airspace efficiency in areas where NERL has control while still realising the fuel burn and emissions benefits that our customers so highly value.

For noise, it is important to recognise that this has the potential to be a significant impediment to NERL's objective to deliver airspace modernisation during RP3. NERL will continue to work with stakeholders to ensure that future airspace design mitigates or manages noise impacts where possible, subject to restrictions imposed by Government airspace policy. Important considerations in the delivery of NERL's investment programme throughout RP3 while managing or mitigating noise impacts include:

- Working with the industry, regulators and community groups to ensure that we have metrics and language to appropriately describe changes to airspace and procedures and measure the impacts of those changes
- Engaging with residents around airports to understand the nature of the solutions to current and future noise issues, recognising that local solutions may be needed for local concerns
- Ensuring that consultation arrangements are fit for purpose and use techniques that effectively give all stakeholders (including industry and communities) the ability to design jointly agreed solutions
- Continuing to explore innovative approaches to noise management (e.g. respite) that enable airspace change whilst managing the impacts of noise.

Targets that reflect trade-offs

- Targets for capacity and environment that reflect the following trade-offs i.e. maximising capacity (e.g. through technology) without unduly affecting environmental performance. The following aspects will be key:
 - Cost versus benefit – balancing the cost and the benefit.
 - Capacity versus noise – recognising that any measures to manage noise may ultimately impact capacity, and therefore a cross-industry approach led by the CAA is required to address this balance.
 - Noise versus fuel burn and emissions – recognising that measures to manage noise may affect emissions and fuel efficiency

Outcome 3 – modernising our airspace to address capacity constraints and completing the renewal of our ATM systems infrastructure

We are a strong supporter of airspace change. The UK's current airspace was designed over 50 years ago, for an industry vastly different in scale to the one we have today. We need to modernise this invisible infrastructure as soon as possible. This will improve safety, increase efficiency, capacity and resilience while minimising the impact on the environment. In addition, the deployment of SESAR capable systems and replacement of NERL's ageing legacy systems is essential to maintain good

service performance and deliver airspace capacity (including LAMP Phase 2). Increased traffic volumes mean that continuing to exploit our legacy systems is no longer cost effective or efficient.

The focus of RP3 will be transforming NERL's systems supporting lower airspace and delivering airspace change on the new systems including free route airspace and systemised airspace in the London TMA. This will involve:

Airspace modernisation

- NERL playing an active role in areas where it is accountable and has effective control.
- Support from Government, the CAA and airport and airlines at senior level to achieve agreement from all stakeholders. In particular, all stakeholders will need to work together in a coordinated approach and Government oversight will be required to ensure delivery.
- Significant investment in RP3 in airspace, system and people, including accommodating a new runway at Heathrow.
- Additional work in relation to new airspace users (e.g. UTM) to address new and potentially complex challenges and associated regulatory and consultation requirements.

Continuing the renewal of our ATM infrastructure

- NERL completing its Deploying SESAR technology programme in order to support the modernisation of lower airspace in RP3 and allowing it to retire its legacy environment.
- Investment in technology to maintain good service performance with resilience and contingency. Such investment is also necessary to replace legacy systems as they approach end of life and to align with SES.
- Reflecting in investment plans the full benefits of developing new capacity, which are often harder to quantify compared to the associated cost.
- Recognising the need to refresh technology at appropriate intervals and in line with best practice.

Outcome 4 – efficient prices

NERL always seeks to provide value for money to customers for the provision of agreed levels of service. It is evident from our experience in RP2 that with growing traffic there is reduced tolerance for delays including those arising from technical failures. Stakeholders value highly a consistently good and resilient service. In our view, this points to the development of a Performance Plan which is safety and service led.

In relation to safety and service, this will mean having funding for the right level of resources (both in terms of levels and remuneration) and for the implementation of our technology programme. In relation to efficiency, it is worth noting that NERL has reduced its real operating costs significantly over time, and is meeting its RP2 cost efficiency targets which exceed those set an EU-wide level.

In considering efficient prices, it will be important to ensure that NERL has sufficient resources to deliver required service levels recognising that the extra cost of delay and disruption can far exceed the marginal cost of delivering a good service.

This will involve consideration of:

- Scenario planning and key assumptions – taking into account key economic drivers (e.g. traffic) and the regulatory framework (e.g. risk sharing mechanisms).
- Interdependencies and trade-offs – between service quality (capacity, service resilience and environment) and price levels while maintaining a safe service. As we have commented previously, these need to be far better understood in order to inform correct decision making.
- Customer requirements – the efficient level of operating and capital costs to deliver these, supported by benchmarking that robustly makes like-for-like comparisons.
- Appropriate cost allocation – costs attributed and allocated between monopoly and other activities using appropriate bases and systems.
- New funding for fundamental airspace, systems and people to accommodate a new runway at Heathrow and the establishment of a safe operating environment for UTM.
- Financeability – with the CAA taking full account of the funding of NERL's legacy defined benefits pension scheme and appropriate levels of return.

In relation to financeability, we note that NERL's financeability and its ability to access capital markets for funding is a key aspect of the CAA's requirement to set efficient prices. It also impacts directly on NERL's ability to achieve other outcomes such as service quality and resilience. Financeability is especially critical to NERL during RP3 given the projection of a falling Regulatory Asset Base.

Financeability is generally interpreted by regulators to require taking account of the projected financial position of the company across the whole range of plausible business scenarios to ensure the regulated entity can access capital markets at efficient costs.

Therefore, we recommend that the CAA conducts a thorough financeability assessment of NERL's business under various the whole range of plausible business case scenarios for revenue and costs. This financeability assessment should also take account of the incentive arrangements and, balancing the financial rewards for outperformance against the potential risks to financial sustainability due to under performance. If the overall regulatory package provides a threat to NERL's ability to finance itself efficiently, it will be necessary for the CAA to reconsidering NERL's RP3 allowance and/or measures to mitigate the risks.

Outcome 5 – a coherent plan that is flexible enough to respond to changing industry conditions

NERL places very great importance on delivering the commitments we make to our customers. To achieve this though requires NERL to have a performance plan that appropriately balances between the various key performance areas (covered above) and is coherent.

The plan also needs to have an element of flexibility to deal with short, medium and long-term changes to the business environment NERL operates within. We believe this is in the best interests of our customers.

This points to the following:

- A safety and service-led plan (rather than a price-led plan), for reasons already stated above.
- Avoiding the temptation of seeking to optimise all of NERL's performance targets in isolation from one another. This approach will be sub-optimal for customers and passengers as it removes too many degrees of freedom for the company in delivering overall outcomes.
- Setting targets and regulating outputs rather than inputs.
- Ensuring NERL has operating cost allowances sufficient to provide a good quality and resilient service to our customers and that can respond flexibly and more easily to changes in the operating environment e.g. a sensible level of contingency.
- Ensuring NERL has sufficient flexibility to vary its capital expenditure programme subject to customer consultation and regulatory support.

Considering capital expenditure and operating cost analysis as a whole with the potential for flexibility between the different types of spend. This will enable customer benefits to be delivered in the most cost effective way.

- Making due allowance when setting performance targets for the challenge of modernising airspace and completing the renewal of ATC system infrastructure while at the same time delivering a 24/7 operation.
- Setting targets (e.g. on service quality and environment) that adjust in line with changing traffic conditions.

Outcome 6 – the right incentives

The right incentives for NERL are those that focus the business on the best outcomes for customers, including the right cost of capital and strong incentives to invest and to innovate.

The following considerations will be important:

- The regulatory framework needs to provide shareholders with adequate return allowances reflecting the changing risks that are borne, and recognising that the RAB value will be lower in RP3 than in RP2.
- NERL's RAB is already significantly smaller than other UK regulated companies (as a proportion of the overall revenue requirement). This means that changes in its revenue from incentives have a significantly greater impact on its shareholder return than for other regulated companies.
- There should be a few focused incentives that drive behaviours to reflect customer requirements and priorities in UK and Oceanic airspace, for example on capacity and environmental performance. It is worth noting that previously NERL has focused on delivering

benefits that customers value even in the absence of direct financial benefit (e.g. Time Based Separation).

- In general, NERL believes that the incentives should remain symmetric in the interests of efficient pricing. If incentives are designed asymmetrically with greater downside risk to NERL, then the cost of capital should be adjusted upwards to reflect this asymmetric risk.
- If NERL bears more risk in its incentives, this will need to be reflected in the cost of capital. In particular, if these incentive mechanisms impose greater exposure to market movements, NERL should be remunerated through a higher allowed rate of return.
- The possible reinstatement in some form of the Rolling Incentive Mechanism, to encourage NERL to outperform regulatory assumptions throughout the regulatory price review period, potentially enabling greater efficiencies to be passed onto customers subsequently.

Outcome 7 – effective accountability mechanisms

NERL is keen to ensure that accountability mechanisms are effective for all parties. This means they will need to be flexible and responsive as well as providing scrutiny and governance of its decisions. They will also need to recognise where NERL has accountability and therefore can control outcomes, and where accountability sits fully or is shared with others in the industry.

Factors that will be important include:

- A safety and service-led core scenario with the ability to respond to changing customer priorities and requirements subject to appropriate consultation.
- Recognition that NERL is accountable not just for delivering current airspace user requirements but also those of the future. Sometimes this will mean that the CAA will need to reflect in NERL's prices the development of infrastructure that will benefit longer term users as well as current ones.
- Consideration of broader measures regarding the architecture for UK airspace, taking into account the relevant contribution and accountability of all stakeholders to ensure one party is not held accountable for another's delivery.
- Investment planning that reflects user's requirements and government priorities, that is justified and transparent, with continued consultation through the agreed Service and Investment Plan process allowing customers meaningful input.

Annex 2: Other NERL feedback on CAP 1511

This annex provides feedback from NERL on specific areas of CAP 1511.

Timetable

NERL believes that the proposed timetable is challenging and its achievability will rely on the following:

- Commitment from airlines, NERL and the CAA to the timetable, including material submitted and feedback provided in a timely way.
- The CAA providing NERL with a set of regulatory assumption in June 2017 about pension pass through and inflation treatment etc. to enable NERL to begin scenario planning this summer.

Brexit uncertainty

Brexit uncertainty creates risks for NERL as a regulated business because NERL is unique in the UK for having key performance targets set at an EU-wide level by the European Commission. In particular, the possibility of the UK being subject to Single European Sky regulation without having a “voice” at the Single Sky Committee creates financeability and other risks. Therefore, it will be important that the CAA's deliberations for RP3 take account of financeability risks that have potential implications for NERL's cost of capital, cash flows and regulatory model.

Pensions

We agree with the CAA that when NATS was privatised, its DB Scheme had a number of enhanced legal protections which constrained the scope for management discretion for fundamental change to address its cost and risks.

Despite these, working in consultation with Trade Unions, our employees and Trustees as required, we have taken action to mitigate the costs and risks that we face. This includes closing the Scheme to new members, capping pensionable pay increases at CPI, indexing future service at CPI and de-risking through the investment strategy (e.g. increasing the hedge for real interest rates).

The pass-through approach for costs resulting from unforeseen financial market conditions, changes in national pensions law and pension accounting law play a significant part in reducing the cost of pensions to airspace users over time. This is because Trustees take these arrangements fully into account when making their assessment of the strength of NERL's employer covenant. Without them, Trustees would factor in a higher risk assessment leading to higher pension contributions and upward pressure on prices.

Maintaining the symmetry of these arrangements is also important. This is to avoid adding risk to the Trustees assessment of the strength of the employers covenant (which, as discussed, will only lead to higher pension contributions), and also to ensure that customers benefit from reduced prices when financial market conditions improve.

We will continue to act in a manner consistent with a commercially minded company in seeking to mitigate the costs and risks of the scheme within the legal constraints that exist.

Fair comparisons to NERL

NERL welcomes the CAA's acknowledgement that its prices have fallen over time. Any comparisons made by the CAA between NERL and other ANSPs should be on a fair and like for like basis. In particular, the CAA needs to take account of the following factors:

- Other ANSPs have more favourable pension arrangements and/or support from their Governments than NERL.
- NERL's prices do not reflect the higher service expectations, intolerance for technical failures and additional constraints that other ANSPs do not have. In 2016, the average delay (including weather) across the whole of Europe was 51.6 seconds per flight compared to 17.6 seconds per flight for the UK. In other years, the UK's relative performance was even stronger.
- ACE benchmarking is a 'truer' representation of NERL's costs than unit rate league tables and should be used for comparisons instead. ACE reports indicate NATS' performance is consistent with the 'big 5' ANSPs.
- Even ACE benchmarking does not take account of the complexity of NERL's traffic, especially in the London Terminal Manoeuvring Area, which limits NERL's ability to reduce its prices to be comparable to cheaper states with less complex traffic.

Resilience

NERL recognises the importance of resilience to its customers and is committed to fulfil the system resilience requirements recently agreed with the CAA.

NERL believes that the following factors will need to be taken into account in determining NERL's resilience requirements for RP3:

- Separate treatment of resilience for the purposes of licence requirement and resilience for service quality (for the purposes of bonuses and penalties).
- Balancing resilience requirements against efficient prices with consideration of short term versus long term trade-offs.
- Recognition in NERL's CoC of the imposition of extra requirements on NERL in terms of resilience implies extra risk for our shareholders.

Pricing for different types of service

NERL considers that the CAA might wish to consider the pricing of some of NERL's services, given the environment of rising traffic.

In particular, the CAA might want to consider the following ideas, with input from all stakeholders to look at the wider implications of change including ensuring there are no perverse incentives:

- Linking London Approach charges more closely with new investments in RP3 that sustain and improve this service.

- Exploring the possibility of different charging zones or other ways of charging that aim to optimise performance relating to capacity and the environment.