Government
Actuary's
Department

5 June 2019

Civil Aviation Authority – review of further evidence provided by NERL

Introduction

1 The Civil Aviation Authority (CAA) is the economic regulator of NATS (En Route) plc ("NERL"). The CAA commissioned the Government Actuary's Department (GAD) to review certain aspects of NERL's pension arrangements to help inform the allowance for pension costs in RP3 (covering the period from 1 January 2020 to 31 December 2024).

2 GAD's report "Analysis of pension costs for NATS (En Route) plc" dated 24 September 2018 ('the main report') sets out the results of this review. Subsequently, the CAA have asked GAD to review two further pieces of information regarding the NATS section of the Civil Aviation Authority Pension Scheme (referred to as the 'NATS pension scheme' in this report) to help inform the allowance for RP3 pension costs:

- The annual update as at 31 December 2018 of the NATS pension scheme
- A document agreed between the Trustee of the NATS pension scheme and NERL on the "Guiding Principles for Long-Term Planning"

3 This report should be considered as an addendum to, and should be read in conjunction with, the main report.

4 Any terms in *italics* are defined in a glossary in Appendix F of the main report.

5 **Distribution and publication:** This report is addressed to the CAA. I am aware that the CAA may make this report available to other parties, including NERL and the trustees of the NATS pension scheme. I am aware that the CAA intend to publish this report in its entirety, or to quote this report in part, subject to confidentiality requirements. GAD reserves the right to review and comment on any documents in which the CAA quotes or refers to this report in part.

6 **Limitations:** The purpose of this report is to assist the CAA in considering its price controls for the period 1 January 2020 to 31 December 2024. This report does not represent advice on the appropriate funding of the NATS pension scheme, or other pension schemes. This report is provided by GAD to the CAA solely for the use of CAA. GAD does not accept any responsibility to third parties who may read this report or extracts from it.

7 **Compliance:** This work has been carried out in accordance with the applicable Technical Actuarial Standard: TAS 100 issued by the Financial Reporting Council (FRC). The FRC sets technical actuarial standards for actuarial work in the UK.

2018 annual update

8 The RP3 projected pension costs submitted by NERL were informed by the latest funding valuation as at 31 December 2017. Funding valuations are used to set the future cash contributions payable by the sponsor and must occur at least every three years. In years where a formal funding valuation does not take place, an annual update must be produced[1]. The assumptions and results of the formal funding valuation as at 31 December 2017 are discussed in detail in the main report.

[1] In accordance with section 224 of the Pensions Act 2004

At GAD, we seek to achieve a high standard in all our work. We are accredited under the Institute and Faculty of Actuaries' Quality Assurance Scheme. Our website describes the standards we apply.

9 The purpose of an annual update is to provide information on any significant changes to the funding position since the last formal funding valuation, it does not have any direct impact on the contributions payable to a pension scheme. Furthermore, the funding position at an annual update is determined using a consistent methodology and assumptions as adopted for the previous formal funding valuation, therefore the sponsor (in this case NERL) has a limited role in the production of an annual update.

10 GAD has reviewed the report on the annual update as at 31 December 2018 carried out by the Scheme Actuary of the NATS pension scheme[2]. The assumptions adopted, and the results of the annual update appear reasonable given the assumptions adopted and results of the 2017 valuation and market conditions on 31 December 2018.

11 **Assumptions:** As would be expected for the purpose of an annual update, the assumptions adopted at the 2018 annual update are consistent with the 2017 valuation. That is, all demographic assumptions (such as mortality) are unchanged and the financial assumptions (such as *discount rates* and inflation) are derived in the same way as the 2017 valuation but consider the financial market conditions (principally gilt yield curves) as at 31 December 2018. Real gilt yields have increased slightly over the year which as expected has resulted in a slight reduction in liabilities compared to if the 2017 valuation market conditions remained in force.

12 **Increase in deficit:** The deficit assessed at the 2018 annual update increased from £270 million as at 31 December 2017 to £432 million as at 31 December 2018 (an increase of £162 million). Page 7 of the report on the annual update shows that the principal reason for the increase in deficit was due to negative investment returns on growth assets, which increased the deficit by £153 million. This investment loss seems plausible given the proportion of growth assets in the NATS pension scheme and the performance of equity markets over 2018. However, equity markets had recovered by the end of April 2019[3] as discussed below, so this increase in deficit may have also recovered by that point.

13 **Pay increases:** Another noticeable feature of the graph on page 7 is that pay increases awarded over the year appear to have increased the deficit by £20 million. The CAA may like to consider why higher than expected *pensionable pay* increases were awarded. Assumed pay increases are discussed in paragraphs 6.23 to 6.25 of the main report.

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[2] Actuarial report at 31 December 2018 – NATS Section of the Civil Aviation Authority Pension Scheme, dated 28 March 2019

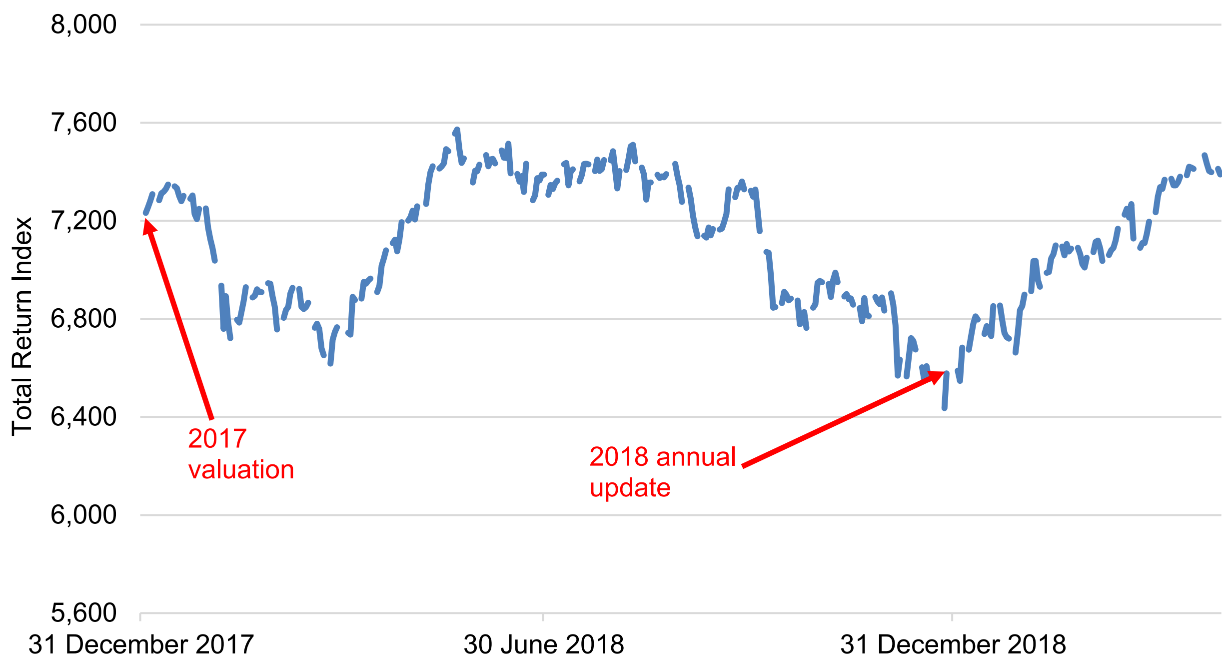
[3] The most recent month-end at time of writing. On finalisation of this report I note that equity markets have subsequently fallen since the end of April 2019.

Implications for the funding position at the 2020 valuation

14 The funding position reported at the next formal actuarial valuation due as at 31 December 2020 will depend on the assumptions adopted and the financial market conditions in force at that time. In particular the funding position is highly dependent on the performance of investment markets which will influence the asset value, and gilt yields which are used to set the *discount rate*. Given the inherent volatility of financial markets the funding position is also highly volatile.

15 To illustrate this volatility, the below chart shows the performance of the UK equity market since the 2017 valuation as measured by the FTSE All Share Total Return Index. In particular this shows how the index has recovered since the 2018 annual update.

Chart 1 FTSE All Share, Total Return Index, 31 December 2017 to 30 April 2019



16 **Investment markets:** Chart 1 shows that UK equity markets fell considerably between 31 December 2017 and 31 December 2018, by around 9.5% as measured by the FTSE All Share Total Return Index. However between 31 December 2018 and 30 April 2019 markets recovered to above 31 December 2017 levels, an increase of around 12%.

17 As set out in the 2018 annual update report the increase in deficit between 31 December 2017 and 31 December 2018 was mainly due to negative investment returns on the *return seeking assets*. However, given investment market movements since 31 December 2018 this increase in deficit may have been recovered by the end of April 2019. Although I am aware that the deficit was assessed to be broadly the same by the end of March 2019 as it was as at 31 December 2018.

18 Please note that the choice of equity index in Chart 1 is in order to illustrate the volatility in *return-seeking assets* and how the 2018 annual update occurred at a time when markets were low. It does not necessarily follow that the growth asset portfolio in the NATS pension scheme, which contains a range of different asset classes, would see the same level of decrease and increase in value, however the general trend is expected to be similar.

19 **Real gilt yields:** Between 31 December 2018 and 30 April 2019 real gilt yields have reduced by around 0.2%[4] which will have increased the liabilities relative to the 2018 annual update. As discussed in paragraph 5.10 of the main report there is a real interest rate hedge ratio of 65% in place, therefore an additional deficit will have arisen but only with respect to the 35% of liabilities which are unhedged. This will partially offset the expected gain due to investment performance on the growth asset portfolio between 31 December 2018 and 30 April 2019.

Return required for a surplus to arise at the 2020 valuation

20 To help inform the allowance for pension costs in RP3 the CAA are interested in the likelihood of a surplus arising at the 2020 valuation. To assist with this, the below table sets out the approximate return required on the scheme assets in order for the scheme to reach full funding at the 2020 valuation for the following scenarios as requested by the CAA:

1. Return required between the 2017 valuation and 2020 valuation, based on the 2017 valuation results
2. Return required between the 2018 annual update and 2020 valuation, based on the 2018 annual update results
3. Return required between the 2018 annual update and 2020 valuation, based on the 2018 annual update results but with the 2020 valuation post-retirement *discount rate* being set to gilts plus 0.5% a year. This represents an increase in post-retirement *discount rate* from the gilts plus 0.25% a year adopted at the 2017 valuation. The pre-retirement *discount rate* is retained at gilts plus 3% a year. The post-retirement *discount rate* in this scenario reflects the long term target agreed by the Trustee and NERL in the Guiding principles document. However, I understand this is the discount rate and investment return targeted to be in place in 15-20 years' time so it does not necessarily follow that the post-retirement discount rate will be increased in isolation to this level at the 2020 valuation

Table 1 Approximate returns required to reach full funding at the 2020 valuation

Scenario	Time period	Approximate investment return required	
		Over the whole period	Per year, in excess of gilts
1. 2017 valuation results	3 years	~ 10%	~ Gilts + 2.75%
2. 2018 annual update results	2 years	~ 13%	~ Gilts + 5.5%
3. 2018 annual update results on gilts+0.5% post-retirement discount rate	2 years	~ 8%	~ Gilts + 3%

[4] Based on Bank of England data at a duration of 20 years

21 The approximate required investment return of scenario 1 in Table 1 can be compared to the Scheme Actuary's expected return at the 2017 valuation, over a 10 year time frame, of gilts plus 2.5% a year. Given the return required to reach full funding is higher, it could be interpreted that as at the 2017 valuation there was considered to be less than a 50% chance of being fully funded by the 2020 valuation, all else being equal.

22 Scenario 2 shows that higher annual returns are required following the 2018 annual update than would have been assessed to be required following the 2017 valuation. However, when considering the likelihood of achieving such increased returns I suggest asking NERL for the investment returns earned to date in calendar year 2019, which as discussed above might be expected to be at a level which would recover the additional deficit disclosed at the 2018 annual update by the end of April 2019. If so then a lower return would be required between now and the 2020 valuation than shown in the table, although conversely real gilt yields have since fallen which would increase the required return.

23 Scenario 3 results in a reduced required return compared to scenario 2 because increasing the post-retirement *discount rate* to gilts plus 0.5% a year at the 2020 valuation will place a lower value on the liabilities so a lower value of assets are assessed to be required to achieve full funding, all else being equal.

24 **Methodology and limitations** - the approximate results in Table 1 are provided to give an indication of the scale of investment return required in order for deficit payments to cease following the 2020 valuation. It should be noted that:

- The investment returns reflect those required to be earned up to 31 December 2020 so that the 2020 valuation *funding level* is broadly 100%. Consideration is given to the deficit recovery payment of £26 million due in 2021 which we assume would still be paid before the new schedule of contributions comes into force. Returns greater than those shown in the table will be required to generate a surplus
- The annual returns in excess of gilts have been rounded to the nearest 0.25% to reflect the approximate nature of the calculations
- In order to determine the funding position at the 2020 valuation we have had to "roll forward" the 2017 valuation / 2018 annual update results based on expected cashflows. This implicitly assumes that scheme experience (for example inflation, mortality rates) occurs in line with the 2017 valuation / 2018 annual update. We have made no allowance for any recent experience that has become known since the relevant 2017 valuation / 2018 annual update.
- Scenario 1 makes no allowance for the actual investment returns beyond 31 December 2017. Similarly scenarios 2 and 3 make no allowance for the actual investment returns beyond 31 December 2018
- We have assumed all 2020 valuation assumptions are the same as at the 2017 valuation or 2018 annual update (including the underlying market conditions) apart from the change in *discount rate* for scenario 3. In practice, the trustees would set assumptions relative to the market conditions and scheme experience present at that time which could be materially different to the 2017 valuation / 2018 annual update assumptions, for instance real gilt yields at the end of April 2019 are around 0.2% a year lower than were in force at the 2018 annual update. Therefore the required investment return to achieve full funding at the 2020 valuation could be materially different to that shown in the table.

- The impact of adopting a gilts plus 0.5% post-retirement *discount rate* in scenario 3 has been taken from information provided by NERL for the purpose of our RP3 pension costs review (as summarised in paragraph 7.33 of the main report), which we have relied on being accurate. We have assumed the impact of any change in assumptions in percentage terms is the same at the 2020 valuation as it was at the 2017 valuation, and therefore there is a greater element of approximation in scenario 3 compared to the other scenarios
- We have assumed all investment returns are earned uniformly over the period. In practice, the timing of investment returns will have an impact on the funding position at the 2020 valuation

Guiding principles for long term planning

25 The document "Guiding Principles for Long-Term Planning", dated 14 February 2019 has been agreed between the Trustee of the NATS pension scheme and NERL. This document appears to formalise NERL's preference stated in their initial business plan that the long term strategy is to fund the scheme on a long-term low-risk basis. In particular, both the Trustee and NERL have agreed a 'long term target' of being 100% funded on a gilts plus 0.5% a year *discount rate* over 15-20 years. The Trustee also retains an 'even longer term target' of being 100% funded on a gilts plus 0.25% a year *discount rate* (over 25-30 years), although the intention is that this does not impact investment decisions made until the 'long term target' has been achieved.

26 The considerations with regards to the application of surplus for such a long term strategy is discussed in paragraphs 4.3 – 4.10 of the main report and these comments remain relevant. In particular:

- The long term target suggests priority will be given to utilise the surplus by 'de-risking' the investment strategy rather than to reduce employer contributions
- De-risking could lead to a reduction in *discount rate* which would be expected to increase the employer *standard contribution rate*
- De-risking would be expected to result in less volatile funding valuation outcomes at future valuations, so the chance of a deficit re-emerging and requiring further deficit recovery contributions at a cost to consumers should be lower.

27 This document only covers the guiding principles of the long term objectives and not the actual triggers that will move the investment strategy towards a target return of gilts+0.5%, so it is not clear what the exact implications in the short term would be. For example, whether any 'de-risking' could occur even if there is a deficit in the scheme, which could lead to increased deficit recovery payments.

28 The document makes no direct reference to how the risk of a trapped surplus would be managed in the interests of customers.

The Pensions Regulator

29 The Pension Regulator (TPR) will be consulting in summer 2019 on various options for a revised funding framework under a new code of practice on funding defined benefits. TPR state in their 2019 annual funding statement[5] that the new code will be clearer about funding approaches (in particular around the *prudence* of *technical provisions* and appropriateness of recovery plans). This new code is expected to be in place by the time of the 2020 valuation and therefore its contents has the potential to have an impact on the outcome of that valuation.

30 In TPR's 2019 annual funding statement they set out what they expect of trustees. Table 2 sets out those items which may be relevant to the NATS pension scheme and potential implications.

Table 2 TPR 2019 annual funding statement

What TPR expects of trustees	Potential implication for NATS pension scheme
A long term funding target is agreed between trustees and employers	The guiding principles document would appear to cover this
Schemes with strong covenants should generally have recovery plan lengths which are significantly shorter than seven years	The recovery plan at the 2017 valuation was 9 years long (although the majority of payments are due in the first 6 years)
A plan is established to progress from the current *Technical Provisions* and asset allocation to the long term funding target	If the scheme begins to progress down the funding path towards their long term target then this could effectively increase the *prudence* in the valuation assumptions relative to the best estimate return of the existing asset portfolio
If there is concerns over trapped surplus then consideration can be given to using escrow, asset-backed contributions[6] and contingency planning	Such arrangements could be considered if a deficit is recognised at the 2020 valuation

31 Please note, the above potential implications highlight what could happen if the Trustee follows these TPR expectations. However TPR also advocates a flexible approach and given the situation of the NATS pension scheme, divergence from what TPR expects for the majority of schemes may well be deemed appropriate. It is currently unknown what will be in TPR's new code of practice and it is unclear how the Trustee will change the funding approach as a consequence, therefore it is not possible to determine the implications for the 2020 valuation at this stage.

[5] https://www.thepensionsregulator.gov.uk/-/media/thepensionsregulator/files/import/pdf/db-annual-funding-statement-2019.ashx

[6] An asset-backed contribution arrangement is a contractual arrangement between trustees and one or more entities within the sponsoring employer's group, and can involve regular payments to the scheme, for the duration of the arrangement, derived from an underlying asset

Conclusion

32 The increase in deficit disclosed at the 2018 annual update was primarily due to negative investment returns which may have since been recovered at the end of April 2019 given positive market movements up to that point. Therefore when the CAA assess the likelihood of *deficit contributions* being required after the 2020 valuation they may also like to consider how the assets have performed so far in 2019, alongside the 2018 annual update report.

33 The assumptions adopted, and the results of, the 2018 annual update appear reasonable given market conditions on 31 December 2018 and the results of the 2017 valuation. However, I note that higher than expected pay increases resulted in an additional deficit of £20 million. The CAA may like to consider why higher than expected *pensionable pay* increases were awarded.

34 The funding position at the 2020 valuation will depend on the assumptions adopted and the financial market conditions in force at that time. As a simplification, if the same assumptions as the 2017 valuation were in force then an investment return of around gilts plus 2.75% a year would need to be earned from 31 December 2017 in order for the scheme to be fully funded by the 2020 valuation. This return is higher than the Scheme Actuary's expected return at the 2017 valuation of gilts plus 2.5% a year so could be interpreted as having less than a 50% chance of occurring. Taking into account the 2018 annual update, the required return from 31 December 2018 in order to reach full funding at the 2020 valuation has significantly increased to around gilts plus 5.5% a year, although given positive market movements in the first four months of 2019 the equivalent rate applicable from 30 April 2019 should be lower.

35 The limitations of the required returns in Table 1 are outlined in paragraph 24. In particular it should be noted that our analysis assumes the market conditions (i.e. gilt yields which impact the discount rate) are the same at the 2020 valuation as at the 2017 valuation or 2018 annual update. You might expect gilt yields to move in practice, for example as at the end of April 2019, real gilt yields are lower than as at the 2018 annual update which all else being equal will increase the reported deficit and therefore the required return.

36 A "Guiding Principles for Long-Term Planning" document has been agreed between the Trustee of the NATS pension scheme and NERL, which clarifies the long term target is to fund the scheme on a gilts plus 0.5% *discount rate*. This is a lower *discount rate* than adopted at the 2017 valuation and therefore represents a higher funding target. This suggests any surplus arising in the future will be used to 'de-risk' the investment strategy rather than reducing contributions.

37 TPR will be consulting in summer 2019 on various options for a revised funding framework under a new code of practice on funding defined benefits. The outcome of this could impact the approach the Trustee adopts at the 2020 valuation. Until the new code of practice is published it is not possible to ascertain what the impact to NATS pension scheme might be, although the comments in the TPR 2019 annual funding statement may indicate the direction of travel.

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5 June 2019