Final Decision
on RP4 draft Performance Plan
for Air Navigation Services
Charging and Performance
in Ireland

1 October 2024

IRISH AVIATION AUTHORITY
ÚDARÁS EITLÍOCHTA NA HÉIREANN

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1. Executive Summary

1.1 This document sets out our Decision on Ireland's Performance Plan for Reference Period 4 (RP4) of the Single European Sky performance and charging framework, which runs from 2025 to 2029.

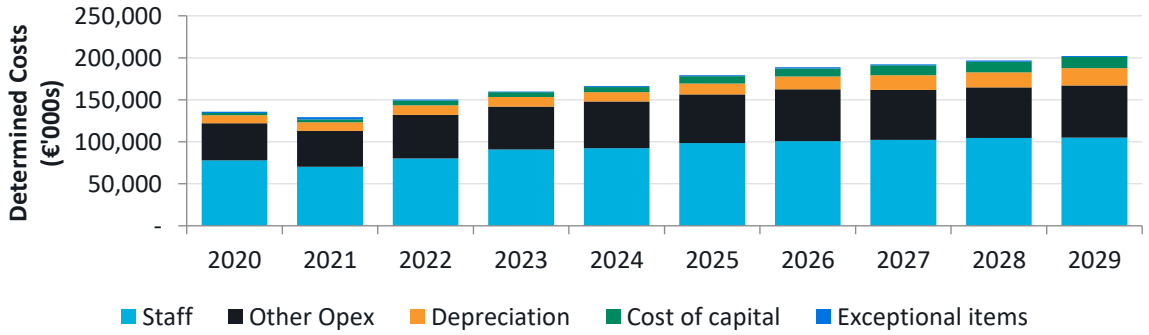
1.2 The RP4 Performance Plan covers En Route air navigation services in the Shannon Flight Information Region (FIR) and Shannon Upper Information Region (UIR). It also covers Terminal services provided at Dublin, Shannon and Cork airports. The charging zones are therefore unchanged relative to RP3. The RP4 Performance Plan covers costs of the following entities:

- AirNav Ireland ANSP.
- Met Eireann Aviation Services Division (ASD).
- IAA supervision costs, state policy costs, and Eurocontrol costs.

1.3 The costs all relate to the provision or oversight of air traffic services, and are to be remunerated by the users of En Route and Terminal services over RP4. In total, in nominal prices, we have set determined costs for all entities at €1.08bn for the 5 years, 2025 to 2029, an increase on our Draft proposal of €1.06bn. Of that, approximately €922m relates to our forecast costs of AirNav Ireland (€913m in the Draft Decision), €58.3m to MET ASD (€51m in the Draft Decision), and the remaining €96.7m relates to the Eurocontrol, IAA, and State policy costs (€91m in the Draft Decision).

1.4 In real 2022 prices, this equates to a total of €959m, compared to RP3 costs of €736m.[1] Actual costs of 2020 to 2023 and forecast costs for 2024 to 2029, by nature, across all entities, are summarised in Figure 1.1 below.

Figure 1.1: Total Actual and Determined Costs, RP3 and RP4



Source: IAA Calculations. Real Prices

Inflation and Traffic Forecasts

1.5 The latest available Eurocontrol STATFOR base forecast for En Route and Terminal service units and IFR flights is used to convert the total Determined

[1] Only ANSP operating costs are converted to real prices, as per Regulation 2019/317.

Costs into a Determined Unit Cost. The most recent STATFOR forecast available which covers all years of RP4 is from February 2024.

1.6 The STATFOR base forecast sees an Annual Average Growth Rate (AAGR) in En Route service units for Ireland of 1.9% over RP4. This is marginally higher than the RP3 AAGR of 1.7%. En Route service units under the base scenario are forecast to grow by 10%, from 5m in 2024 to 5.5m by 2029. Terminal service units are expected to be grow by 15.7% from 2024 to 2029, increasing from 205k in 2024 to 237k in 2029.

1.7 In line with Article 2(11) and Article 26 of Commission Implementing Regulation (EU) 2019/317, we use the forecast of average Consumer Price Index (CPI) changes from the International Monetary Fund (IMF), which was published in April 2024. It forecasts that inflation will be, on average, 2.0% per year between 2025 and 2029.

AirNav Ireland's Determined Costs

1.8 In total, in 2022 prices, we have set total determined costs for AirNav Ireland of €152m in 2025, increasing to €175m in 2029. This compares to a cost level of €139m in 2024. Of this cost base, in 2025 €122m is allocated to En Route and €30m to Terminal (€140m and €35m in 2029, respectively). Overall, determined costs are higher than the figures we proposed in the Draft Decision, which were €147m in 2025, and €169m in 2029.

1.9 For AirNav Ireland's operating costs, we set Determined Costs at €131m in 2025, rising to €142m in 2029, compared to the 2023 outturn of €119m. This is lower than the level proposed by AirNav Ireland in its RP4 Business Plan, which is €135m in 2025, increasing to €152m by 2029, but greater than the figures in our Draft Decision (€128m and €140m in 2025 and 2029 respectively).

1.10 Operating cost forecasts for AirNav Ireland are outlined in Section 4. They are based on the final report we commissioned from CEPA, supported by Think. The assessment is broadly supportive of AirNav Ireland's position that its operation in 2023 was under-resourced in operational divisions, particularly with respect to ATCOs. Staff costs are forecast to increase overall throughout RP4 to address the under-resourced starting point, to take account of forecast traffic growth, to allow AirNav Ireland improve its effectiveness in delivery of Capex, and various other reasons described in Section 4 and in the final CEPA/Think report. Overall, our forecast of efficient AirNav Ireland staff costs for RP4 is €465m, which is lower than the AirNav Ireland proposal of €478m, but greater than the Draft proposal of €460m.

1.11 Many non-staff operating cost items are relatively insensitive to traffic levels and as such are not considerably impacted by the growth in the STATFOR base forecast. These have been assessed on a bottom-up basis, across 24 categories. We forecast that these costs will also increase in real terms, although to a lesser extent than suggested by AirNav Ireland. Over RP4, we forecast total efficient other operating costs of €222m, which is greater than our draft proposal of €216m.

1.12 Our assessment of capital costs is set out in Sections 5, 6, and Appendix 1. Overall, in total across RP4, the capital cost allowances are €4.4m less than was set out in the Draft Decision. The reduction in allowed capital costs since the Draft Decision is as a result of extending the asset lives of two major projects, a revision to the capitalisation amount of one minor project and corrections to the application of the cost allocation methodology in respect of two minor projects.

1.13 We have decided to set the real WACC at 4.26% for RP4, which remains unchanged from the Draft Decision. The range of values estimated is between a low of 3.30% and a high of 5.26%, with a point estimate of 4.26%. AirNav Ireland had proposed a real WACC of 4.91%. The nominal WACC in each year of RP4 is broadly stable due to the forecast rate of inflation holding relatively constant throughout the period at around 2%. Accordingly, the nominal WACC ranges from 6.30% to 6.35%. Overall, we estimate the cost of capital as €8m lower than proposed by AirNav Ireland.

1.14 AirNav Ireland's Business Plan proposes a substantial capital investment programme. In considering the overall deliverability of the investment programme, we note that AirNav Ireland significantly under-delivered in RP3 which followed a significant under-delivery in RP2 as well. We therefore acknowledge the significant challenge that AirNav Ireland faces in delivering the proposed Capex programme. We remain satisfied that a 20% programme level reduction in the assumption of total capitalisations (excluding TopSky ATC One), as proposed in the Draft Decision, provides a reasonable centreline forecast of capital costs over RP4 and have not changed our assumption from the Draft Decision. The removal of a duplicated project which we identified has resulted in an overall capitalisation total of €173m, approximately €2m less than the total in the Draft Decision.

1.15 Since the Draft Decision, we have updated our asset life assumption in relation to TopSky ATC One from 8 years to 12 years. We also amend the CASDS project, setting separate asset lives for the components of this project, setting an 8-year asset life for the CASDS simulators, but a 12-year asset life for the contingency system itself. The result of changes to asset lives relative to the Draft Decision is a 4.4% reduction in depreciation costs over RP4.

MET ASD Determined Costs

1.16 MET Aviation Services Division (ASD) has revised its operating cost forecasts since the Draft Decision, and provided further detail to the IAA.

1.17 Overall, we have set determined costs of €51.5m for MET ASD over RP4 in real terms. This reflects an increase of €6.4m from the Draft Decision, but is still lower than MET ASD's revised proposal of €58.9m. The main changes are summarised as follows:

- Staff costs have been increased by €3.7m in real terms across RP4 to reflect the need, additionality, and efficiency of MET ASD's forecast headcount increase. However, we have made an efficiency adjustment in 2029 to reflect a centreline estimate of productivity gains from weather observation

systems, and excluded a small amount of staff costs identified as non-eligible.

- Other operating costs have been increased by €2.6m across RP4 to account for a required step change relating to system support costs and further justification which has been provided by MET ASD.

1.18 As in the Draft Decision, we allow for the proposed Capex programme and associated depreciation costs as proposed by MET ASD, however we adjust the Net Book Values (NBVs) slightly of some assets to reflect actual capitalisation dates and changes in asset values.

1.19 Overall, costs in real terms are forecast to remain broadly flat over RP4, but higher than during RP3 for the reasons outlined above.

NSA, State and Eurocontrol Costs

1.20 The National Supervisory Authority (NSA) total cost estimate has increased by c.€0.15m in each year since the Draft Decision. The increase in costs can be attributed to the depreciation costs associated with the Building Upgrade project and an increase in the allocation of economic regulation resources to the NSA. Overall, NSA determined costs are forecast to increase from €8.6m in 2025, to €9.5m in 2029 in nominal terms versus the Draft Decision of €8.5m in 2025 and €9.3m in 2029. After 2026, in real terms total NSA costs are expected to stay broadly flat.

1.21 Relative to the Draft Decision, State costs remain unchanged, while Eurocontrol costs have been updated to reflect the total cost base most recently provided to the IAA, increasing by €1.4m across RP4.

1.22 Overall, NSA, State, and Eurocontrol costs are expected to increase in nominal terms from €18.8 in 2025, to €19.8m in 2029.

Key Performance Area (KPA) Targets

1.23 Consistent with the provisions of Commission Implementing Decision (EU) 2024/1688, we maintain the Draft position of aligning the Safety targets with the Union-wide targets during RP4, by ensuring Effectiveness of Safety Management (EoSM) that is at least “Level D” in the objective of safety risk management and at least “Level C” in the other objectives of culture, policy and objectives, promotion and assurance.

1.24 For the Environment targets, the key performance indicator is the average horizontal En Route flight efficiency of the actual trajectory of aircraft (KEA). This measures the average additional distance flown compared to the great circle distance, which is the shortest distance between two points on the surface of a sphere. We maintain the position of the Draft Decision that the Performance Plan will align with the Union-wide targets. The accompanying reference values for Ireland, as estimated by the Network Manager, increase in ambition from 1.42% in 2025 to 1.34% in 2029.

1.25 There are two KPIs within the KPA of capacity, one relating to En Route capacity and one relating to Terminal capacity. These are:

- The average En Route ATFM delay minutes per flight attributable to air navigation services.

- The average arrival ATFM delay minutes per flight attributable to Terminal and airport air navigation services.

1.26 For the En Route capacity target, we make no change to the Draft Decision and set more ambitious targets than implied by the Union-wide targets, as reflected in the reference values provided by the Network Manager, by retaining the 2024 target (0.03 mins/flight) as the target for 2025 and 2026, and then setting a more challenging target of 0.02 mins/flight from 2027 onwards. For the Terminal targets, we maintain these at the RP3 level, while making some adjustments to the incentive schemes such that they are more targeted towards delay which is within the control of the ANSP.

1.27 The cost-efficiency KPA includes two KPIs: the Determined Unit Cost (DUC) for En Route services and the DUC for terminal services. Having compiled all of our cost forecasts, we observe that the short and long-term En Route DUC trend is deviating from the target trends, being +2.1% and +0.9% respectively, compared to the Union-wide short-term trend of -1.2% and long-term trend of -1.0%.

1.28 Consistent with our Draft assessment, we note that our Opex and capital cost forecasts for AirNav Ireland contain a range of measures intended to allow AirNav Ireland to meet the local capacity targets, while also ensuring that the required levels of safety are maintained. We have reviewed the main such measures, and quantified them, and assess the deviation from the target trends is necessary and proportionate due to additional determined costs related to measures necessary to achieve the capacity targets. Taking account of these capacity measures results in a total estimate of €42m, in nominal terms, of direct En Route costs by 2029. These are summarised in the table below.

Table 1.1: Determined Direct Costs of Main Measures to Achieve Capacity Targets, €m

Measure	2025	2026	2027	2028	2029
New ATCO Staff Costs	7.5	11.5	14.2	18.0	20.5
New Engineer Staff Costs	3.4	3.5	3.8	4.0	4.3
New OMS Staff Costs	2.5	2.9	3.3	3.6	3.7
Other Opex	3.4	4.1	4.7	3.9	4.0
Investment in main ATM system	0.7	1.6	2.8	3.1	4.8
Investment in contingency ATM system	0	0.2	0.8	0.8	0.9
Investment in RADAR systems	0.1	0.5	1.6	2.0	2.2
Other capacity related investment	0	0.1	0.4	1.0	1.6
Total	**17.5**	**24.5**	**31.5**	**36.5**	**41.9**

Source: IAA. Nominal Prices.

1.29 To assess whether the deviation from the target trends is exclusively due to these measures, we have converted the operating cost-related measures to real 2022 prices and recalculated the DUC trend net of these measures. In that case, the short-term DUC trend reduces to -2.9%, and the long-term DUC trend reduces to -1.7%. These align with, and outperform, the EU-wide target trends of -1.2% and -1% respectively. We therefore conclude that the deviation from the target trends is exclusively driven by measures which are necessary and proportionate to achieve the capacity targets.

1.30 The DUC for Terminal services shows a similar short-term trend with a CAGR between 2024 and 2029 of +1.9%. The reasons for this proposed target trend are similar to those for En Route as outlined in Table 1.1.

Unit Rate Forecasts

1.31 Based on our determined cost forecasts, and the application of adjustments to the unit rates to the extent that these are currently ascertainable, we forecast that the En Route unit rate will increase in nominal terms from €28.78 in 2024 to €33.52 next year, and then to €36.05 by 2029. One driver of the upward trajectory is the increasing unit cost. Compared to the Draft Decision, there is an increase of €0.59 on average to the En Route determined unit cost for each year of RP4.

1.32 Again, based on the determined cost forecasts, and the application of adjustments to the unit rates to the extent that these adjustments are currently ascertainable, we forecast that the Terminal unit rate will decrease in nominal terms from €184.90 in 2024 to €170.22 in 2025, and then slowly increase back to €185.36 by 2029. The unit cost trajectory is similar to En Route, however, in this case, the increased costs and the upward unit rate adjustments are more than offset by downward adjustments relating to traffic risk sharing from RP3, Other Revenues, and the return of capital costs associated with all unspent Capex over RP3.

2. Introduction and Approach to Regulation

2.1 This section provides an overview of the context for the development of the RP4 Performance Plan, both at a European level and specifically in Ireland. It then sets out the process followed by the IAA in developing the draft RP4 Performance Plan, and the principles underpinning it.

Single European Sky Performance and Charging Framework

2.2 The Single European Sky (SES) initiative is aimed at improving air traffic management performance and reducing airspace fragmentation across Europe. Under the performance and charging framework, targets are set in respect of performance across four key performance areas (KPAs):

- Capacity
- Environment
- Cost-efficiency
- Safety

2.3 The framework for RP4 is established at Union level through various legislative instruments, in particular:

- Regulation 549/2004, which lays down the framework for the creation of the SES performance and charging system.[2]
- Regulation 317/2019 (the '2019 Regulation'), which lays down the detailed processes, rules, and principles for the performance and charging system.[3]
- An implementing decision which sets the Union-Wide targets for each KPA. The targets for RP4 have been set by Commission Implementing Decision (EU) 2024/1688 (the 'Implementing Decision').[4]

2.4 The 2019 Regulation provides for the setting of Union-wide performance targets for the provision of air navigation services. These targets are set by the European Commission, on the advice of the Performance Review Body (PRB). National Supervisory Authorities (NSAs) then develop a draft Performance Plan, setting local targets which contribute to the achievement of the Union-wide targets. The IAA is the National Supervisory Authority (NSA) for Ireland under the SES Regulations.

2.5 Article 7 of the 2019 Regulation provides that targets are to be set for 5-year periods known as reference periods. The current reference period (RP3) runs between 2020-2024. The upcoming reference period (RP4) will commence in

[2] Regulation - 549/2004 - EN - EUR-Lex (europa.eu)
[3] COMMISSION IMPLEMENTING REGULATION (EU) 2019/ 317 - of 11 February 2019 - laying down a performance and charging scheme in the single European sky and repealing Implementing Regulations (EU) No 390 / 2013 and (EU) No 391 / 2013 (europa.eu)
[4] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202401688

2025 and continue until the end of 2029.

2.6 The Performance Plan must include targets in respect of the defined Key Performance Indicator(s), or KPI(s), in each of the Safety, Environment, and Capacity KPAs. Under the Cost Efficiency KPA, the NSA must determine a draft Performance Plan which outlines the Determined Costs of the ANSP(s) and any eligible state or oversight costs. The NSA must also provide an inflation and traffic forecast, which, in combination with the cost estimates, allows for the calculation of a 'determined unit cost' in real terms, which is the cost efficiency KPI.

ANS Provision and Oversight in Ireland

2.7 Until 1 May 2023, air navigation services were provided by the Air Navigation Services Provider (ANSP) within the IAA. The Commission for Aviation Regulation (CAR) was Ireland's independent economic aviation regulator and responsible for regulatory oversight of SES through its role as joint NSA alongside the IAA's Safety Regulation Division (SRD).

2.8 From 1 May 2023, pursuant to the Air Navigation and Transport Act 2022, CAR was dissolved, and its regulatory functions, responsibilities, and staff were transferred to the IAA. At the same point, the ANSP functions of the IAA were transferred to a new company, AirNav Ireland. Consequently, the draft Performance Plan has been developed by the IAA, in its role as NSA and the single and fully independent civil aviation regulator, responsible for safety, security, and economic oversight. AirNav Ireland is the company which will provide air navigation services during RP4.

2.9 For ease of reference, we now refer consistently to the ANSP as 'AirNav Ireland', and to the NSA as the 'IAA'. References to performance, actions, or decisions pre-dating 1 May 2023 should be understood to relate to those of the IAA ANSP, and CAR/IAA SRD, respectively.

Approach for Developing the Irish Draft Performance Plan for RP4

Process and Timeline

2.10 The IAA has followed the below timeline in the developing the draft Performance Plan set out in this document.

Figure 2.1: Timeline for RP4 Draft Performance Plan

2.11 In June 2023, we published a consultation on the proposed timeline for the development of the draft Performance Plan. In January 2024, we then published an initial consultation paper in which we provided an overview of performance over RP3 and set out our proposed approaches, in principle, for

RP4 (the 'Issues Paper'). We received responses from AirNav Ireland, the AirNav Ireland staff panel, Ryanair, and Aer Lingus, which are also published on the RP4 page.

2.12 In July, we published the Draft Decision on the draft RP4 Performance Plan, allowing a five-week period for written submissions. In developing our proposals for the Draft Decision, we considered the responses to the Issues Paper. We also considered the RP4 guidance material from the European Commission, the PRB, and EASA. We also held a statutory consultation meeting in hybrid form on 2 August, which was attended by both ANSPs, airspace users, and staff representatives. We received submissions by 23 August, with publishable versions published alongside this Final Decision.[5]

2.13 We then reviewed the submissions, before finalising our positions on each element of the draft Performance Plan. In this document, as well the supporting final report from CEPA in relation to AirNav Ireland operating expenditure, we outline, by topic, the submissions made by stakeholders, and then explain whether we have made any changes on that topic relative to the Draft Decision, and why or why not. We have also published the main Performance Plan excel model, which shows the calculation of the cost inputs for the En Route and Terminal reporting tables for RP4, as well as providing summary statistics and charts, and unit rate forecasts once the adjustments provided for by the 2019 Regulation are applied.

Scope of Performance Plan

2.14 The scope of the draft Performance Plan is unchanged from RP3. It includes En Route air navigation services in the Shannon Flight Information Region (FIR), and Shannon Upper Information Region (UIR) which encompasses FL245 and above. It also covers Terminal air navigation services provided at Dublin, Shannon and Cork airports. The latter two airports are not mandatory inclusions, given their size, but have been included in performance plans to date in a single Terminal charging zone. No stakeholders proposed any amendments to the charging zones.

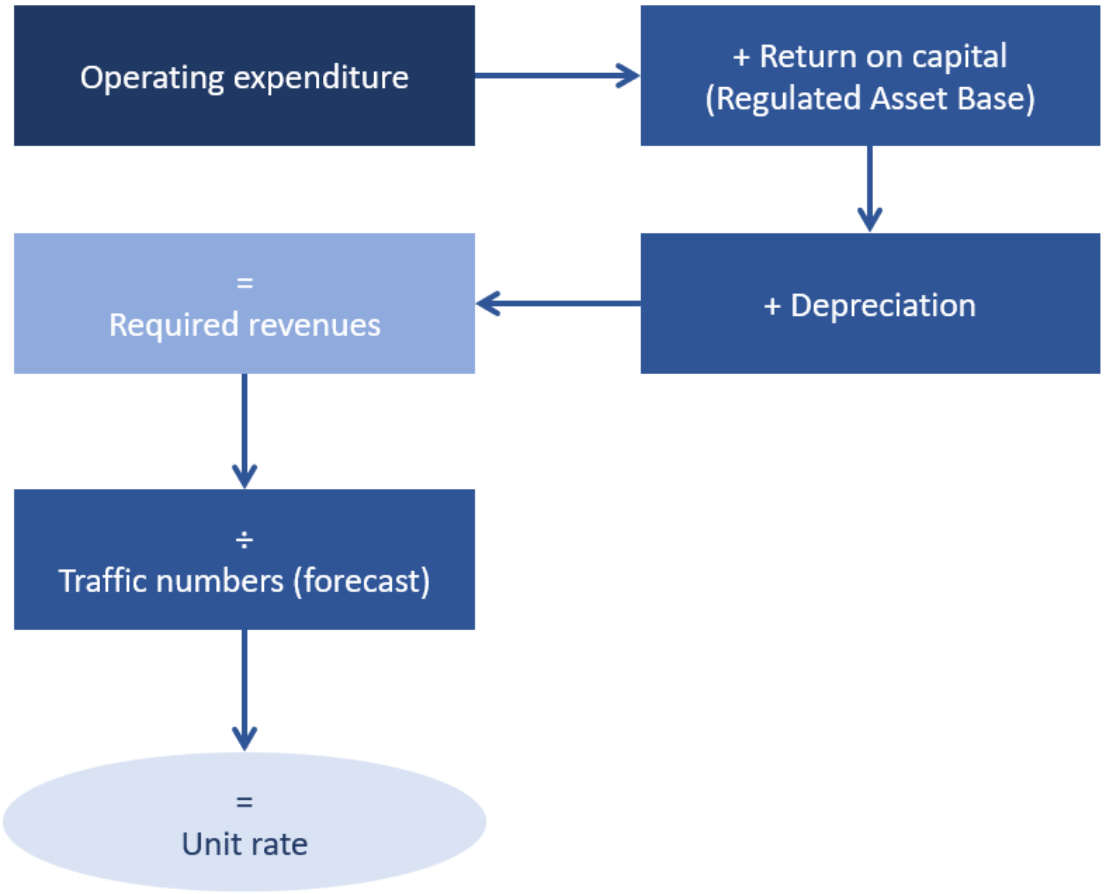
2.15 Shanwick Oceanic airspace, in which AirNav Ireland provides North Atlantic Communications (NAC) services, is outside the scope of the Performance Plan. Consequently, associated costs and revenues have been excluded.

Building Blocks Approach

2.16 To set the maximum unit rates for a given reference period, we use the building blocks approach to RAB-based regulation, as required by the 2019 Regulation. The building blocks approach requires forecasts of future operating expenditures and traffic. It also requires decisions on amounts to allow for a return on capital and for depreciation. The 2019 Regulation also provides for several other adjustments when calculating unit rates for the year, but the approach is broadly illustrated below.

[5] Ryanair provided a short written submission, but would not provide a publishable version.

Figure 2.2: The Building Blocks Approach – Deriving a unit rate



2.17 The draft Performance Plan, like most regulatory price controls, is based on various assumptions which are designed to identify cost drivers and project these forward. Examples of such drivers are required staffing levels, unit payroll costs, and the likely level of efficient investment in new infrastructure. It is important not to confuse the detailed estimation of these drivers with any suggestion that the draft Performance Plan imposes a specific requirement to, for example, implement a particular staffing level, pay level, or operational process or strategy. There is no binding requirement on the regulated entities to follow these assumptions precisely when making decisions on how to provide their services during RP4.

2.18 Relatedly, the process of aggregating a large number of forecasting assumptions is an important part of managing uncertainty within and across the building blocks. Provided that the forecasting assumptions are unbiased, at each step of aggregation, there is an opportunity for outturn variance to net off against other outturn variance. It is expected that developments within the period will include both unanticipated/under-anticipated cost increases, as well as unanticipated cost savings or underspends, within individual line items.

2.19 This can be seen in, for example, the AirNav Ireland actual non-staff Opex for 2023, where individual line items were in some cases materially different from our forecast for that individual line item, but at an overall level, it is very close to the forecast for 2023 as estimated in 2021.

2.20 Nonetheless, given the possibility that downside financial risk may materialise, it is important to consider what may happen in a scenario of material downside risk, and to assess whether the price control would remain fit-for-purpose in such a scenario. In particular, for the decision to remain fit-for-purpose, the impact should be limited to profitability, rather than the financial capability to provide a safe service at an appropriate level of service quality. This is addressed in Section 12. As noted above, where an extreme event such as the Covid-19 pandemic materialises, this is likely to require a reopening of the decision, as occurred during RP3.

2.21 More specific to the development of the RP4 Performance Plan for Ireland, the question of appropriate cost allocation is particularly relevant in circumstances where all of the entities within the scope of the Performance Plan also provide services which are outside the scope of the Performance Plan. Additionally, there should be no cross-subsidisation between the En Route and Terminal charging zones. We have reviewed the cost allocation methodologies, and the proper application of those methodologies, in respect of each cost area, and then applied cost allocation methodologies to our own forecasts of efficient and eligible costs for each entity within the scope of the draft Performance Plan. We apply the proposed cost allocation methodologies in developing the draft cost forecasts. Thus, in effect, the building blocks approach is applied twice, in respect of both the En Route and Terminal charging zones.

2.22 Finally, the question of interdependencies is a key element of the development of any regulatory price control under incentive regulation. We have sought to ensure that the draft Performance Plan is coherent and internally consistent with regard to the four KPAs, noting the interdependencies that exist between the KPAs, as well as across the building blocks. For example, the same traffic forecast has been used in the traffic building block and within the CEPA/Think Opex forecast. The question of interdependencies is addressed further in Section 13.

Allocation of Risk

2.23 In the context of economic regulation, the allocation of risk refers to the extent to which each party, the regulated entity or its customers, bears the financial detriment/benefit of outturn traffic or costs varying from the forecasts underpinning the price control decision. The extent to which the regulated entity is exposed to financial risk is taken into account and remunerated through the regulatory cost of equity, as described further in this case in Section 5.

2.24 The 2019 Regulation is generally prescriptive in how risk should be allocated, as follows:

- Traffic risk is shared between the ANSP and airspace users, with the risk of large deviations (10% or more) allocated fully to airspace users.
- Operating cost risk is generally assigned to the ANSP, with a number of exceptions and potential exceptions, including the costs of regulatory oversight provided by the NSA and services provided by Eurocontrol, which are allocated to airspace users. There are also potential exemptions

in respect of changes in pension costs or other 'unforeseeable new cost items not covered in the performance plan but required by law.'

- Capital cost risk is assigned to the ANSP within the reference period, but then adjusted subsequently based on any underspend/overspend, subject to certain conditions. There are also protections available to ANSPs in relation to changes in interest rates and tax rates.
- The extent to which ANSPs are exposed to cost risk is further mitigated through inflation risk being assigned to airspace users; where inflation is higher than was forecast within the Performance Plan, there is a corresponding upward adjustment to the unit rates, and vice versa (but this is asymmetrical in that deflation would not be adjusted for).
- The extent to which ANSPs are exposed to risk is more broadly mitigated by the provisions in the 2019 Regulation which allow for the Performance Plan to be reopened where circumstances change significantly within the period, including a deviation of 10% or more from forecast traffic levels.

2.25 Some aspects of risk allocation are mandatory under the 2019 Regulation. In other cases, such as traffic risk, there is a default allocation which can be varied by the NSA to a certain extent. For RP4, we have generally decided to allocate such risks in line with the default position set out in the 2019 Regulation, while taking account of the risk allocation where appropriate.

2.26 Outturn costs will always vary somewhat from the forecasts, but it is also important to note that such variation is designed to be self-compensatory to a certain degree. For example, where traffic is exceeding the forecast, this will generate additional revenue for the ANSP, which it can then use to fund the likely upward pressure on operating costs required to service the additional traffic.

2.27 The forecast cost requirements should therefore be estimated such that there is an approximately symmetrical balance of upside and downside risk, with a good prospect that the ANSP will be able to earn the reasonable level of profit implied by the regulatory cost of capital:

- If it outperforms the forecast assumptions on a net basis and/or if upside risk materialises, it will be able to earn additional profit.
- If it operates inefficiently and/or if downside risk materialises, it will earn less profit. It is unlikely to make a loss, noting that even in 2020, at the peak of the impact of the Covid-19 pandemic, AirNav Ireland ultimately made a modest profit.

2.28 Establishing the forecasts and the risk allocation for a five-year period provides certainty and clarity to all parties, and also provides an incentive to the ANSP to try to outperform the assumptions on a net basis and respond optimally to changing circumstances. It follows that the regulator should be slow to reopen the decision once it is made, which would create uncertainty, add regulatory risk to the financial risk profile, and weaken the incentive to improve performance. The regulator should also avoid retrospectively changing some of the rules or assumptions which formed the basis of the decision. Differences

between forecasts and outturns might simply reflect the materialisation of ordinary business risk which is remunerated through the cost of equity, or on the other hand might reflect that the ANSP is performing better than was reasonably expected of it and should be rewarded accordingly.

3. Inflation and Traffic Forecasts

3.1 In this section, we outline the inflation and traffic forecast assumptions used as inputs for the RP4 Performance Plan. We also address submissions received in response to the Draft Decision and how they were considered ahead of finalising the Performance Plan.

Inflation

3.2 In line with Article 2(11) and Article 26 of Regulation 317/2019, and as set out in the Draft Decision, we use the latest available forecast of average Consumer Price Index (CPI) change from the International Monetary Fund (IMF) which was published in April 2024. We have not changed our approach from the Draft Decision.

Submissions Received on Inflation

3.3 AirNav Ireland agrees with the IAA's proposal to use the forecast of the IMF's CPI from April 2024, stating that it aligns with the forecast it used in its Business Plan.

Inflation Overview

3.4 In 2021, actual inflation of 2.4% was 0.8 percentage points higher than forecast in the RP3 Performance Plan (1.6%). In 2022, the difference in actual inflation was much greater, with actual inflation of 8.1% being 6.2 percentage points higher than forecast (1.9%). The trend of actual inflation exceeding the forecast rate persisted into 2023, but to a lesser extent than in 2022, with the actual rate of 5.2% in 2023 surpassing the forecasted 2% by 3.2 percentage points.

3.5 In the RP3 Performance Plan, inflation for 2024 was also forecast to be 2%. In April 2024, the IMF forecast that inflation in Ireland would average out at 2.4% in 2024. The forecast annual inflation rates for RP4 are presented below, together with RP3 actuals.

Table 3.1: Actual and Forecast Inflation

Actual				Forecast				
2021	2022	2023	2024	2025	2026	2027	2028	2029
2.41%	8.05%	5.21%	2.38%	2.00%	1.95%	1.96%	1.98%	2.00%

Source: IMF

Traffic Forecasts

3.6 In line with Article 10(2(f)) and Article 10(2(g)) of the 2019 Regulation, we have based the Performance Plan on the latest available STATFOR base scenario forecast of En-Route and Terminal service units and IFR movements.[6] The

[6]A service unit is a measure used to quantify the air traffic services provided to an aircraft by an ANSP. En Route service units are based on the distance flown by an aircraft and the aircraft's Maximum Takeoff Weight (MTOW), while terminal service units do not include the distance component. Service units allow for a standardised method of fee collection such that ANSPs can bill airlines fairly for the air traffic services provided.

most recent traffic forecast available is from February 2024.

3.7 The STATFOR February 2024 RP4 traffic forecast along with 2023 actuals is presented below.

Table 3.2: Eurocontrol Forecast 2024-2029, Base scenario (000's)

Metric	Actuals	Forecast					
	2023	2024	2025	2026	2027	2028	2029
IFR Movements (ENR)	664	701	723	738	752	769	782
YoY Change	14.1%	5.4%	3.2%	2.0%	1.9%	2.3%	1.7%
ENR Service Units	4,812	5,048	5,175	5,256	5,349	5,458	5,544
YoY Change	13.7%	4.9%	2.5%	1.6%	1.8%	2.0%	1.6%
IFR Movements (TER)	142	151	158	162	165	170	173
YoY Change	13.7%	6.6%	4.6%	2.6%	2.1%	2.7%	1.8%
TER Service Units	193	205	215	221	226	233	237
YoY Change	13.5%	6.3%	4.7%	2.9%	2.3%	2.9%	2.1%

Source: Eurocontrol Forecast February 2024

Submissions Received on Traffic Forecasts

3.8 AirNav Ireland agrees with the use of the February STAFOR Base forecast, noting this is the latest complete forecast for the RP4 period. AirNav Ireland states that if a revised STATFOR forecast is published in October 2024, it would support the adoption of this forecast for Ireland's Performance Plan, subject to a stakeholder consultation on the issue before adoption. Similarly, Ryanair would also support an update to the Performance Plan, following submission to the European Commission, if permitted, to account for the latest forecast possible.

3.9 IAG and Ryanair support the proposed use of the STATFOR base forecast. IAG notes that it could not support using the high case scenario "*that AirNav Ireland had themselves proposed*".

3.10 IAG says that the base-case forecast should be updated where possible, noting the current forecast was taken from February and should be supplemented with airline forecasts and planned fleet deployment.

Decision on Traffic Forecasts

3.11 We continue to use the STATFOR base scenario forecast as was recommended to NSAs, and is supported by stakeholders.

3.12 In response to IAG's suggestion that the forecast should take account of airline forecasts and planned fleet deployment, the STATFOR February 2024 forecast incorporates traffic trends up to January 2024, also encompasses inputs based on airline plans. The forecast also takes account of load factors, propensity to fly, demographics, events/trend changes, high-speed rail network

developments, market segment developments and airport capacity constraints. We consider that the forecast already takes adequate account of airline projections. We wish to clarify also that AirNav Ireland supports our proposal to use the base scenario forecast and not the high case scenario.

3.13 In relation to whether we will update the Performance Plan following the release of the October STATFOR forecast, as part of the verification of completeness process, we plan to review the final forecast when it becomes available, together with any further guidance which may become available and/or correspondence received from the European Commission in relation to the verification of completeness.

3.14 If we are considering an update to the draft Performance Plan based on the October 2024 forecasts, then we will publish a short consultation document setting out updated Determined Costs, DUCs, and Unit Rates for potential inclusion in an updated plan. The options proposed in that document will likely be to either update the operating cost forecasts, and the Performance Plan model, for the new forecasts, or to not update the draft Performance Plan; that is, we would not re-open or reconsider aspects of the draft Performance Plan other than those which are directly related to the traffic forecast.

4. AirNav Ireland Operating Expenditure

4.1 This section provides an overview of the Operating Expenditure forecasts (Opex) for AirNav Ireland underpinning the Determined Costs which we have included in the draft Performance Plan. Opex is composed of Staff Costs and Non-Staff costs. Capital costs are considered separately in subsequent sections. Table 4.1 summarises total forecast Opex by charging zone, compared to the AirNav Ireland position. As per the 2019 Regulation, figures in this section are in real 2022 prices; inflation adjustments will be added within the period.

Table 4.1: Total, En Route, and Terminal AirNav Ireland Operating Costs

Source	Zone	2023A	2024	2025	2026	2027	2028	2029
Final Decision	En Route	99.9	103.8	110.4	115.6	115.2	117.9	120.2
	Terminal	18.9	19.3	20.7	21.6	21.4	21.8	22.3
	Total	**118.8**	**123.1**	**131.0**	**137.3**	**136.6**	**139.7**	**142.5**
Draft Decision	En Route	99.9	102.6	108.0	113.8	113.4	116.2	118.5
	Terminal	18.9	19.1	20.2	21.3	21.1	21.5	22.0
	Total	**118.8**	**121.6**	**128.1**	**135.1**	**134.4**	**137.7**	**140.5**

Source: CEPA, IAA, AirNav Ireland RP4 Business Plan. Real 2022 prices. 2023 is an outturn.

4.2 We continue to use the CEPA advice to inform our Opex forecasts. In response to stakeholder submissions, CEPA has revised its forecasts where it considers that this is warranted. The concluding report from CEPA is published alongside this document. To summarise the changes relative to the Draft Decision:

- Staff Costs over the period are now forecast to be €5.1m higher in real terms, in total over RP4.
- Other Operating expenditure is now forecast to be €6.2m higher in real terms, in total over RP4.
- Total headcount, which is not mandated by the IAA but forms a component of the Staff Costs estimation, is now forecast to increase from 636 in 2025 to 690 in 2029, compared with the Draft position of 626 to 681.

4.3 As set out in Section 2, while these forecasts are developed on a bottom-up basis with reference to inputs such as staffing requirements, unit payroll cost trajectories, and a detailed forecast of efficient non-staff cost lines, this should not be misunderstood as a prescriptive exercise in which AirNav Ireland is bound to follow these input assumptions over RP4. It is up to AirNav Ireland to ultimately decide how and where resources should go, and react appropriately to developing circumstances as RP4 unfolds. For example, if traffic were to trend significantly above the forecasts underpinning the Performance Plan, AirNav Ireland might respond to this by increasing ATCO staffing levels further beyond the ATCO forecast underpinning the Performance Plan.

Final Decision Summary

4.4 We forecast real Opex to increase from €123m in 2024 to €142m by 2029, which is €10m less than AirNav Ireland's forecast of €152m for the same year. Nonetheless, our final assessment is broadly supportive of AirNav Ireland's position that its operation in 2023 was under-resourced with respect to ATCOs, which led to, among other things, a deterioration in capacity performance, an overreliance on overtime with limited operational resilience, and was likely a contributing factor to the under-delivery by AirNav Ireland of its proposed investment programme. This assessment remains consistent with our 2021 analysis of the optimal level of ATCOs for 2023, which was 319 (actual 2023 traffic levels were close to the RP3 traffic forecast). The CEPA/Think forecasts are based on delivering a significant but achievable step change in total ATCOs, from AirNav Ireland's actual staffing level of 296 in 2023 to 326 in 2025, further increasing to 364 by 2029.

4.5 For engineering and corporate services staff, CEPA assesses that AirNav Ireland's suggested increases in headcount over RP4 appear disproportionate to requirements. As such, the forecast of efficient staffing levels in these two areas is below AirNav Ireland's proposal, but still represents increases in both compared to 2023 outturn, and by 2029 the final forecast of engineers closely aligns with AirNav Ireland's assumption, differing by just 7 FTEs.

4.6 Accordingly, base payroll is forecast to rise in real terms over RP4. However, given the upward step-change in ATCOs, overtime costs are forecast to fall from the 2023 outturn, with a sharp drop forecast between 2025 and 2026 of €1.6m. An assessment of efficient baseline unit payroll costs found scope for efficiency improvement for corporate services. Consequently, a 5% efficiency challenge to these unit costs is included for RP4.

4.7 The CEPA forecasts include a step-change in headcount to account for a new staffing requirement relating to the return of the Flow Management Position and Airspace Management Cell functions, which were previously provided by NATS in respect of Irish airspace. We adopt this step change in our assessment.

4.8 CEPA forecasts that Other Operating costs will also increase throughout RP4, albeit to a lesser extent than the increase forecast by AirNav Ireland. Disaggregating costs into individual components, CEPA's assessment closely aligns with the AirNav Ireland forecasts on some cost lines, whereas others show more substantial variance. As a result, over RP4, the CEPA forecast of efficient Other Opex is 8% lower than that proposed by AirNav Ireland.

4.9 On this basis, we forecast that total Opex should increase in real terms (i.e. increase more than inflation) throughout RP4. Total Opex is forecast to increase by approximately 9% in real terms over RP4, which is slightly more than the forecast 8% increase in traffic over the same period. While we would ordinarily expect total Opex to respond more inelastically to traffic growth, in this case the top-down finding is consistent with the assessment that the starting point is an under-resourced operation.

Final CEPA Report

4.10 The Final CEPA report identifies an efficient but achievable level of Opex for AirNav Ireland over RP4, which is consistent with delivering a high-quality service in a safe manner. It consists of three main components; staff numbers, unit payroll costs, and Other Operating expenditure. Like the Draft Report, CEPA builds up the estimate of efficient expenditure by separately examining the efficiency of historic trends in each cost component, before projecting each item forward using various cost drivers, elasticities and an assessment of suggested step-changes.

4.11 The CEPA Final Report, published alongside this document, details the views of the submissions received where they make reference to the Opex forecasts. The report summarises the comments received, and assesses whether these comments warrant a change to the forecasting approach. Where submissions warrant a change in approach, the report outlines the rationale for this change and presents the effect of this change on the forecasts.

Forecast Staffing Requirements

4.12 In this section, comments on the draft forecasts of staffing levels for each staff category are presented, along with discussion of the issues raised, and presentation of the final forecasts.

ATCOs

4.13 In the Draft Decision, we described how CEPA initially assessed the efficiency of ATCO staffing levels in 2023 to estimate an efficient base year headcount. For ATCO roles where resourcing requirements are primarily driven by traffic volumes, CEPA projected its estimate of efficient base year headcount using forecasts of traffic growth, estimates of productivity improvements from Capex initiatives, and estimates of how quickly AirNav Ireland could recruit new ATCOs. For other roles, such as operational ATCOs at Shannon and Cork towers, CEPA applied step-changes to the forecasts with reference to proposals within AirNav Ireland's Business Plan, assessing any proposed step increases against a three-part need, additionality, and efficiency test.

4.14 In the Draft Decision, we stated that CEPA agreed with AirNav Ireland's view that its 2023 operation was under resourced with respect to ATCOs. CEPA found that ATCO staffing levels in 2023 were at a level that was likely suboptimal in ensuring operational resilience. However, the CEPA draft forecast of efficient headcount for the later years of RP4 was lower than AirNav Ireland's forecast, primarily due to AirNav Ireland's forecast not fully accounting for improvements in ATCO productivity following investment in its air traffic management (ATM) systems.

Submissions Received on ATCO Headcount

4.15 In response to the Draft Decision, AirNav Ireland criticises the CEPA methodology for estimating efficient ATCO levels for the two Area Control Centres (ACCs), suggesting that it is theoretical and based '*almost exclusively*'

around traffic volumes. AirNav Ireland proposed that CEPA take the same approach as used when producing an efficient forecast for other roles, i.e. by assessing the efficiency of AirNav Ireland's own proposed step-change within its Business Plan.

4.16 AirNav Ireland also raises three specific points in relation to the CEPA forecast of efficient headcount:

- AirNav Ireland disagrees with the use of service units as a proxy for traffic growth and argues that IFR movements provide a more appropriate approximation.
- AirNav Ireland suggests that the TopSky ATC One project will not deliver significant efficiencies within RP4, as the system will only be commissioned in the final year of the period and will take time to mature sufficiently to deliver full productivity improvements. Similarly, for the CP1 compliance projects, AirNav Ireland states it does not expect productivity improvements to exceed 1%.
- AirNav Ireland also argues that the CEPA approach does not take sufficient account of the step-changes proposed within its Business Plan.

4.17 IAG states that while it accepts the need for an increase in ATCOs, it nevertheless expects to see efficiencies in the use of these ATCOs and expects overtime costs to become negligible.

4.18 Similarly, Ryanair and Aer Lingus state that while they support additional ATCO staffing to close the resourcing gap and ensure resilience, the increased headcount should be proportionate so as not to compromise productivity levels.

4.19 The AirNav Ireland Staff Panel echoes the comments made by AirNav Ireland in relation to statutory leave entitlements, fatigue management, and efficiencies related to the introduction of TopSky ATC One.

4.20 The Staff Panel also asserts that the Eurocontrol guidelines on fatigue management provide values that are in some cases more stringent than that used by AirNav Ireland, which in turn may require that AirNav Ireland bring its values in line with Eurocontrol guidelines, which, it believes, will serve to increase the ATCO requirement over RP4.

Decision on ATCO Headcount

4.21 CEPA disagrees with the implication that its methodology is less valid than that of AirNav Ireland for the purposes of setting an overall cost-efficiency target for RP4. A different methodology was used to estimate an efficient ATCO staffing requirement independently of AirNav Ireland's Business Plan and to compare both estimates. As no specific deficiencies have been identified in the CEPA approach, we do not consider that AirNav Ireland's representations provide a compelling argument for overall change.

4.22 In respect of the use of service units instead of IFR movements as a proxy for traffic growth, although CEPA assesses that both IFR movements and service

units are imperfect proxies for traffic in the context of ATCO workload, it accepts AirNav Ireland's argument that IFR movements, in general, are arguably a more appropriate proxy for traffic growth, and so adjust the forecast accordingly. Separate forecasts are retained for growth in En Route IFR movements versus growth in terminal IFR movements, but with both scaled to match the overall forecast growth in IFR movements.

4.23 In respect of the efficiency gains arising from TopSky ATC One, CEPA acknowledges AirNav Ireland's argument that the TopSky ATC One system will not immediately achieve a 2% per annum efficiency improvement due to the time required to ensure the new system operates efficiently and effectively. However, as it is likely a small efficiency improvement is achievable immediately on the assumption that the benefit will accrue over time, an assumption of 0.5% has been assumed in RP4.

4.24 Regarding the CP1 compliance projects, CEPA maintains that these initiatives, alongside other general productivity improvements, should deliver efficiencies starting in 2026. The initial estimate of 2% was based on the IAA's estimate in the RP3 Performance Plan, which itself was informed by the SESAR proposal concerning CP1.[7] Although delays in the implementation of CP1 have prevented some of these savings from being realised thus far, CEPA believes it is reasonable to expect that they will be achieved during RP4, either as a direct result of CP1 or due to ancillary activities. Therefore, the assumption of 2% productivity improvement from these projects is retained.

4.25 CEPA disagrees with AirNav Ireland's view that step-changes which it included in its Business Plan have not adequately been taken into account. CEPA reviewed the narrative and concludes that these step-changes have adequately been accounted for through the estimated efficient base-year headcount or through other adjustments to the forecast:

- For the two ACCs, CEPA estimated an optimal 2023 headcount by targeting utilisation of 85%, on the basis that this is sufficient to provide roster resilience, limit the risk of fatigue, avoid excessive reliance on overtime, and provide an improved work-life balance. While CEPA recognises that the fatigue management values used by AirNav Ireland may change during RP4, the AirNav Ireland and the AirNav Ireland Staff Panel responses have not demonstrated that an 85% roster efficiency would be insufficient to meet these revised guidelines.
- Separately, a downward adjustment was made to the proportion of time ATCOs spend on operational activities in 2028 and 2029 from 85% to 83% to account for more ATCO instructor time. This adjustment had the effect of increasing the forecast headcount by 6 in each of 2028 and 2029, in line with AirNav Ireland's own proposal.
- In response to the comments, CEPA conducted a bottom-up sense-check of the adequacy of the adjustment detailed above, which showed that it would allow 5 days of instructor training per ATCO.

[7] Document Properties Title (europa.eu)

- The linking of staffing levels to traffic growth implicitly accounts for AirNav Ireland's requirement for a new departure position at Dublin Airport. AirNav Ireland has not explained why it considers this to be insufficient.
- In the Draft forecasts, CEPA accepted AirNav Ireland's proposals to assume dedicated roles for ATM Occurrence Investigation and Operational Support Group staffing and reflected that in the forecasts accordingly. As such, it is unclear what AirNav Ireland disagrees with in that regard.

4.26 CEPA acknowledges that the Draft forecast was not adjusted for step-changes in respect of changing statutory and discretionary leave entitlements as AirNav Ireland did not provide sufficient explanation in its Business Plan as to why these were not adequately reflected within the base year forecast. Following the publication of the Draft Decision, CEPA requested further clarification from AirNav Ireland in this respect. As a result, an additional 0.5 FTE is incorporated into the forecast to account for an increase in the parental leave entitlement. The Need, Additionality, and Efficiency test in respect of other additional statutory requirements have already been accounted for in the Draft forecast, or have not been sufficiently met by AirNav Ireland's response.

4.27 In respect of the assertion by airline stakeholders of the need to be proportionate in relation to the overall ATCO staffing increase, any adjustment in the forecast is driven by evidence. CEPA has worked with the IAA to ensure that increased headcount is aligned with the safety, capacity and environment KPIs within the Performance Plan. In addition, CEPA has considered opportunities for AirNav Ireland to drive further efficiencies through capital initiatives and ensured that such efficiency targets are appropriately challenging.

4.28 On the basis of the discussion above, we have revised the forecast ATCO headcount upwards over RP4. The final forecast is thus more closely in line with AirNav Ireland's Business Plan, but deviates somewhat in 2029.

Table 4.2: Final Forecast of Efficient ATCO Headcount over RP4

	2023A	2024	2025	2026	2027	2028	2029
Final Forecast	298	311	326	343	348	361	364
Draft Forecast	*298*	*311*	*326*	*337*	*342*	*354*	*353*
AirNav Ireland RP4 Business Plan	*296*	*307*	*328*	*340*	*352*	*363*	*374*

Source: CEPA, IAA, AirNav Ireland RP4 Business Plan. Note: 2023 is efficient baseline for CEPA and an outturn for AirNav Ireland.

Engineers

4.29 In its Business Plan, AirNav Ireland projected significant step-increases in engineering headcount. In the Draft Decision, we considered that this could not be fully justified, based on the evidence presented.

4.30 CEPA used an alternative approach to projecting efficient engineering

headcount, basing its assessment on a baseline derived from the average headcount from 2016 – 2023, and applied several adjustments to this baseline to account for expected changes in AirNav Ireland's operations and regulatory requirements over RP4. Firstly, headcount was scaled to reflect the projected increase in AirNav Ireland's regulated asset base relative to the 2016-2023 average using an elasticity of 0.5. Headcount was also adjusted based on expected capital investment levels in the upcoming two years compared to the historical average, applying an elasticity of 0.15. Finally, 7 additional staff were added to account for new requirements introduced by EU Regulation 2017/373.

4.31 The resulting draft forecast, based on the above methodology, was a significant increase from current staffing levels, but remained below AirNav Ireland's Business Plan projection for RP4.

Submissions Received on Engineer Headcount

4.32 In its response to the Draft Decision, AirNav Ireland disagrees with the CEPA forecast, presenting several reasons why it considers the forecast to be insufficient:

- The existing 2024 headcount being inadequate.
- Its expectation of an increase in engineering workload from 2024 onwards.
- AirNav Ireland also cites the Eurocontrol ACE benchmarking report, which it claims shows its engineering headcount to be lower than other ANSPs.

4.33 AirNav Ireland also argues that its forecasting methodology, which combined top-down and bottom-up approaches, was more appropriate than that used in the CEPA forecast. AirNav Ireland also challenges specific elements of the CEPA draft forecast, and questions the rationale behind the use of average headcount over the period 2016-2023 as a baseline rather than 2023, and the justification for the elasticity factors used in the forecast.

4.34 The AirNav Ireland Staff Panel contends that the proposed engineering headcount is insufficient, and emphasises that additional regulatory obligations, such as those associated with EU Regulation 373, necessitate increased headcount in safety-related roles.

4.35 Airline stakeholders, on the other hand, largely agree with the draft forecasts:

- Aer Lingus accepts the increased engineering headcount, but cautions that other elements of AirNav Ireland's staffing projections should be scrutinised more closely to prevent inefficient staffing.
- Ryanair agrees with the CEPA draft forecast, and also contests AirNav Ireland's assertion that its failure to fully deliver the RP2 and RP3 Capex programmes was solely due to insufficient engineering staff.
- IAG expresses support for the IAA's position and the CEPA draft conclusions and agrees that AirNav Ireland's proposed engineering headcount appears disproportionate.

Decision on Engineering Headcount

4.36 Following the publication of the Draft Decision, CEPA sought further clarification from AirNav Ireland in relation to its bottom-up forecasting approach:

- For routine maintenance, the analysis appears to have been developed based on estimates of the number of activity days required by domain and activity for each year of RP4.
- For capital planning activities, there has been a similar exercise undertaken at a capital project level.

4.37 CEPA notes its concern in respect of this analysis on the basis that it does not appear to be linked to historic utilisation with respect to routine planned and reactive maintenance. As such, CEPA cannot determine whether the individual level estimates are reasonable in the context of historic activity levels. Furthermore, there is no comparison with base year resourcing.

4.38 Similarly, AirNav Ireland did not provide a top-down assessment of the overall proportionality of the increase from 2023 levels, beyond the reference to the ACE benchmarking study. CEPA previously considered this study in the Draft Opex report and concluded that this was likely primarily driven by differences in outsourcing of maintenance activities, given AirNav Ireland has lower staff costs relative to benchmark ANSPs, but higher non-staff costs relative to the benchmark comparators.

4.39 In respect of the elasticities used in the draft engineering headcount forecast, the elasticities used to inform the draft forecast were calibrated based on AirNav Ireland's historic engineering headcount, i.e., elasticities were set based on how much historic variation in engineering headcount could be explained by the size of the RAB and the scale of capital spending.

4.40 To further assess the appropriateness of its Draft approach, CEPA also carried out an alternative approach. This approach adjusts the 2023 outturn headcount for capital planning activities, and then adjusts the forecast based on IFR movements using an elasticity of 0.35, with the elasticity informed by analysis by the PRB which investigated overall cost elasticities with respect to traffic.[8] The resulting estimate, based on this alternative approach, remains closely in line with the draft forecast headcount over RP4, although the profile of the forecast differs somewhat. For the final engineering headcount forecast, the latter approach has been adopted, for a number of reasons. We consider that it draws on a more appropriate evidence base. The resulting forecast also aligns with the profile set out in AirNav Ireland's RP4 Business Plan, with a flatter profile throughout the period compared to the draft forecast, although it remains below AirNav Ireland's Business Plan submission. The final forecast is presented in Table 4.3, compared to both the draft forecast, and AirNav Ireland's proposal.

[8] SES_performance_review_body_target_ranges_report.pdf (europa.eu)

Table 4.3: Final Forecast of Efficient Engineer Headcount over RP4

	2023	2024	2025	2026	2027	2028	2029
Final Forecast	87	114	116	117	117	118	119
Draft Forecast	*87*	*107*	*107*	*115*	*117*	*118*	*123*
AirNav Ireland RP4 Business Plan	*87*	*100*	*114*	*126*	*126*	*126*	*126*

Source: CEPA, IAA, AirNav Ireland RP4 Business Plan. Note: 2023 is efficient baseline for CEPA and an outturn for AirNav Ireland.

Corporate Services

4.41 In the Draft Decision, to set the baseline estimate of efficient corporate services headcount, CEPA used the efficient headcount estimate assumed in the RP3 Performance Plan. AirNav Ireland's proposed step increases were then reviewed relative to 2023 outturn levels. CEPA found that not all of AirNav Ireland's proposed increases were sufficiently justified in its Business Plan.

4.42 CEPA concluded that any further increases should be supported by clear evidence of the specific need for roles, the additionality of the roles, and the proportionality of the proposed headcount relative to the need. Therefore, while we accepted some of AirNav Ireland's proposals, the Draft Decision assumed a more modest increase in corporate services staff compared to the AirNav Ireland Business Plan.

Submissions Received on Corporate Services Headcount

4.43 In response to the Draft Decision, AirNav Ireland provides justification for its proposed increase in headcount in IT, Finance, HR, Property and Facilities, and Sustainability:

- **IT:** Need for a network analyst, to handle growing cyber security compliance requirements.
- **Finance:** New reporting and compliance requirements.
- **HR:** More resource needed to support growing operational business.
- **Property and Facilities:** More administrative support required due to increased workload due to the expansion of infrastructure portfolio, and to ensure compliance with regulatory requirements and documentation procedures.
- **Sustainability:** Increased sustainability requirements such as the CSRD.

4.44 AirNav Ireland argues that sufficient detail was provided to justify the headcount proposed within its Business Plan. In addition, AirNav Ireland raises a broader concern, stating the disparity between the CEPA forecast and its own is more significant than we suggested, due to differing assumptions about payroll costs which lead to a wider gap in the overall forecast staff costs for each of the corporate services roles in question.

4.45 The AirNav Ireland Staff Panel expresses disagreement with the CEPA

estimate of efficient corporate services headcount, and instead advocates for AirNav Ireland's forecast. The Staff Panel argues that obligations such as EU Regulation 373/2017 have necessitated an increase in headcount, particularly within safety-related roles.

4.46 In contrast, IAG expresses support for the CEPA forecast, and agrees with the Draft findings that AirNav Ireland's proposed headcount increases appear disproportionate.

Decision on Corporate Services Headcount

4.47 In the Draft Opex report, CEPA provided explanations regarding the areas where it considered AirNav Ireland's evidence to be insufficient in justifying additional corporate services headcount. In many cases, while AirNav Ireland's Business Plan articulated the underlying needs, the Business Plan did not demonstrate that these needs were genuinely additional to existing requirements.

4.48 Through subsequent additional clarification requests, AirNav Ireland provided further justification of the headcount increase between the CEPA 2023 base year and the current year. This included four additional assumed roles for:

- Corporate Affairs
- Sustainability
- Regulatory Reporting
- Communications

4.49 Of these roles, CEPA only considered the regulatory reporting role as passing the three-part need, additionality and efficiency test. Consequently, one additional FTE is incorporated into the forecast.

4.50 In respect of the differing assumptions around payroll costs, the IAA's cost-efficiency target for AirNav Ireland is set at an aggregate level, with none of the specific assumptions used to inform this target intended to impose binding constraints on AirNav Ireland's operational decisions. We recognise that there is an inherent trade-off between average payroll costs and headcount. However, managing this balance falls within AirNav Ireland's remit.

4.51 Furthermore, to assess the reasonableness of the overall corporate services headcount, following review of the responses to the Draft Decision, CEPA has assessed the implied elasticity of headcount with respect to traffic levels between 2023 and 2029 and derived confidence that the forecast has adequately accounted for the step-changes in corporate services activity from AirNav Ireland running a larger business.

4.52 Based on the discussion above, one additional FTE is provided for in corporate services in each year of RP4 compared to the Draft Decision, as shown in Table 4.4:

Table 4.4: Final Forecast of Efficient Corporate Services Headcount over RP4

	2023	2024	2025	2026	2027	2028	2029
Final Forecast	57	62	65	66	66	66	66
Draft Forecast	*57*	*61*	*64*	*65*	*65*	*65*	*65*
AirNav Ireland RP4 Business Plan	*55*	*61*	*66*	*69*	*69*	*69*	*69*

Source: CEPA, IAA, AirNav Ireland RP4 Business Plan. Note: 2023 is efficient baseline for CEPA and an outturn for AirNav Ireland.

Other Staff Roles

4.53 In respect of Data Assistants, FMP/AMC, and Operations Management Support (OMS) roles, we stated in the Draft Decision that the CEPA forecasts broadly aligned with AirNav Ireland's proposals. The CEPA forecasts were based on its assessment that 2023 headcount was efficient and that AirNav Ireland had provided sufficient evidence to justify the need, additionality and efficiency of the step-changes in headcount within its Business Plan.

Submissions Received on Other Staff Roles Headcount

4.54 AirNav Ireland does not directly address the specific CEPA forecasts in respect of other staff roles, but repeat sthe broader concern about the overall difference between both projections.

4.55 No other stakeholder provided feedback in relation to headcount of Data Assistants, FMP/AMC, or Operations Support Management.

Final Decision on Other Staff Roles Headcount

4.56 No changes are made to the headcount forecasts in the Draft Decision. Final forecasts therefore remain unchanged from the Draft Decision.

Table 4.5: Final Forecast of Efficient Other Staff Roles Headcount over RP4

	2023	2024	2025	2026	2027	2028	2029
Data Assistant	42	42	48	48	48	48	48
FMP/AMC	-	-	5	10	10	10	10
Operations Support Management	56	66	77	79	82	83	83

Source: CEPA, IAA. Note: Draft and Final Forecasts for RP4 align with the AirNav Ireland proposal.

Payroll Costs

4.57 This section presents stakeholder comments on the Draft estimates of efficient unit payroll costs, overtime costs, and pension costs.

Unit Payroll Costs

4.58 In the Draft Decision, to assess the efficiency of the 2023 unit payroll costs, CEPA employed various methods, including comparisons with industry

earnings, benchmarking against other ANSPs, and benchmarking wages against comparable public and private sector roles. These findings indicated that while some roles like ATCOs and Data Assistants were efficiently compensated, room for efficiency improvements existed in certain non-ATCO roles, particularly in Corporate Services. Based on these findings, CEPA applied a 5% efficiency challenge to Corporate Services roles, which was included in the Draft Decision.

4.59 CEPA projected unit payroll costs using wage growth assumptions from the Central Bank of Ireland for the short-term and historical average wage growth for the long-term. Adjustments were made for ATCOs to account for attrition, new hiring, and annual salary increments. The Draft forecasts indicated a general upward trend in unit payroll costs across most roles from 2024 to 2029, with variations reflecting role-specific factors and the applied efficiency challenge.

Submissions on Unit Payroll Costs

4.60 IAG contends that the 5% efficiency challenge for Corporate Services is insufficient, and proposes that this should be increased to 10%, in line with the benchmarked gap in non-ATCO unit payroll costs between AirNav Ireland and other ANSPs.

4.61 AirNav Ireland raises several objections to the CEPA methodology:

- AirNav Ireland questions the rationale behind the 5% efficiency challenge applied to Corporate Services staff.
- AirNav Ireland argues that the CEPA benchmarking, which noted higher growth in unit payroll costs for Corporate Services staff between 2019 and 2023 compared to other industry benchmarks, fails to adequately account for potential changes in the ratio of senior to junior staff.
- AirNav Ireland disputes the validity of benchmarking non-operational staff unit payroll costs against other ANSPs, and asserts that its costs are uniquely influenced by Dublin's local labour market conditions.
- AirNav Ireland challenges CEPA's use of Glassdoor and Fórsa data for benchmarking Corporate Services gross salary against other roles, and cites concerns over data quality and the arbitrary nature of the chosen comparators.

4.62 In respect of pay increments, AirNav Ireland believes that the CEPA approach to '*not consider pay increments'* in the modelling of unit payroll costs for OMS, Corporate Services, Data Assistants, and FMP/AMC roles is unwarranted, and argues that these represent contractual obligations. Furthermore, it asserts an inconsistency between the modelling of ATCO unit payroll costs, and those of other staff categories.

Final Decision on Unit Payroll Costs

4.63 In respect of the 5% efficiency challenge, this proposal was based on a

triangulation of three distinct benchmarking exercises, each of which showed inefficiencies. This multifaceted approach was employed in recognition that no single benchmarking method is perfect, and triangulation between different benchmarks is a standard approach used by regulators to allow for the use of imperfect evidence. While some evidence of inefficiency was observed in other roles, this was not consistent across all sources. Consequently, the 5% efficiency challenge was only applied to Corporate Services roles.

4.64 As noted in the CEPA Draft report, the magnitude of the efficiency challenge was anchored on the comparison of ATCO and non-ATCO unit costs. A conservative approach was followed in applying this challenge, given the evidence suggested the potential for an efficiency gap as large as 10%. Consequently, CEPA do not see any compelling reason to reduce this adjustment.

4.65 Regarding IAG's suggestion that the efficiency adjustment should be 10% rather than 5%, CEPA identify two primary reasons for exercising caution:

- **Variability in Benchmarking Results:** While all benchmarking exercises indicated evidence of inefficiency, estimates of the efficiency gap differed in magnitude.
- **Achievability Considerations:** The practicality of taking such an approach must be taken into account. A 10% efficiency challenge would necessitate a nominal reduction in unit payroll costs compared 2023 level, which CEPA deem unrealistic for a growing business. Conversely, a 5% efficiency challenge is achievable without requiring a nominal reduction in payroll costs.

4.66 In respect of AirNav Ireland's assertion that the CEPA modelling must precisely reflect salary increments simply because they are a feature of their payroll structure, CEPA notes the following:

- The primary objective of the exercise it to produce an estimate of efficient overall payroll costs. This has been approached at an aggregate level, and in the CEPA Draft report, it concluded that average efficient payroll costs should increase by no more than forecast economy-wide wage growth.
- Contractual increments are one of several factors influencing unit payroll costs, alongside the ratio of senior to junior staff within a role, attrition and retirement rates, the rate of new hiring, and the impact of general pay awards. It is AirNav Ireland's responsibility to manage the trade-offs between these various elements.
- The distinction between ATCOs and other staff roles was made due to the substantial increase in ATCO headcount, which CEPA anticipated would exert downward pressure on the growth of average unit payroll costs. Accordingly, assuming payroll costs would grow in line with economy-wide wage growth for this group risked producing an overly generous and potentially inefficient forecast. Consequently, for ATCOs, the rate of new hiring, attrition, and retirements, general pay awards and increments were

modelled separately. For other roles, CEPA expects that these factors should, in aggregate, offset each other.

4.67 It is important to note that the unit payroll assumption in the CEPA forecast is not a binding constraint on AirNav Ireland. As such, there may be valid scenarios where higher unit payroll costs than those assumed could still be consistent with the overall efficiency target, such as in respect of any productivity gains not explicitly accounted for in the forecast.

4.68 Furthermore, CEPA notes that its approach of incorporating real wage growth assumptions into staffing forecasts without accounting for any offsetting efficiency improvements is more generous than that of several other related regulatory regimes, and cites the UK CAA's NR23 price control for NERL as an example.

4.69 On the basis of the discussion above, unit payroll cost forecasting assumptions remain unchanged from the Draft Decision.

Overtime

4.70 In the Draft Decision, to forecast efficient overtime costs, CEPA first focused on ATCO overtime, currently the largest component of total overtime spending. CEPA assumed that the resourcing gap between the ideal number of ATCOs and the forecast number of ATCOs would be filled by existing ATCOs either doing less non-operational activity and/or working more overtime. A maximum feasible level of overtime per ATCO, based on the highest observed annual overtime hours since 2016, was estimated, and a minimum efficient level of overtime per ATCO was also estimated. For each year, CEPA then calculated an efficient level of overtime per ATCO, considering the gap between optimal and forecast ATCO numbers, subject to the established cap assumption.

4.71 For non-ATCO overtime, CEPA assumed this would scale in proportion to ATCO overtime expenditure, based on historical data.

Submissions Received on Overtime

4.72 Only IAG commented in relation to the CEPA overtime forecast, suggesting it would expect spending to become negligible over the RP4 period as AirNav Ireland resourced up.

Final Decision on Overtime

4.73 While we agree with IAG that overtime costs should decrease from the levels observed in recent years, we believe it is unrealistic to expect overtime to become negligible, particularly for ATCOs. Overtime remains an important component in providing day-to-day resourcing flexibility, and in the absence of such overtime, we would expect AirNav Ireland to require substantial additional headcount to provide adequate operational resilience.

4.74 Furthermore, the CEPA Draft forecasts for the period 2026 to 2029 align overtime spending with 2016 levels, which represented the lowest year for

overtime expenditure outside of the two pandemic-affected years, and strikes a balance between recognising the expectation of a reduction in overtime spending, and maintaining resourcing flexibility.

4.75 However, CEPA accepts IAG's broader point that there is less of an argument for significant levels of overtime for non-ATCO roles, particularly in the context of greater headcount for such roles. As such, further overtime reductions are applied for OMS and Data Assistant roles, as the two roles have incorporated AirNav Ireland's proposed headcount increases. This reduction is based on an assumption that by 2025, overtime costs will reduce further to the levels observed in 2020 and 2021 (adjusted for wage increases).

4.76 Therefore, the Final Forecasts of efficient spending on overtime over RP4 reflect adjustments to OMS and Data Assistant roles, as well as changes to headcount as discussed previously. The adjustment to OMS and Data Assistant staff reduces the estimate of efficient overtime costs for 2025-2029, but the adjustment to the efficient ATCO headcount forecast essentially offsets this reduction in 2025. The forecast for 2025 has increased by €0.5m, which has been caused by the methodological change from using service units as a proxy for traffic growth, to IFR movements.

Table 4.6: Final Forecast of Efficient Spending on Overtime

	2023	2024	2025	2026	2027	2028	2029
Final Forecast	3.2	3.4	3.3	1.7	1.8	1.9	2.0
Draft Forecast	*3.0*	*3.2*	*2.8*	*1.8*	*1.8*	*2.0*	*2.0*
AirNav Ireland Proposal	*3.0*	-	-	-	-	-	-

Source: CEPA, IAA, AirNav Ireland RP4 Business Plan. €m, 2022 prices. Note: 2023 is efficient baseline for CEPA and an outturn for AirNav Ireland. Separate overtime forecasts for AirNav Ireland were not outlined.

Pensions

4.77 For pension costs, CEPA analysed the three pension schemes used by AirNav Ireland and forecast the proportion of staff in each scheme over RP4, accounting for exits and new joiners.

Submissions Received on Pension Costs

4.78 In response to the Draft Decision, Aer Lingus highlights that a comprehensive review of pension arrangements could identify further Opex efficiencies.

Final Decision on Pension Costs

4.79 In respect of Aer Lingus' submission, CEPA undertook some high-level benchmarking of pension contributions across a range of ANSPs across Europe, comparing against the contribution rates assumed in RP3 Performance Plans. CEPA found that AirNav Ireland's assumed contribution rates over RP4 are equal to the average of 12% for Defined Contribution pensions and below the average of 31% for Defined Benefit pensions across the comparator set.

4.80 CEPA also found that, in the RP3 Performance Plan, AirNav Ireland's pensions costs formed a smaller share of total cost than the average across ANSPs. As contribution rates have not changed materially between RP3 and RP4, CEPA do not see a strong basis for identifying further efficiencies in relation to pension costs.

4.81 On this basis, we make no changes to the Draft Decision in respect of AirNav Ireland's forecast pension costs, except for new adjustments related to levels of efficient headcount.

Table 4.6: Final Forecast of Efficient Pension Costs

	2023	2024	2025	2026	2027	2028	2029
Final Forecast	16.2	13.2	13.6	13.9	13.9	13.9	13.9
Draft Forecast	*16.2*	*13.1*	*13.5*	*13.8*	*13.8*	*13.9*	*13.8*
AirNav Ireland Proposal	*16.2*	*-*	*13.5*	*14.0*	*14.1*	*14.2*	*14.3*

Source: CEPA, IAA, AirNav Ireland RP4 Business Plan. €m, 2022 prices. Note: 2023 is an outturn.

Summary

4.82 The table below summarises the Final forecast of efficient payroll costs over RP4 and compares them to the total in AirNav Ireland's Business Plan.

Table 4.7: Final Total Payroll Cost Forecast

	2023	2024	2025	2026	2027	2028	2029
Base Payroll	60.1	67.4	72.3	75.9	77.3	79.2	80.1
Overtime	3.2	3.4	3.3	1.7	1.8	1.9	2.0
Pensions	16.2	13.2	13.6	13.9	13.9	13.9	13.9
Final Total Payroll Forecast	**79.6**	**83.9**	**89.2**	**91.5**	**93.0**	**95.1**	**96.0**
Draft Total Payroll Forecast	*79.6*	*82.7*	*87.5*	*90.6*	*92.2*	*94.2*	*95.2*
AirNav Ireland Proposal	*83.2*	*81.2*	*88.9*	*93.5*	*95.6*	*99.0*	*101.3*

Source: CEPA, IAA, AirNav Ireland RP4 Business Plan. €m, 2022 prices. Note: 2023 is efficient baseline for CEPA and an outturn for AirNav Ireland.

Other Operating Expenditure

4.83 For the Draft Decision, CEPA produced forecasts of efficient costs related to Other Operating expenditure, which was disaggregated into 24 cost categories. For each category, an efficient baseline expenditure was estimated for 2023 through benchmarking, expert judgement, and other quantitative methods. These costs were then projected forward through RP4 using volume drivers, including traffic, Capex, and the forecast staffing levels.

4.84 We noted that AirNav Ireland was proposing a considerable increase in spending compared with current and historical levels. CEPA assessed that some increases were not well justified. In particular:

- CEPA agreed that a step-increase is required for maintenance spending. However, as AirNav Ireland implicitly assumes all maintenance contracts will increase by a minimum of inflation each year, and does not consider whether the contracts should be renegotiated to drive efficiencies. CEPA forecast a lower step-increase than AirNav Ireland's estimate.
- A large step-increase in spending related to computing over RP4. Despite attempting to independently account for the factors that may explain this increase, CEPA was unable to match AirNav Ireland's estimate.
- CEPA assessed that although AirNav Ireland forecasts an increase in spending on internal support, it was not apparent based on the evidence provided what the basis was for the need for such.

4.85 As a result, the Draft Decision included forecast efficient Other Operating expenditure over RP4 which was 11% below the AirNav Ireland forecast.

Submissions Received on Other Operating Expenditure

4.86 Comments on the Draft Decision in respect of Other Operating expenditure were limited, primarily made by AirNav Ireland. A brief summary of some of the feedback presented is provided below, with a full assessment available in the accompanying CEPA Final Opex Report:

- In respect of staff training costs, AirNav Ireland states it expects the Final Decision to reflect any changes in headcount forecasts.
- AirNav Ireland states that the justification for the step-increase in the other staff related cost line was due to exposure to higher recruitment costs in relation to its student controller programme, the overhead associated with the recruitment of engineering staff, increased spending on medicals, and investment in brand awareness.
- In respect of telecoms, AirNav Ireland states that the cost of new lines required for a new system replacing the backbone network, and new security lines for the independent fibre connectivity of key remote sites, have not been provided for in the Draft Decision.
- AirNav Ireland states that the reasons for a proposed step-increase in computing costs relative to RP3 are additional expenditure to cover cybersecurity, resilience, and business continuity IT, and activities which were budgeted to take place in 2024 being deferred into 2025.
- AirNav Ireland argues that the methodology for calculating efficient building repair costs for RP4 did not account for the level of price increases since the start of RP3, specific to the construction sector.

Final Decision on Other Operating Expenditure

4.87 CEPA assessed all the responses to the Draft Decision. While not all cost lines were justified by evidence to support adjustment from the Draft forecasts, some have been sufficiently substantiated:

- Staff training costs are uplifted to reflect an increase in headcount

forecasts.

- The telecom forecast is increased in both 2028 and 2029 through a reduction in the efficiency challenge which was proposed for this cost line.
- The spares cost line estimate is increased to reflect the alignment between the growth in spares expenditure and the RAB.
- The Professional Services cost line is increased over RP4 to reflect increases in costs associated with pension administration, a portion of which is variable and has shown growth over RP3.
- The Building Repairs cost line is uplifted in each year 2027-2029 to reflect CEPA's reconsideration of its view on the assumption that expenditure stays flat over RP4.
- Security costs are increased over RP4 to reflect further substantiation by AirNav Ireland in the form of an independent Quantity Surveyors report and the need to move to new systems.
- Cleaning costs are increased in each year of RP4 to reflect an increase in costs between 2023 and 2024 related to changes to the minimum wage.
- CEPA alters its methodology in respect of Flight Checking, and applies a step increase from the 2023 efficient baseline.

4.88 Overall, the Final Decision provides uplift of €6.2m across all of RP4, compared to the Draft Decision.

Table 4.8: Final Other Operating Expenditure Forecast over RP4

	2023	2024	2025	2026	2027	2028	2029
Final Decision	35.5	39.2	41.8	45.7	43.6	44.7	46.5
Draft Decision	*35.5*	*39.0*	*40.7*	*44.5*	*42.2*	*43.5*	*45.3*
AirNav Ireland Proposal	*34.7*	*41.6*	*46.2*	*49.4*	*48.0*	*48.1*	*50.8*

Source: CEPA, IAA, AirNav Ireland RP4 Business Plan. €m, 2022 prices. Note: 2023 is efficient baseline for CEPA and an outturn for AirNav Ireland.

Cost Allocation between En Route and Terminal Charging Zones

4.89 There were no responses to the Draft Decision in respect of the cost allocation between En Route and terminal charging zones. We have made no changes to the Draft position.

4.90 Staff costs have been allocated to En Route or Terminal in a manner consistent with RP3, and with the cost allocation methodology used by AirNav Ireland, as it has described in section 7 of its Business Plan. As we did in 2021, both the IAA and CEPA have reviewed the methodology, and consider it to be reasonable and consistent with good practice and the relevant regulatory requirements.

4.91 For operational ATCOs, the staffing level has been modelled separately for each location, with AirNav Ireland's allocation keys used to split it into En Route

and Terminal. For non-operational ATCOs, the 2024 budget cost-allocation is used. Other staff costs have been allocated based on a mixture of AirNav Ireland's allocation keys and 2023 outturn cost allocation. These allocations are broadly assumed to remain constant throughout RP4. However, in cases where step-changes are expected, as is the case for data assistants, year-on-year adjustments are applied based on location.

Table 4.9: En Route Apportionments of Eligible Staff Costs

Staff Category	2025	2026	2027	2028	2029
Operational ATCOs	86%	86%	86%	86%	86%
Non-Operational ATCOs	86%	86%	86%	86%	86%
Corporate Services	89%	89%	89%	89%	89%
Data Assistant	90%	90%	90%	90%	90%
Engineer	85%	85%	85%	85%	85%
Operations Management Support	86%	86%	86%	86%	86%
FMP/AMC	76%	76%	76%	76%	76%

Source: CEPA

Excluding non-eligible apportionments, particularly costs apportioned to North Atlantic Communications oceanic services.

4.92 AirNav Ireland's approach to the allocation of Other Operating costs can be summarised as follows:

- For operational non-staff costs, the costs are initially allocated to an 'Activity' and to a 'Location'. Then AirNav Ireland uses a standardised allocation key to split these costs into En Route and Terminal charging zones, depending on the Activity and Location.
- For more general support costs, these are split into specific subcategories, each of which has a defined allocation key.

4.93 As most Other Operating costs comprise multiple activities and locations, the overall allocation for each non-staff cost category is a weighted average depending on the structure of spend. As such, CEPA use the proportions within AirNav Ireland's 2024 budget as the basis for the allocation of costs into the En Route and Terminal charging zones, on the grounds that the split of costs by activity and location remain relatively static.

5. AirNav Ireland Cost of Capital

5.1 This section sets out the IAA's decision on the weighted average cost of capital (WACC) for AirNav Ireland over RP4. Relative to our consultation proposal of 4.26%, we have made no changes, with this decision discussed in further detail below.

5.2 The decision on the cost of capital set out in this document considers both the Performance Review Body (PRB) guidance[9] (which we understand to be consistent with the 2019 Regulation), relevant regulatory precedent from the IAA and other regulators, and submissions in response to the Draft Decision.

5.3 The formula for the pre-tax weighted average cost of capital (WACC) is expressed as:

$$\text{WACC} = \text{g} \times \text{Rd} + \frac{1}{(1-t)}(\text{Re})(1-\text{g})$$

- Gearing = $g = \frac{Total\ Debt}{Total\ Debt + Total\ Equity}$
- Rd = Pre-tax Cost of Debt
- Re = Post-tax Cost of Equity
- t = Corporate Tax Rate

5.4 The estimation of each of these parameters is set out in the remainder of this section. The decision on each parameter includes our original consultation proposal, submissions received from stakeholders and our Final Decision.

Table 5.1: WACC Component Summary

Parameter	AirNav Ireland RP4	IAA RP4 Final	IAA RP4 Draft
Gearing	0.05	0.5	0.5
Risk-free rate	0.70%	0.73%	0.73%
Total market returns	6.50%	6.25%	6.25%
Equity risk premium	5.80%	5.52%	5.52%
Asset beta	0.60	0.55	0.55
Equity beta	0.63	1.03	1.03
Post-tax CoE	4.34%	6.42%	6.42%
Tax rate	12.50%	12.50%	12.50%
Pre-tax CoE	4.96%	7.34%	7.34%
Cost of debt	3.86%	1.17%	1.17%
Pre-tax real WACC	**4.91%**	**4.26%**	**4.26%**

Source: IAA, AirNav Ireland RP4 Business Plan, First Economics report commissioned by AirNav Ireland.

[9] 31d201d9-e48b-4ad0-aec3-f66c7fe61d31_en (europa.eu)

Submissions Received on the Overall WACC

5.5 Only Aer Lingus, AirNav Ireland and IAG provided comments on the draft cost of capital.

5.6 In terms of general comments, IAG welcomes the 65 basis points (bps) reduction in the WACC compared to the AirNav Ireland proposal. However, both IAG and Aer Lingus are concerned that the WACC proposed by the IAA over-rewards AirNav Ireland, suggesting airspace users are paying double due to covering covid losses and penalisation due to high inflation on the regulatory asset base.

5.7 AirNav Ireland remains of the view that the appropriate pre-tax WACC is no lower than 4.91%, as outlined in its RP4 Business Plan submission to the IAA.

5.8 In the Consultation meeting, IATA asserted that it is its belief that the WACC should be set no higher than 4.4%, because this is the maximum exposure to traffic risk implied by the Traffic Risk Sharing mechanism. IATA further stated that in the event of a significant downturn, the government can step in to aid AirNav Ireland with financing. This assertion was disputed by AirNav Ireland.

Gearing

5.9 The gearing component reflects the proportion of a company's capital requirements that is financed by debt, as opposed to equity. That is, it determines the weighting assigned to the cost of debt, and the cost of equity, within the WACC formula. It can be estimated based on the actual proportion of debt and equity in the financial structure of the entity, or alternatively, based on a notional structure. A notional capital structure can reflect an optimal level of gearing, that is, an efficient allocation of funding between debt and equity.

5.10 In the RP3 decision, we opted to use a notional capital structure, assigning a gearing ratio of 50%. The concept of a notional capital structure is rooted in theory and optimises the trade-off arising from increasing debt levels, between greater tax benefits (as cost of debt is tax deductible) and increased risk (for which equity holders must be reimbursed).

5.11 In the absence of any compelling reason to deviate from the notional 50% gearing estimate for RP3, we stated in the consultation proposal that there was merit in maintaining this level for RP4 to ensure regulatory consistency with our decision in respect of Dublin Airport in 2022, and the UK CAA decisions in respect of NATS (En Route) plc for NR23[10] and Heathrow Airport for H7.[11]

5.12 Within the Draft proposal, we considered a gearing point estimate of 50% appropriate.

[10] Economic regulation of NATS (En Route) plc: Provisional Decision for the next price control review ("NR23") (caa.co.uk)
[11] Economic regulation of Heathrow Airport Limited: H7 Final Decision Section 3: Financial issues and implementation (caa.co.uk)

Submissions Received on Gearing

5.13 AirNav Ireland views the notional gearing of 50% as an arbitrary decision which is not supported by any evidence in respect of being an efficient capital structure. This level of gearing, in their view, is not consistent with the company's real-world financing plan, and this level of indebtedness cannot be accommodated within existing credit facilities.

5.14 AirNav Ireland also notes a difference in terminology relating to the term 'gearing' used by the PRB compared with that used by both the IAA and AirNav Ireland. While the IAA and AirNav Ireland use the term 'gearing' to refer to the proportion of financing through debt, the PRB uses the term 'gearing' to refer to the ratio of debt/equity. As such, the 'gearing' implied by the IAA proposal, in the context of the PRB's terminology, is 100%. This compares with an assessment by the PRB for RP3 of a Union-wide average of between 34% and 41%. For RP4, AirNav Ireland states that the PRB, based on an assessment of two comparator groups, recommend using gearing (D/E) of 33.7% for all ANSPs, which translates to 74.8% within the IAA/AirNav Ireland terminology, in comparison to the 50% proposed by the IAA.

5.15 AirNav Ireland concludes that in their view, the company's current capital structure is optimal, and the actual capital structure should be used in the WACC calculations rather than the notional 50:50 debt:equity proposal.

Decision on Gearing

5.16 As outlined in the Draft Decision, we remain of the view that a notional capital structure is appropriate for the estimation of the gearing component. A notional capital structure can be seen as an optimal level of gearing, reflecting an efficient allocation of funding as between debt and equity. This concept is rooted in theory, and optimises the trade-off arising from increasing debt levels, between greater tax benefits (as cost of debt is tax deductible) and increased risk (for which equity holders must be reimbursed). We have not seen any compelling justification to demonstrate merit in deviating from this approach.

5.17 Our approach to the construction of the WACC, as outlined in the Issues Paper and the Draft Decision, has been to use RP3 as a baseline and update the input data where we believe necessary and relevant. Broader changes to the underlying methodology require substantiation and justification that there is merit to deviation from regulatory precedent. We have not been provided with any compelling evidence from AirNav Ireland, nor the PRB recommendation, that a change in methodology is required, or indeed warranted, from that of RP3.

5.18 We note AirNav Ireland's assertion that in its view, the company's current capital structure is optimal. However, no evidence or justification has been provided to demonstrate this, nor to substantiate the appropriateness of a lower notional gearing estimate relative to our Draft Decision. As set out in the Draft Decision, AirNav Ireland itself proposed and supported the approach to the gearing assumption of 50% for RP3. Justification for the ANSP's shift from this position has not been provided.

5.19 Finally, we note, that a change to the gearing estimate of 50% has an immaterial impact on the overall WACC, with a gearing of 25% increasing the WACC by just 2bps, and a gearing of 5% providing uplift of just 4bps.

5.20 On the basis of the above, we have not altered our Draft Decision on the gearing component.

Cost of Equity

5.21 The cost of equity in this context is a theoretical regulatory construct which can be conceptualised as a profit allowance for the regulated entity. The cost of equity is typically estimated using the Capital Asset Pricing Model (CAPM):

$$\mathrm{Re} = \mathrm{Rf} + \beta_e \times (\mathrm{Rm} - \mathrm{Rf})$$

- Re = Post-Tax Cost of Equity
- Rf = Risk-Free Rate
- β_e = Equity Beta
- Rm = Total Market Return
- $(Rm - Rf)$ = Equity Risk Premium

5.22 The CAPM describes the expected return for assets and equities. Where equities are traded in markets, some of the parameters are observable based on market data. However, in cases such as AirNav Ireland, where equities are not traded, the parameters are inferred, where neccessary, as set out below.

Risk-Free Rate

5.23 The risk-free rate is the theoretical rate of return on an investment with zero risk. In the Draft Decision, we used an approach in line with regulatory precedent and industry standards. We based the estimate on the yield from ten-year Irish and German bonds. Nominal yields over one-year, two-year, and five-year averaging periods were converted into real yields using the Fisher equation.[12] Being backward looking, these rates did not take account of potential changes in yields or rates in future years. These were therefore estimated using the ECB's Euro area yield curve, using both all-Euro-area government bonds and AAA rated government bonds.[13]

5.24 Theoretically, the benchmark security underlying the risk-free rate should have no variance, no liquidity or reinvestment risks, no currency risks, and no risks in connection with inflation. We noted that within the Euro area, German government bonds are often considered to be the least risky assets and trade at high volumes, implying low liquidity risk. Irish bonds were selected as the state in which AirNav Ireland operates. This approach is consistent with our 2022 decision in respect of Dublin Airport.[14]

5.25 We assessed that nominal bond yields for both Ireland and Germany have increased in recent years as the ECB carried out a cycle of interest rate

[12] 1+real yield at time t = (1+nominal yield at time t)/(1+long-term expected inflation rate at time t)
[13] Euro area yield curves (europa.eu)
[14] final-decision-on-the-maximum-levels-of-airport-charges-at-dublin-airport-2023-2026.pdf (iaa.ie)

increases.[15] Notwithstanding that the current cycle has come to an end, yields remain elevated.

Table 5.2: Nominal 10-Year Bond Yields

Country	5-Year Average	2-Year Average	1-Year Average
Ireland	1.30%	2.82%	2.81%
Germany	0.86%	2.37%	2.41%

Source: MarketWatch and IAA Calculations.

5.26 In order to generate the real yields required for the WACC, nominal yields were converted using the Fisher equation and the ECB's survey on the expected long-term inflation rate for the relevant time periods.[16]

Table 5.3: Real 10-Year Bond Yields

Country	5-Year Average	2-Year Average	1-Year Average	Point-Estimate
Ireland	-0.60%	-0.70%	0.74%	0.07%
Germany	-1.02%	0.27%	0.35%	-0.34%

Source: MarketWatch and IAA Calculations.

5.27 While the above rates reflect the current risk-free rate, they do not take account of yields or rates in future years. We therefore also estimated nominal forward rates using the ECB's Euro area yield curve for each year covered by RP4 using both all Euro area government bonds and AAA-rated government bonds. These were converted to real yields using the Fisher Equation and the IMF Euro area inflation forecasts.[17]

Table 5.4: Euro Area Real Yield Curve Spot Rates

Country	2025	2026	2027	2028	2029	Average
All Euro area bonds	1.21%	1.09%	0.98%	0.93%	0.93%	1.03%
AAA-rated Euro area bonds	1.03%	0.82%	0.64%	0.51%	0.46%	0.69%
Average	**1.12%**	**0.96%**	**0.81%**	**0.72%**	**0.70%**	**0.86%**

Source: ECB, IMF, and IAA Calculations.

5.28 Based on the mid-point of historic real yields and average forward rates for RP4, our proposal for an appropriate range for the risk-free rate was 0.52% to 0.93%. We proposed a point estimate of 0.73%, 3bps above the AirNav Ireland proposal.

[15] Average of quarterly rates where 5-year average is 2019-2024, 2-year average is 2022-2024, and 1-year average is 2023-2024.
[16] Inflation forecasts (europa.eu)
[17] World Economic Outlook, April 2024: Steady but Slow: Resilience amid Divergence (imf.org)

Table 5.5: Risk-Free Rate Estimate

	Data Point	Lower Bound	Upper Bound
	Current Yields	-0.34%	0.07%
+	Forward Rates	0.86%	0.86%
=		**0.52%**	**0.93%**

Source: IAA Calculations.

Submissions Received on the Risk-Free Rate

5.29 AirNav Ireland is broadly supportive of the IAA's estimate of the risk-free rate. However, it states it does not agree with the weight the IAA places on historical bond yields, and that the WACC needs to reflect likely market conditions in the new regulatory period. AirNav Ireland further submits that:

- In its view, long-term government bond yields are the best indicator for the risk-free rate.
- There is a wide consensus among economists that interest rates will likely stay higher in RP4 compared to RP3.
- Historic data from 2019 to 2022 no longer has any informational value and should not be included in the IAA's calculation of the risk-free rate, consistent with the IAA's position in the most recent review of Dublin Airport's price cap.
- In AirNav Ireland's view, the methodology employed by the IAA should exhibit a consistent approach to cost of capital estimation across decisions.

Decision on the Risk-Free Rate

5.30 In response to the comments on the risk-free rate estimation methodology:

- The methodology outlined by the IAA in the consultation document used long-term (10-year) government bond yields for both Ireland and Germany.
- While we agree the consensus is that interest rates will likely stay higher in RP4 compared to RP3, we consider that this is already adequately accounted for in our Draft Decision estimate. The broad expectation is for a trend downwards from recent and current levels. The ECB's Survey of Professional Forecasters for the third quarter of 2024[18] shows forecasters expect the interest rate on the ECB's main refinancing operations (MROs) to fall to 4.0% in the third quarter of 2024, 3.5% in the fourth quarter of 2024, 3.0% in 2025, and 2.5% in 2026. The expectation of a higher interest rate environment over RP4 relative to RP3 is reflected in the proposed real risk-free rate of 0.73%, which is 193bps higher than our decision in respect of RP3.
- In the Decision on an Interim Review of the 2019 Determination in relation

[18] The ECB Survey of Professional Forecasters - Third quarter of 2024 (europa.eu)

to 2023-2026 for Dublin Airport, we stated that the transition to a higher inflationary period raised doubts over the predictive power of long-run historical averages. This was due to the recent increases in bond yields relative to the initial stages of the Covid-19 pandemic. However, we are no longer in a high-inflation environment, and the expectation is for yields in the euro-area to decline through RP4. Therefore, our approach of using 1-year, 2-year, and 5-year averages to assess the historic trend, combined with the inclusion of forward rates, provides a balance to currently elevated yields on government bonds, which are unlikely to remain at this level throughout RP4, and mitigates against volatility in specific periods.

- The methodology employed by the IAA to calculate the risk-free rate is consistent with the approach in RP3.

5.31 The PRB recommends that the risk-free rate is calculated based on the 10-year average rate from 10-year government bond yields of each respective country. Our position is that this approach places excessive weight on historic data, and consequently too little weight on more recent data, and places excessive weight on country specific circumstances which does not reflect the EU wide market for financing. We deem our approach of also placing weight on (lower-yielding) German 10-year bond yields to be preferable.

5.32 We have therefore not altered our draft proposal.

Beta

5.33 Within the CAPM formula, the beta coefficient captures the extent of systematic or undiversifiable risk related to holding AirNav Ireland equity. It measures the degree of correlation between (hypothetical) returns of AirNav Ireland equity and returns of a market portfolio. A beta of one means that the entity moves perfectly in line with the market. A beta of less than one means that it is less sensitive to market volatility (i.e. less risky than the market portfolio), and greater than one that it is more sensitive to market volatility.

5.34 There are two variations of beta that can be calculated, the equity (levered) beta or the asset (unlevered) beta. The unlevered beta isolates the risk solely due to an entity's assets and removes the impact of debt, which is then re-levered based on the level of gearing and tax rates to calculate the equity beta within the cost of equity.

5.35 The equity beta is given by the following formula:

$$\beta_e = \beta_a \times \{1+(1 - t) \times (D/E)\}$$

where:

β_e = *equity beta;*

β_a = *asset beta;*

t = corporate tax rate;

D = share of operations financed by debt (equivalent to g in the WACC formula); and

E = share of operations financed by equity (equivalent to (1 – g) in the WACC formula).

5.36 The above equity beta formula assumes that the debt beta is zero, reflecting the position that there is negligible market risk associated with AirNav Ireland debt. This is the approach most often used in estimating the cost of equity within regulatory decisions.

5.37 To generate an asset beta, we conducted a review of asset betas estimated in respect of several comparable European ANSPs and airports, entities facing similar operating challenges in the same overall and/or under the same European rules and regulations. We stated that while other ANSPs regulated under the same regime as AirNav Ireland are natural comparators, the betas of selected airports are also suitable as they experience similar levels of sector-specific demand and revenue risks to ANSPs and are mostly regulated under some form of price-cap/economic regulation.

Table 5.6: European Aviation Infrastructure Sector Asset Betas

Estimate Type	Name	Entity Type	Decision Year	Lower Bound	Upper Bound	Point-Estimate
Based on market data	ADP	Airport, France	2023	0.54	0.56	0.55
	Fraport	Airport, Germany	2023	0.49	0.54	0.52
	AENA	Airport(s), Spain	2023	0.56	0.69	0.63
	ENAV	ANSP, Italy	2023	0.62	0.76	0.69
Regulatory decision	Heathrow	Airport, UK	2023	0.44	0.62	0.53
	Dublin Airport	Airport, Ireland	2022	0.59	0.61	0.60
	NERL	ANSP, UK	2023	0.52	0.70	0.61

Source: UK CAA, IAA. Note: All market-based estimates are based on data within the Flint NR23 Updated Beta Assessment support to the CAA in respect of NR23. The data analysed included 5-years of pre-covid data for the period from Feb 2015 to Jan 2020 (3.5-years for ENAV, from Jul 2016 to Jan 2020) and 1.2 years of post-covid data for the period Jan 2022 to Mar 2023.

5.38 We noted that while the Covid-19 pandemic had considerable impacts on ANSPs and airports, this does not necessarily mean that ANSPs are any more sensitive to systematic risk now than they were pre-pandemic.

5.39 Further evidence on this point has since come to light since our initial assessment for RP3. Various regulators, the IAA included, have assessed the impact of the pandemic on asset betas in recent decisions. For the decision on airport charges at Dublin Airport in 2022, using empirical, market-based data for exchange-listed airports, we found a large but short-term spike in asset betas at the beginning of the pandemic (March 2020). Asset betas continued to revert in the second half of 2021, tending back towards pre-pandemic levels.[19] Airport stocks did not react nearly as extremely to later waves of pandemic

[19] Microsoft Word - Cost of Capital 2022 Final Version - Redacted.docx (iaa.ie)

variants when compared to the initial outbreak, as investors recognised the resilience of major airports and ANSPs, and the cushioning impact of government and regulatory intervention. This suggested that such stocks would not react in the same way if another significant downside events were to unfold in the upcoming regulatory period.

5.40 On that basis, in estimating an asset beta for Dublin Airport, only non-pandemic market data of comparator airports was used, with all of 2020 removed from the sample. This approach removed the considerable, but temporary, spike in asset betas observed in the initial stages of the pandemic so as not to place excessive weight on observations impacted by the pandemic. Based on 1-year, 2-year, and 5-year averages, this provided a narrow asset beta range of between 0.59 and 0.61, with a point estimate based on the mid-point of 0.60. This represented an increase of 0.10 on the pre-pandemic asset beta from the original 2019 Determination.[20] Subsequent to our decision of December 2022, the empirical beta observations within the comparator sample we used continued to trend downwards.

5.41 Flint[21], on behalf of the UK CAA, estimated a Covid-19 related asset beta adjustment range of 0.02 to 0.08 for NERL, based on an assessment of ADP, Fraport, and AENA. When combined with the baseline beta range of 0.50 to 0.62, this implied a Covid-19-adjusted beta range of 0.52 to 0.70 for NERL.

5.42 A similar approach was followed by the UK CAA in respect of Heathrow Airport for H7, whereby an assumption was made that the pre-pandemic beta was in line with the previous determination (0.50), and this was then adjusted upward to reflect the unmitigated impact of the pandemic, before being reduced to reflect the impact of the newly introduced TRS mechanism. The impact of the pandemic was estimated as ranging from 0.01 to 0.11.

5.43 Based on these findings, we proposed to increase the asset beta range from 2021 by 0.05, giving a range of 0.50 to 0.60, with a point estimate of 0.55. We noted this proposal was close to, but slightly lower than, the point estimate proposed by AirNav Ireland. This proposal was in line with regulatory estimates of the impact of Covid-19 on asset betas, and in the middle of the range recommended by the PRB.

Submissions Received on Asset Beta

5.44 AirNav Ireland notes in its response that our proposed asset beta assumption falls below the 0.6 estimate which it has proposed in its RP4 Business Plan, and in the middle of the range recommended by the PRB. AirNav Ireland believes its estimated asset beta of 0.6 is appropriate for a number of reasons:

- AirNav Ireland's risk profile in terms of demand and cost compared to other regulated industries is such that a 2% reduction in traffic would result in a 50% decrease in profit, while a 10% reduction in traffic would result in a loss of profit of 110%. By way of comparison, it states that NERL's loss

[20] Final Determination 2020-2024 (iaa.ie)
[21] NR23 Updated Beta Assessment (caa.co.uk)

of return from a 2% and 10% reduction in traffic would be 15% and 35% respectively, while Dublin Airport would need to see a traffic variance of more than 10% in order to suffer a loss of half its nominal return, and a traffic variance of more than 30% in order for its nominal return to be entirely wiped out.

- AirNav Ireland highlights that First Economics, who estimated its WACC proposal, is not aware of any other regulated business that can face such pronounced swings in profitability in the face of such small deviations in systematic risk.
- The SES risk-sharing arrangements do not necessarily provide that AirNav Ireland has significantly lower revenue risk compared to other businesses in the aviation sector, which it also highlighted during the RP3 consultation process.

5.45 AirNav Ireland believes that it is not seeking a beta that compensates for the risk of future pandemic-like events, but a beta that recognises the variability of its profit during “normal times”.

5.46 AirNav Ireland makes reference to the CAA’s beta for NERL, and notes its proposed beta of 0.6 broadly aligns with this, as a business that operates in the same market and with the same risk profile but with greater stability of profit.

5.47 Aer Lingus believes that the risk profile of AirNav Ireland is more exposed to upside risk than downside due to the operation of the TRS.

5.48 IAG questions whether the asset beta was calculated using the correct forecast criteria, and expresses concern that the WACC suggested by the IAA over-rewards AirNav Ireland in a post-Covid environment.

5.49 Aer Lingus believes that the risk profile of AirNav Ireland is more exposed to upside risk than downside due to the operation of the TRS.

Decision on Beta

5.50 As we stated in the consultation paper, while we agree that AirNav Ireland is subject to some volume risk, we disagree that the risk is as significant as stated. The 2019 Regulation provides for a traffic risk sharing mechanism which protects ANSPs in the case of significant deviations in service units relative to forecast, with the full additional cost/revenue being borne by the ANSP if service units deviate by no more than 2% of the performance plan, 70% of additional cost/revenue being borne by the ANSP if service units deviate by greater than 2% but less than 10%, and all additional costs/revenues being borne by airspace users if service units deviate by more than 10%. We note that in the example highlighted in its response to the consultation, the result of a 2% reduction in traffic still implies retention of 50% of profit, while it would take a 10% reduction for AirNav Ireland to make a loss equivalent to 10% of its allowed return.

5.51 AirNav Ireland has sufficient cash reserves and no actual debt, which means it is relatively insulated from the effect on its liquidity arising from a negative

systematic shock. In such an instance, AirNav Ireland also has the ability to respond to unfolding circumstances by scaling its costs to a certain extent.

5.52 With respect to the CAA's beta for NERL, this estimate was formed through the combination of two components, a baseline beta (capturing prevailing risks unrelated to Covid-19) and a Covid-19 adjustment. A similar approach was followed in respect of Heathrow Airport for H7, whereby an assumption was made that the pre-pandemic beta was in line with the previous determination, and then adjusted upward to reflect the unmitigated impact of the pandemic, before being reduced to reflect the impact of the newly introduced TRS mechanism. Therefore, our approach is similar to both the CAA's methodology for both Heathrow and NERL as we assume AirNav Ireland's RP3 beta as a baseline, and have provided an uplift to reflect the general increase in the comparator group betas (also within the range of the uplift estimated by the UK CAA) since the pandemic. With respect to the overall methodology used to calculate beta, and the risk profile of AirNav Ireland, our approach is in line with recent regulatory precedent post-Covid.

5.53 We have therefore not altered our draft proposal.

Equity Risk Premium

5.54 The equity risk premium (ERP) is the excess return earned by investors above the risk-free rate. It can either be estimated in isolation, or by estimating total market returns (TMR) and subtracting the risk-free rate. Irish regulatory precedent has typically looked at the ERP as an isolated and stable component of financial markets. Typically, the ERP is estimated based on a long-run average of the difference between market returns and government bond yields, the underlying assumption being that a long-run average adequately reflects future values of the ERP.

5.55 However, evidence suggests that the ERP is counter-cyclical.[22] Therefore, during a relatively short regulatory period of between 4 to 5 years, deviations from the long-term average of the ERP may have a substantial impact on the estimated WACC and should be investigated carefully. The TMR is generally considered to be more stable over time compared to its individual components, and therefore potentially better suited for estimating the ERP.

5.56 In the Draft Decision, to estimate the TMR, we drew upon recent regulatory precedent and assumptions.

[22] Credit Suisse Global Investment Returns Yearbook 2018 (credit-suisse.com)

Table 5.7: TMR Assumptions in Recent Regulatory Decisions

Decision	Year	Low	High
CRU – Irish Water	2019	6.30%	6.75%
Comreg – Telecoms	2020	6.65%	6.65%
CRU – ESB & Eirgrid	2020	5.70%	6.75%
IAA – AirNav Ireland	2021	6.00%	7.00%
IAA – Dublin Airport	2022	5.70%	6.81%
CAA – Heathrow Airport	2023	5.20%	6.50%
CAA – NERL	2023	5.20%	6.50%
Average		**5.82%**	**6.71%**

Source: CRU 2019, Comreg 2020, CRU 2020, IAA 2021, IAA 2022, CAA 2023, IAA Calculations.

5.57 Recent regulatory decisions have broadly demonstrated the TMR to be relatively stable over time. We noted that taking an average of all comparators in the above table, applying equal weight to each, provided for a TMR within the range of 5.82% to 6.71%, with a midpoint estimate of 6.27%.

5.58 The midpoint of 6.27% is closely in line with the estimate for the most recent Dublin Airport charges decision, which found a backward-looking TMR range of between 5.97% and 6.81% and a forward-looking TMR range of between 5.70% and 6.81%. The point estimate we proposed was 6.25%.

5.59 The PRB, in assessing the ERP in isolation using German figures from the dataset of Damodaran, suggested an ERP of 5.3%. When combined with our proposed risk-free rate of 0.73%, this led to a TMR component of 6.03%; thus slightly below our consultation estimate. Overall, we considered that there was no reason to deviate from our 2022 estimate and proposed a TMR for RP4 of 6.25%. Given our proposed risk-free-rate, this equated to an ERP of 5.52%.

Submissions Received on the Equity Risk Premium

5.60 AirNav Ireland states that while the IAA used a similar approach to estimate the TMR to that in its Business Plan, the results differ for two reasons:

- The IAA gives undue weight to the ranges that regulators have identified in their published documents rather than the point estimates that the regulators actually used in their decisions.
- The figures that the IAA cites for the CAA's two most recent price control decisions are incorrect. Specifically, the IAA has mistakenly used the CAA's estimates of the RPI-stripped TMR rather than the CPI-stripped figures.

5.61 AirNav Ireland suggests a mid-point based on what it believes to be a more accurate survey of TMR regulatory decisions of 6.60% once the above points have been taken into account.

Decision on the Equity Risk Premium

5.62 The TMR ranges estimated by other regulators in respect of their recent decisions were used to assess how the upper and lower bound of the possibilities have changed over recent decisions. Point estimates are judgement based, and typically lie within the range of possible values. Indeed, some regulators estimate the TMR component using different techniques, as discussed in the Draft Decision, which all inform where the point estimate should lie within the possible range based on the evidence available at the time of determination.

5.63 We note the submission that the UK CAA decisions in respect of Heathrow and NERL are both in RPI-real terms. As outlined above, recent regulatory decisions were assessed to estimate the trend of the upper and lower bound of possible TMR ranges over different periods. Our draft conclusion was that these were consistent with retaining our own most recent estimate of 6.25%, which we calculated in respect of the WACC for Dublin Airport. We note that there are differences in how various indexes of prices are calculated in Ireland and the UK, and therefore the Irish CPI is not fully comparable with the UK CPI. When we only use those above estimates which are in CPI real terms, the range increases to 6.07% to 6.79%, however our proposed point-estimate still remains comfortably within this range. We have therefore not been persuaded to alter our draft position.

Cost of Debt

5.64 When estimating the cost of debt, our preferred approach is to use an estimate of embedded debt (based on the costs of currently held debt), combined with the forecast cost of any new debt, which can be estimated based on comparable companies operating under similar market conditions. AirNav Ireland currently has no embedded debt, which implies a weighting of 100% on new debt. Although AirNav Ireland currently does not hold any debt, it does have in place undrawn Revolving Credit Facilities (RCFs) and has included the agreed terms in its RP4 Business Plan. AirNav Ireland has not expressed an intention to borrow over RP4; however, the arrangements of the RCFs provide an estimate of the cost of debt which would be faced if it were to borrow based on these facilities.

5.65 As discussed in the Gearing subsection, we instead propose to retain the 50% assumption. We calculate a nominal cost of debt of 3.79%, when the gearing is amended relative to the First Economics approach. Nominal debt costs have been converted to real debt costs using the Fisher equation and the RP4 average inflation rate based on the April 2024 IMF forecast for 2025-2029 for Ireland[23]. This leads to a real cost of debt of 2.02%.

5.66 Furthermore, the cost of debt associated with the RCFs is heavily dependent on the EURIBOR rate. The expectation for 2025 and 2026 is for the 3-month rate to average 2.8% and 2.5% respectively. This reflects a downward trend from the current rate, but a much higher rate than was observed over 2014 to

[23] World Economic Outlook, April 2024: Steady but Slow: Resilience amid Divergence (imf.org)

2022. However, forecasts are only available for the first 2 years of RP4, and with the ECB expected to reduce interest rates over the coming months and years, calculating the cost of debt associated with the RCFs based solely on forecasts for the first 2 years of RP4 seems unreasonable and places excessive weight on the short-term position, in the context of a regulatory period which will last until 2029. Furthermore, we note that Article 28 of the 2019 Regulation provides a mechanism for unit rate adjustment in year n+2 or the following reference period if there is an unforeseen increase in the cost of borrowing, provided that changes in these costs are outside of the control of the ANSP.

5.67 Based on the above, to take account of the longer run data, we also calculated the cost of debt based on a 5-year historic average of the 3-month EURIBOR rate[24] to June 2024. This yields a real cost of debt, holding all other terms of the RCFs constant, of 0.32%. Similar to other parameters, we considered it appropriate to place weight on the near term forecast as per the First Economics approach, but also on the longer run average. This results in a real cost of debt in the range of 0.32% to 2.02%. We proposed a point estimate of 1.17%, which is the mid-point of this range, in the Draft Decision.

Submissions Received on Cost of Debt

5.68 AirNav Ireland believes the cost of debt proposed by the IAA to significantly underestimate the real cost of borrowing, stating that, similar to its submission on the risk-free rate, there is a wide consensus that we are in a 'higher for longer' period of Central Bank interest rates, with the rate of interest, it believes, likely to stay higher in RP4 compared to RP3. AirNav Ireland therefore believes that the use of long-term averages is not appropriate, and more emphasis should be placed on the current environment. It states that the use of a 5-year trailing average reading of the EURIBOR rate results in a significant under-estimate of the cost that it will likely face during the 2025-2029 period, and believes a current market forecast for the EURIBOR rate should be used for the Final Decision.

5.69 AirNav Ireland also states that the level of borrowing assumed by the IAA is not possible within its existing bank facilities.

Decision on Cost of Debt

5.70 While it may be the case, as stated by AirNav Ireland, that we are in a 'higher for longer' period of Central Bank interest rates, this is, of course, uncertain. However, as we noted in respect of the risk-free rate, while interest rates are generally expected to remain higher over RP4 compared to RP3, the broad consensus is for gradual decreases over the period, as indicated by the previously referenced ECB Survey of Professional Forecasters for the third quarter of 2024.

5.71 As we noted in the Draft Decision, the cost of debt associated with AirNav Ireland's RCFs is heavily dependent on the EURIBOR rate. As the expectation is for interest rates to decline over RP4, as the period of recent high inflationary

[24] FM.M.U2.EUR.RT.MM.EURIBOR3MD_.HSTA | ECB Data Portal (europa.eu)

pressures has largely come to an end, we do not believe it is appropriate to base an estimate for the EURIBOR rate on its current level, which is much higher than that observed throughout 2014 to 2022. Similarly, short-term forecasts risk over-stating the true cost of borrowing throughout RP4, as the EURIBOR should fall in line with the expected gradual decline in ECB interest rates.

5.72 Based on the above, we maintain that our position of also taking account of longer run data, based on the 5-year historic average of the 3-month EURIBOR rate, is more appropriate than focusing solely on current and short-term forecasts. We therefore deem our approach of calculating a lower bound of the cost of debt based on the long-run historic average, and an upper bound based on the current short-term forecasts for 2025 and 2026 to be prudent, and provide a better spread of the possible outcomes over 2025 to 2029.

5.73 Furthermore, as stated in the Draft Decision, Article 28 of the 2019 Regulation provides a mechanism for unit rate adjustment if there is an unforeseen increase in the cost of borrowing, provided that changes in these costs are outside of the control of the ANSP.

5.74 In respect of the level of borrowing assumed for the calculation of AirNav Ireland's cost of debt estimation, we note the incorrect statement in the RP4 Draft Decision that this was based on the gearing assumption of 50%. The cost of debt estimate was calculated based on notional borrowing of €50m under the terms and conditions of AirNav Ireland's RCF arrangements. The cost of borrowing therefore assumed a level which can be facilitated within the current RCFs. However, if further borrowing was required above that which can be facilitated by the current facilities, we assume AirNav Ireland will be capable of obtaining additional lending.

5.75 Our position, therefore, remains unchanged from the Draft Decision.

Aiming Up

5.76 In the Draft Decision in respect of the revised RP3 Plan, we considered the question of an 'aiming up' allowance within the estimation of the WACC, stating this was to mitigate estimation error and the impact of the point estimate of the WACC being set too low – which we considered in the Draft Decision to have greater adverse consequences on economic welfare than an overestimate. Based on this, and consistent with the 2019 decision in respect of Dublin Airport, we initially proposed to provide an aiming up allowance of 0.5%.

5.77 However, based on further assessment of the evidence available, this was removed in the Final Decision, with the IAA accepting the arguments of airlines that it was not appropriate to include an aiming up allowance. Discussion on this decision can be read in the Final RP3 Decision document.[25]

5.78 Consequently, in respect of the RP4 Draft Decision, we did not include an

[25] decision-document.pdf (iaa.ie)

aiming up allowance within the estimation of the WACC.

Submissions Received on Aiming Up

5.79 As an aiming up allowance was not included in the estimation of the WACC in the Draft Decision, just AirNav Ireland commented on this parameter.

5.80 AirNav Ireland believes the IAA has taken a decidedly more stringent approach to each of the WACC parameters in the Draft Decision. Consequently, AirNav Ireland requests a more, in its view, balanced calibration of the line-by-line inputs into the WACC calculation, or an aiming up allowance.

Decision on Aiming Up

5.81 We disagree with AirNav Ireland in respect of our methodology and treatment of the WACC estimation. As we have previously provided, our methodology uses RP3 as a baseline, and provides updates to the input data where necessary and warranted. More broad changes to the methodology require substantiation and compelling argument. As described throughout this section, we have not been provided with any compelling information or arguments which would suggest a change to the methodology used to estimate each WACC input parameter.

5.82 On this basis, we maintain the overall WACC and our assessment of the underlying input parameters is fairly assessed, and provides an appropriate balance between upside and downside risk, short and long-term forecasts, and historical and future trends.

5.83 We therefore maintain our draft position and do not include an aiming up allowance.

WACC Summary

5.84 The range of values for the WACC, calculated based on the parameters above, is shown in the table below compared against the values estimated by AirNav Ireland. The AirNav Ireland proposed WACC is below the IAA's point estimate, but falls within our upper and lower bound.

Table 5.8: AirNav Ireland and IAA WACC Comparison

Parameters	AirNav Ireland RP4 BP	IAA Estimate		
	Point Estimate	Low	High	Point Estimate
Gearing	0.05	0.5	0.5	0.5
Risk-free rate	0.7%	0.52%	0.93%	0.73%
Total market returns	6.5%	5.82%	6.71%	6.25%
Equity risk premium	5.8%	5.30%	5.77%	5.52%
Asset beta	0.60	0.50	0.60	0.55
Equity beta	0.63	0.94	1.13	1.03
Post-tax CoE	4.34%	5.49%	7.43%	6.42%
Tax rate	12.5%	12.5%	12.5%	12.5%
Pre-tax CoE	7.34%	6.27%	8.49%	7.34%
Cost of debt	3.86%	0.32%	2.02%	1.17%
Pre-tax real WACC	**4.91%**	**3.30%**	**5.26%**	**4.26%**

Source: IAA Calculations, AirNav Ireland RP4 Business Plan.

5.85 The nominal WACC in each year of RP4 is shown in the table below. The point estimate of the real WACC from the table above has been converted to a nominal WACC using the Fisher equation and the inflation rate for each year of RP4.

Table 5.9: Nominal WACC

	2025	2026	2027	2028	2029
Inflation	2.01%	1.95%	1.96%	1.98%	2.0%
Nominal WACC	6.35%	6.30%	6.31%	6.33%	6.35%

Source: IAA Calculations

5.86 AirNav Ireland has kept its asset register at historical cost (i.e. in nominal prices). Consequently, the RAB we have derived from the asset register is nominal, and thus a nominal WACC must be applied to derive the return on capital.

6. AirNav Ireland Capital Costs and Investments

6.1 This section sets out AirNav Ireland's capital cost allowances for RP4, summarised in Table 6.1. There are two elements of Capital Costs:

- Depreciation, based on the value of the asset over its expected useful life, which must be calculated on a straight-line basis under the 2019 Regulation.
- A return on capital, derived from the application of the WACC set out in Section 5 to the Regulated Asset Base (RAB).

Table 6.1: Capital Costs for RP4, € million

Source	Zone	2023A	2024B	2025	2026	2027	2028	2029
AirNav Ireland	ENR	8.5	8.6	12.3	15.6	20.1	21.8	24.8
	TER	7.4	7.7	9.8	10.9	12.8	13.7	15.7
	Total	**16**	**17.3**	**22.1**	**26.5**	**33**	**35.6**	**40.5**
IAA Draft	ENR	8.5	8.7	11.7	14.2	17.6	18.6	20.9
	TER	7.4	7.7	9.5	10.3	11.7	12.2	13.7
	Total	**16**	**16.3**	**21.3**	**24.4**	**29.3**	**30.8**	**34.5**
IAA Final	ENR	8.5	8.6	11.5	13.8	16.9	17.9	19.7
	TER	7.4	7.7	9.5	10.1	11.5	12.0	13.0
	Total	**16**	**16.3**	**21.0**	**23.9**	**28.3**	**29.9**	**32.7**

Source: IAA Calculations, AirNav Ireland. Nominal prices.

6.2 Overall, in total across RP4, the capital cost allowances are €4.4m less than was set out in the Draft Decision, and €21.8m less than what was proposed in the AirNav Ireland Business Plan. The reduction in allowed capital costs since the Draft Decision is a result of extending the asset lives of two major projects, the removal of a duplicated minor project and the amendment to the cost allocation methodology of two minor projects.

6.3 Below we set out how the revised allowances for RP4 were arrived at and what proposals were set out in relation to the regulatory treatment and reporting for new RP4 projects. We then outline any relevant comments made by stakeholders and how these have been taken into consideration in the Performance Plan. In Appendix 1 we provide updates on individual projects where additional information was provided to us following the Draft Decision.

6.4 The RAB is in nominal prices. All figures presented in this section are in nominal prices, with a nominal WACC applied as set out in Section 5.

Capital Costs

Modelling depreciation and Return on Capital

6.5 In the Draft Decision, we estimated a 9.7% reduction in total depreciation costs over the period compared to AirNav Ireland's proposal.

6.6 In calculating AirNav Ireland's return on capital, the nominal WACC in each

year is applied to the weighted average net book value (NBV) of fixed assets (where the weighting applies to when new assets are capitalised in the year) and, in the case of projects other than TopSky ATC One, added to accrued capitalised interest which is depreciated alongside the fixed asset. In the Draft Decision, we estimated the total return on capital to be 12.5% lower than AirNav Ireland.

6.7 In the case of the TopSky ATC One project, AirNav Ireland proposed to include a return on capital during construction, with the overall return averaging approximately €1m per year over RP4. The proposed approach is consistent with 2019 Regulation, which expressly allows for pre-funding.[26]

6.8 In the Draft Decision, we applied the approaches as proposed by AirNav Ireland in our modelling of the return on capital.

Submissions Received on Modelling of Depreciation and Return on Capital

6.9 Aer Lingus asks the IAA to clarify its proposed treatment of the Topsky ATC One project, noting that current 'custom and practice' is to charge for the asset in use rather than under construction. Aer Lingus acknowledges that the 2019 Regulation does not preclude pre-funding, but asks if the IAA has concluded that such an approach is in airspace users' interest in this case.

Decision on Modelling of Depreciation and Return on Capital

6.10 AirNav Ireland submitted its proposal to include a return on capital during the construction of TopSky ATC One. In considering this proposal, we took account of the financial impact the scale of this investment would have on AirNav Ireland, and also the fact that the most significant capitalisation amount does not occur until towards the end of RP4 when the system is expected to become operational. As Aer Lingus has referenced, this approach is expressly allowed for under Article 22 (4)(d)(i) of the 2019 Regulation. In setting the asset beta in AirNav Ireland's cost of capital we have taken account of the extensive cost protections, which the 2019 Regulations affords AirNav Ireland, including this one referenced by Aer Lingus.

6.11 In response to the question from Aer Lingus whether this approach is in the interest of consumers, we note that treatment of TopSky ATC One in this manner is neutral in net present value terms and that if all of the cost of capital was deferred to completion of construction, this would amount to higher capital costs in RP5.

6.12 With regard to the above, we have treated the return on capital for TopSky ATC One in the Performance Plan in the same manner as proposed in the Draft Decision.

Cost Allocation

[26] In other circumstances, where the relevant legislation does not expressly allow for or not allow for pre-funding of capital costs, the IAA typically considers it on a case-by-case basis with reference to financeability.

6.13 We reviewed the cost allocation methodology through which the capital costs are assigned to the En Route, Terminal, and other cost bases. Costs are first allocated to geographical cost centres, such Shannon ACC (Ballycasey), Dublin Airport, Cork Airport, Shannon Airport, North Atlantic Communications (Ballygireen), and Headquarters (D'Olier Street).

6.14 Where a project is solely associated with the provision of En Route services, such as at Ballycasey, it is allocated 100% to the En Route cost base. If solely associated with the provision of Terminal services, it is allocated 100% to the Terminal cost base. If the project is to be used for the provision of both En Route and Terminal services at a given location, it is jointly allocated.

6.15 The apportionment of jointly allocated projects depends on the location. At Dublin and Shannon ACC, costs are allocated 75:25 to En Route, while at Cork the apportionment is 50:50. The assets for the headquarters are assigned 73% to the En Route cost base. These allocation keys reflect the extent to which each location provides services to Terminal/En Route traffic, having regard to the 20km charging zone boundary set by the 2019 Regulation and the mix of ACC, Approach, and Tower services provided by each ATC unit within the Terminal and En Route charging zones. We note that this allocation approach aligns with paragraph 2.5.4 of the CRCO guidance material on principles for establishing the cost base for En Route charges.[27]

6.16 Certain RP4 projects, such as Flood Mitigation Works and the Climate Action Plan/Lift upgrade, Radiator & Pipe Infrastructure and Low energy lighting, include elements of works at the Ballygireen centre which is out of scope of the performance plan. We have verified that these direct costs have not been apportioned to either the Terminal or En Route cost bases.

Submissions received on the cost allocation

6.17 No submissions raised any questions regarding the proposed allocation of capital costs and/or the associated methodology.

Decision on Cost Allocation

6.18 As part of our review and validation of the correct application of the cost allocation methodology, we had submitted queries to AirNav Ireland in respect of the cost allocation of two projects. In relation to the Plant Upgrade Works project which, as detailed in AirNav Ireland's Business Plan encompasses works at AirNav Ireland HQ, we questioned why 12% of the proposed cost was not allocated to NAC as the location key outlined above would suggest. We also questioned why the cost of a Doppler VHF Omni Directional Range (DVOR) which is stated to be located at Knock Airport was submitted for inclusion in the Performance Plan.

6.19 Based on the responses received from AirNav Ireland, following the Draft Decision, we have amended the allocation for the Plant Upgrade Works to 73:15 ENR:TER with 12% of the total cost allocated outside of the Performance

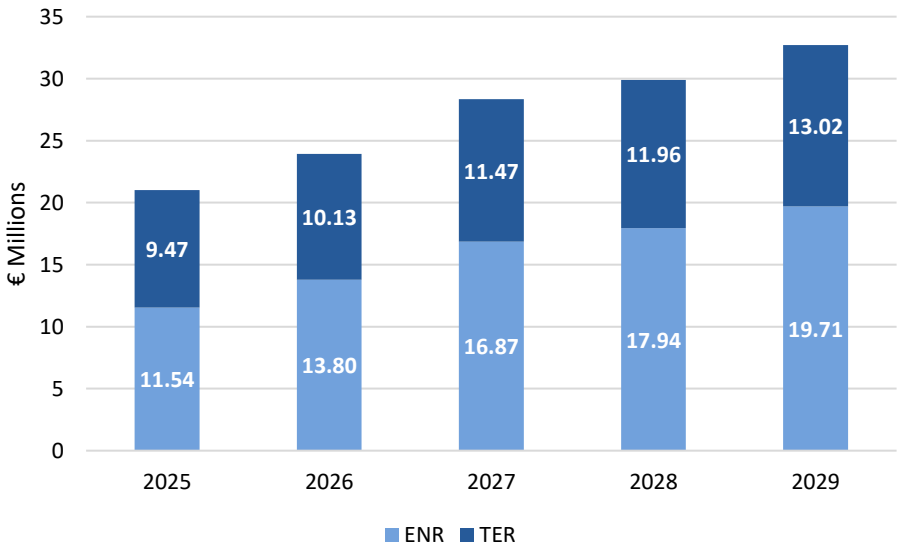
[27] https://www.eurocontrol.int/sites/default/files/2019-12/doc-20.60.01-eurocontrol-principles-january-2020-en.pdf

Plan. We have also accepted AirNav Ireland's explanation that while the DVOR may be located in the proximity of Knock Airport it is used as an En Route Directional marker. Consequently, the allocation of this project has been corrected since the Draft Decision, from 100% TER to 75:25 ENR:TER.

6.20 We remain satisfied that AirNav Ireland's allocation methodology for capital costs is reasonable and consistent with the requirements of the 2019 Regulation. We note that no stakeholder has submitted any alternative view in that regard, and we have not changed the methodology in the RP4 draft Performance Plan from that outlined in the consultation. Having implemented the above changes, we have verified that the methodology has been correctly applied. The allocation of each RP4 project, as assigned to the relevant cost centre(s), can be observed in the model.

6.21 Figure 6.1 below presents the capital costs by charging zone for RP4.

Figure 6.1: En Route and Terminal capital costs for RP4



Source: IAA calculations

New RP4 Investments

6.22 In the Draft Decision we proposed to allow for €175m of new capitalised projects. The rationale behind our proposal is summarised below. In this section we also address comments received in respect of AirNav Ireland's capital investment programme and outline our Final Decision.

6.23 AirNav Ireland's RP4 Business Plan includes a substantial capital investment programme. The standout feature is the planned replacement of the ATM system with the TopSky ATC One Platform Upgrade, which will be procured through the COOPANs alliance. In addition to investment in a new ATM system, AirNav Ireland proposes to deliver the new Contingency Air Situation Display System (CASDS) which would be used in the event of a COOPANS failure, as well as a number of other major projects and a range of smaller projects.

6.24 In the Draft Decision, we noted that a number of clarification questions we had put to AirNav Ireland, and our requests for supporting material were outstanding at the time of publication which left a degree of uncertainty around the need and cost of some projects. We also took account of AirNav Ireland's significant under delivery of its Capex programme in both RP3 and RP2. Equally, we factored in how AirNav Ireland had taken action to improve its Capex delivery in RP4 by recruiting engineers in the latter years of RP3 and reorganising its project management structure.

6.25 Considering all of the above, we concluded that the proposed scale of the investment programme presented a significant challenge to AirNav Ireland. We accepted that while many of the projects in AirNav Ireland's Business Plan are needed to meet regulatory obligations, we were unconvinced by the necessity to deliver the full programme to the proposed timescales, and also as to AirNav's capacity to do so. Our Draft Decision addressed this by reducing forecast capitalisations by 20% (excluding TopSky ATC One). In this way we did not disallow any individual projects and allowed for €175m of capitalisations across RP4.

Submissions Received on RP4 Investments and Project Allowances

6.26 AirNav Ireland does not agree with the IAA's proposal in relation to the reduction to its RP4 Capex plan. It believes that the plan to cut capitalisations by 20% (excluding TopSky ATC One) compared to its Business Plan will leave AirNav Ireland with insufficient cost allowances to deliver all the projects that it considers to be necessary. AirNav Ireland believes that it has clearly outlined that the RP3 under-delivery was due to prioritising service delivery. It further states that it has a backlog of projects from RP3 which need to be addressed, and that it has explained the need for each of the proposed Capex projects.

6.27 AirNav Ireland refers to the various changes it has implemented which it believes will ensure delivery of the RP4 Capex programme (e.g. revision of the project management structure and engaging consultants to estimate the required resources to ensure delivery of the programme). AirNav Ireland states, however, that without the full capital cost allowance, it will not be able to deliver all of the projects in its RP4 Business Plan, and this would have an impact on service delivery in the future.

6.28 AirNav Ireland is supportive of the IAA's proposal that, if AirNav Ireland efficiently delivers more of the Capex programme than the IAA has forecast, then this can be added to the RAB at the beginning of RP5 and/or adjusted for in the unit rate for RP5. However, it also believes that the proposed 20% reduction in forecast capitalisations would not be effectively mitigated by such an approach.

6.29 AirNav Ireland and Aer Lingus are supportive of the IAA's proposal to make a programme level adjustment to the Capex programme, rather than disallowing specific projects.

6.30 While Aer Lingus, IAG and Ryanair support the IAA's approach to reduce the Capex plan, each raises separate points in respect of the reduction. IAG

questions whether the 20% reduction goes far enough, and encourages the IAA to consider this further based on AirNav Ireland's previous performance.

6.31 Aer Lingus states that the proposed Capex programme must be considered in the context of AirNav Ireland's level of spending in previous control periods, its need to recruit and train new engineers, and the simultaneous implementation of a new project management process.

6.32 Ryanair remarks that some of the project costs seem unreasonable, and highlights a number of examples, although it does not make any substantive or evidence-based submission in that regard. It criticises the estimates of '*400k for ATC chairs, 1.5M for 173 screens, 150k for 80 clocks'*. Ryanair is also of the view that the Capex plan includes a lot of building works that do not appear to reflect traffic growth or CP1 implementation.

6.33 The AirNav Ireland Staff Panel supports the IAA's proposal to not include the TopSky ATC One project in the overall Capex programme reduction, stating that implementation of this system will be *'the biggest change in ATM in Ireland in 20 years and it is vital that the project is adequately resourced'*.

Decision on RP4 Investments and Project Allowances

6.34 Project level clarifications that were identified in the Draft Decision are addressed in Appendix 1.

6.35 In response to IAG's request that we consider whether the 20% Capex programme reduction goes far enough with reference to AirNav Ireland's past performance, we have taken account of AirNav Ireland's historic under delivery when proposing this adjustment. However, we have also made allowances for the changes AirNav Ireland has implemented and plans to implement during RP4 which should lead to improvements in its delivery performance. For the reasons set out in the Draft Decision, we considered the 20% programme level reduction to be the most reasonable centreline estimate of the level of efficient capital costs likely to be actually generated by new investments during RP4.

6.36 Should AirNav Ireland under-deliver on its Capex allowance in this reference period, this will be returned to airspace users via reductions in the RP5 unit rates, as will occur in RP4 due to RP3 under delivery. Equally, should it confound our expectations and deliver more of the investment programme, the efficient costs of doing so can be recovered from RP5.

6.37 In response to the projects that Ryanair identified as needing further consideration, AirNav Ireland provided us with an investment appraisal for ATC 2Kx2K Screen Replacement, which supports the cost proposal for this project. The estimate for the National Clock Systems was based on similar historic purchases at CEROC, and the cost estimate for the ATC chairs is based on outturn RP3 costs for similar equipment. We are satisfied that AirNav Ireland has provided sufficient information to demonstrate the need and underlying cost bases for these minor projects and the associated cost estimates.

6.38 In relation to Ryanair's comment regarding the level of building works proposed

by AirNav Ireland, in our Draft Decision we also commented that the need for all of the property projects was not entirely apparent. In particular we noted the Cork ATC Extension which was postponed from RP3. Other building works however such as the Ballycasey and Dublin ATC Building Extensions are driven by regulatory requirements and the expansion of services provided at the locations which AirNav Ireland has demonstrated to us.

6.39 Having considered these submissions, we do not see any sufficient evidence or compelling argument to move away from our consultation proposal. We also note that airlines overall appear to be in favour of considering the investments on a programme rather than project level, and did not identify any project in particular to be disallowed. We have acknowledged the significant challenge that AirNav Ireland faces in delivering the proposed Capex programme. In implementing the programme level adjustment, we have taken account of AirNav Ireland's previous performance, its recruitment plans and its project management restructure. We remain satisfied that a 20% programme level reduction in the assumption of total capitalisations (excluding TopSky ATC One) provides for a reasonable centreline forecast of capital costs over RP4 and have not changed our assumption from the Draft Decision. The removal of a duplicated project has resulted in an overall capitalisation total of €173m, approximately €2m less than the total in the Draft Decision.

Asset Lives

6.40 Article 22(1) of the 2019 Regulation requires that assets are depreciated over their '*expected operating life'*. This ensures that the costs of a project are allocated fairly across airspace users who will benefit from the project over time.

6.41 As set out in the Draft Decision, in most cases, we considered that the asset lives put forward by AirNav Ireland were reasonable. In some cases where we noted that AirNav Ireland did not follow the asset lives we set for projects in RP3, we again proposed the asset life that was set in RP3 for these projects. Specific details on proposed asset lives were set out in the appendix and shown in the published Performance Plan model.

Submissions on Asset Lives

6.42 AirNav Ireland states that in cases where it did not follow the asset lives we proposed in RP3, it again reiterates that, in its view, these asset lives were not realistic. AirNav Ireland again uses the example of the Conditional Survey Works which it says has a standard asset life of 10-years and asserts that '*the proposed 20 years would be far too excessive even though it may sometimes be possible to achieve 12 years on some aspects*'. AirNav Ireland requests the IAA to justify why it has amended the asset lives in particular cases.

Decision on Asset Lives

6.43 We remarked in the Draft Decision that we would give further consideration to extending the asset lives of two of AirNav Ireland's major projects: TopSky ATC One and the Contingency Air Situation Display System (CASDS) ahead of the Final Decision. Given the substantial level of investment associated with both

projects, the operational life of the existing projects and given that supplementary upgrade/refresh projects were also proposed for these investments, we considered that 8 years was a relatively short asset life for both projects. We sought additional substantiation from AirNav Ireland on its proposed asset lives following the Draft Decision, and we outline our conclusions on these two projects below.

6.44 The total cost of the TopSky ATC One project is comprised of AirNav Ireland's share of COOPANS related costs for the new ATM system (68%), the cost to AirNav Ireland of the associated hardware (23%) and 9% for contingency. AirNav Ireland's proposed 8-year asset life appears to be derived from the service provision contract. We note, however, that the underlying asset will likely continue to provide value beyond that date. We also note that AirNav Ireland will capitalise a further c. €10m in relation to this project in RP5 which will see the cost recovery period extend even further beyond 2035.

6.45 AirNav Ireland also stated that the current ATM system, which has been operational for the past 17 years, was considered obsolete in 2019. Notwithstanding the fact that this asset is still in use, and will be in use until 2028, even if that were to be accepted, it would still put the assumed useful life of the current system at 12 years. In reply to our question on whether each of the component parts of the TopSky system would expire at the same time, AirNav Ireland referenced the need for software and hardware upgrades that can be required within 5 years of system installation. AirNav Ireland referred to what it sees as the unpredictability of future ATM requirements in the context of a potential CP2 which could result in additional requirements which are unknown and could not be contracted for. For this reason, AirNav Ireland considered 8 years to be prudent.

6.46 We have taken account of the operational life of the current system in use, the significant level of investment associated with the project and the input from AirNav Ireland and now consider that that an asset life in the range of 10-15 years is more reflective of what we expect the actual useful life of the TopSky ATC One system to be. This leads us to a point estimate of a 12-year asset life for the TopSky ATC One project, as opposed to the 8-year asset life we proposed in the Draft Decision. We find this to be consistent with Article 22 (4) (c) of the 2019 Regulation, which requires that '*the value of fixed assets shall be depreciated in accordance with their expected operating life, using the straight-line method applied to the costs of the assets being depreciated*.'

6.47 AirNav Ireland references the same CP2-related uncertainty in relation to the 8-year asset life proposed for CASDS. Again, we refer to the operational life of the current asset which has been in use for approximately 16 years, double the proposed asset life of the new asset. While AirNav Ireland proposed an 8-year asset life for this project in its RP4 Business Plan, we note that the original Business Case provided for this project at RP3 stage assumed an asset life that was longer than the now proposed 8 years.

6.48 We have decided to set separate asset lives for the component parts of this project the (i) Contingency System (88% of total cost) and (ii) the Simulators (12% of total cost). To remain consistent with our RP3 decision where we

decided on an 8-year asset life for the Dublin Tower simulator, we retain an 8-year asset life for the CASDS simulators. For the reasons outlined above, we set a 12-year asset life for the contingency system itself.

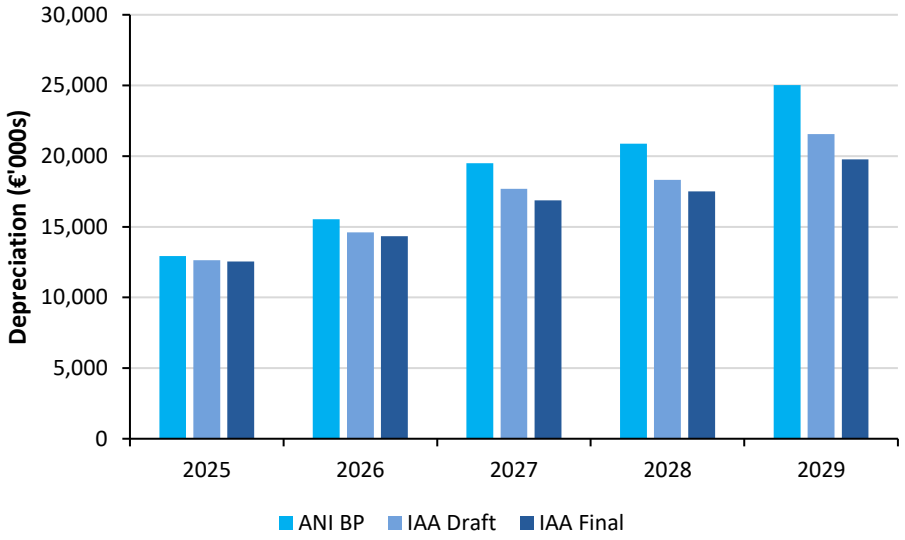
6.49 Regarding AirNav Ireland's point on the Conditional Survey Works, we noted in the RP3 Final Decision that AirNav Ireland's (then the IAA ANSP) Quantity Surveyor identified the expected lifespan for this project as between 15-20 years. As this project is capitalised in RP3, we further refer to Article 22(4)(c) of the 2019 Regulation, which requires that '*the methodology used to calculate depreciation costs shall not be altered during the duration of the depreciati*on'. The assumed asset life for this project remains at 20 years.

6.50 In response to AirNav Ireland's request that we justify our amendments to its proposed asset lives, in the Draft Decision we gave individual reasons for why we changed the asset life in each case. For example, following our approach to building extensions in RP3, we extended the asset lives of the Ballycasey and Dublin ATC extensions to 25 years as opposed to the proposed 20 years. Based on our previous experience of assessing similar projects at Dublin Airport, we extended the asset life of the PV installation project to 25 years as opposed to the 20 suggested by AirNav Ireland. In extending the life of the ASMGC system from 8 to 10 years, we considered that, in RP3, the respective system at Dublin Airport needed to be upgraded after 10 years. We do not see that AirNav Ireland has provided any compelling basis to change our draft conclusions on these points.

6.51 We also wish to reiterate that we agreed with the majority of the asset lives proposed by AirNav Ireland and in a minority of cases we assessed that the ultimate useful life would likely be longer. The evaluation was based on a number of factors including (where relevant) the current useful life of an existing similar asset, our experience with setting depreciation profiles for capital projects, and market research, including material from AirNav Ireland, where provided.

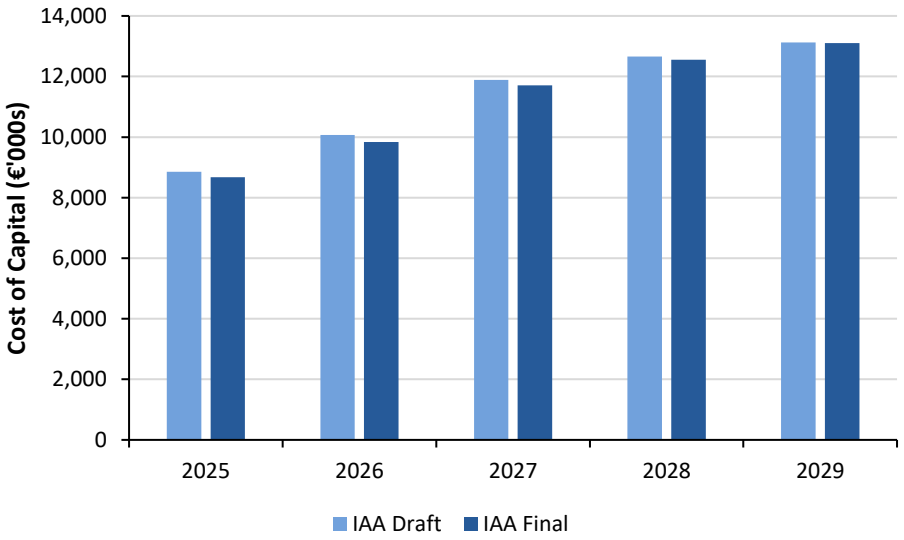
6.52 The implications of the changes made since the Draft Decision are illustrated in Figures 6.2 and 6.3 below. While the reduction in the cost of capital since the Draft Decision is approximately 1.2%, the reduction in depreciation costs is more significant at 4.4%, reflecting a total reduction in depreciation costs compared to AirNav Ireland's Business Plan of 13.7%.

Figure 6.2: Total Depreciation costs over RP4 compared with the Draft Decision and AirNav Ireland's Business Plan



Source: AirNav Ireland, IAA Calculations

Figure 6.3: Total Return on Capital Compared to Draft Decision



Source: IAA Calculations

Reporting and Reconciliation

6.53 In the Draft Decision, we proposed that the RP4 allowances would be reconciled at a programme rather than project (or grouping of projects) level. We considered that this would allow AirNav Ireland the flexibility to adjust the programme and prioritise projects as needed over RP4.[28] We also proposed to monitor and report actual expenditure and publish biannually on our website an

[28] Provided that any changes which add, cancel or replace 'major investments' are notified to the NSA, subject to consultation, and approved by the NSA within the period as is required by Article 22(4) of Regulation 317/2019.

update of AirNav Ireland's progress against its proposed capital investment programme, at a project level.

Submissions received on Monitoring and Reporting

6.54 AirNav Ireland supports our proposal to group the project allowances, as it says this would afford it flexibility in the medium term. AirNav Ireland is also supportive of our proposal that any efficiently incurred Capex above the determined amount can be added to the RAB at the beginning of RP5 or adjusted for in the RP5 unit rate.

6.55 Ryanair is supportive of our proposal to spread the return of unspent RP3 Capex across the RP4 period rather than front load the return at the beginning of the period.

Decision on Monitoring and Reporting

6.56 As proposed in the Draft Decision, we will continue to monitor and report actual expenditure on and delivery of RP4 projects, at an individual project level. We will publish, biannually, on our website, a report which focuses on what projects have been delivered or are progressing, material changes, and how expenditure is tracking against the Performance Plan assumptions.

6.57 Should AirNav Ireland underspend its Capex allowance, at a grouped level, this will be clawed back. Should AirNav Ireland deliver more of the programme than we anticipate during RP4, and efficiently incur associated expenditure in excess of what we have allowed for, this can be adjusted for in the unit rate for RP5 (subject to a cap of 5% of total RP4 Determined Cost capitalisations in the Performance Plan). Alternatively, these costs could be considered for inclusion into the RAB from the start of RP5.

Decision summary- New Capex

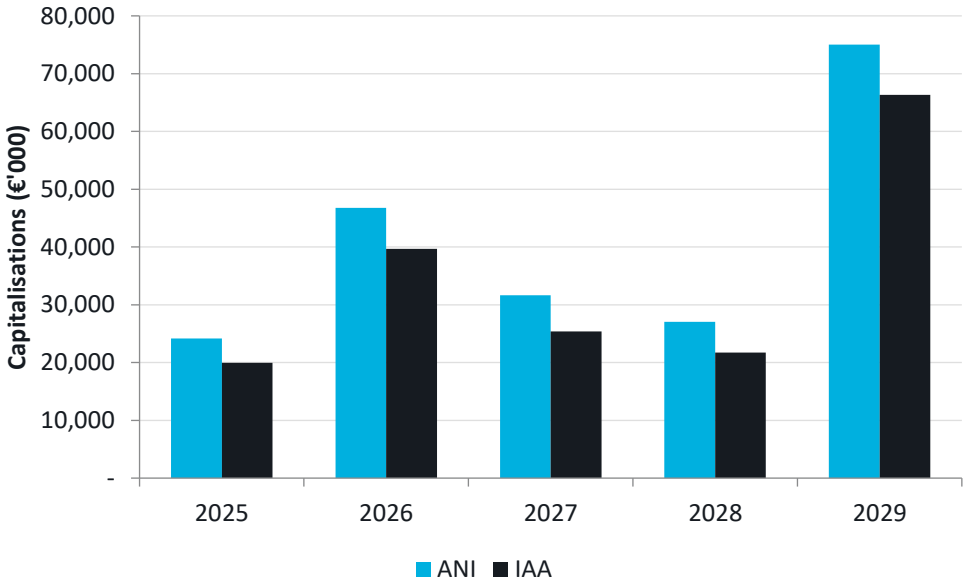
6.58 We recognise AirNav Ireland's commitment to follow the specified measures (outlined above) to improve its effectiveness in delivering investments, measures which are supported elsewhere in our proposals. However, we again consider it unlikely that AirNav Ireland will now be able to deliver all of the projects it suggests over RP4, and note that it forecasts a larger level of delivery relative to the RP3 programme, against which it underdelivered.

6.59 Following the consultation, we considered whether a larger programme adjustment is now warranted for RP4, however, balancing the larger nominal programme against the measures to improve delivery, we decided that a 20% reduction in forecast capitalisations, relative to AirNav Ireland's proposal, is reasonable. As set out in the Draft Decision, rather than disallow or adjust the cost of any individual project, we impose a programme level adjustment, over 2025 to 2029.

6.60 We exclude the TopSky ATC One project from the scope of this adjustment, as it will not follow the same process as the other projects, and the main capitalisation does not occur until 2029 in any case, meaning that the capital

costs earlier in RP4 include the cost of capital during construction which is incurred before capitalisation. Applying the 20% capitalisations reduction to the figures forecast by AirNav Ireland over 2025-2029, except for TopSky ATC One, lead to a reduction in the forecast level of capitalisations from €200m to €175m in the Draft Decision. Since the Draft Decision, for reasons outlined above, we have reduced total capitalisations to €173m, with corresponding reductions to capital costs forecast over RP4. Figure 6.4 below compares forecast capitalisations with those proposed in AirNav Ireland's Business Plan.

Figure 6.4: Forecast Capitalisations over RP4 compared to AirNav Ireland



Source: IAA Calculations

7. MET Eireann Aviation Services Division

7.1 This section sets out the RP4 Determined Costs associated with Met Éireann's Aviation Services Division ('MET ASD').

7.2 MET ASD is a business unit of Met Éireann, Ireland's National Meteorological Service, which is maintained by the State under the UN Convention of the World Meteorological Organisation (WMO). MET ASD is designated as Ireland's Meteorological Authority under the ICAO Chicago Convention on International Civil Aviation and has been designated as a meteorological Air Navigation Services Provider (MET ANSP). It has responsibility for the provision of regulated meteorological services to aviation.

7.3 The primary goals of MET ASD are to:

- Provide meteorological services that support safety, regularity and economy in aviation within Ireland and beyond for both civil and military customers.
- Fulfil customer requirements by complying with International Civil Aviation Authority (ICAO) standards and recommended practices, relevant EU Single European Sky legislation.
- Comply with applicable policies and regulations as laid down by Government.

7.4 The aeronautical meteorological services provided by MET ASD include the maintenance of the Meteorological Watch Office for the Shannon FIR, the provision of aeronautical forecast and warning services, and maintenance of five aeronautical meteorological stations.

7.5 In the Draft Decision, we noted that MET ASD was proposing that costs would depart from historic levels and trends in RP4. In particular, a large step-change was forecast in costs from 2025, and then further significant increases to 2029. The Business Plan provided to the IAA before the Draft Decision forecast that nominal costs would rise to €16.4m in 2029, almost doubling, while total inflation over the same period is forecast at 13%. In real terms, we noted this meant that MET ASD was proposing a short-term DUC CAGR of +10.5% across 2024 to 2029, relative to the EU wide target of -1.2%. It was not apparent from the Business Plan what was driving these changes.

7.6 We conducted a review of the figures provided and the underlying estimates. We noted that the cost increase was largely driven by Staff Costs and Other Operating costs, and could broadly be attributed to the following two factors:

1) Some technical issues in relation to the calculations and to the application of the provisions of the 2019 Regulation. Most significantly, while the figures were given as real 2022 prices, these were in fact in nominal prices. There were also a number of remaining instances of apparent calculation errors or inadvertent double counting.

2) Step changes in costs/assumptions which appeared to have been added to

the cost estimates relative to RP3 levels. In some cases, there was insufficient substantiation as to what had changed, or what benefits or deliverables would result from the increased expenditure.

7.7 Following the Draft Decision, the IAA engaged further with MET ASD on the issues raised in the Draft Decision, the issues raised during the consultation meeting, and in written submissions from stakeholders. In the Draft Decision, we had stated that in respect of service provision, the following are the three key questions that need to be answered in respect of any proposed step changes:

- Need: Explain and demonstrate the need or benefit of the step change relative to RP3, and that the cost estimate includes cost lines which are entirely eligible.
- Additionality: Demonstrate that the step change is not already accounted for elsewhere in the forecast assumptions and/or by the 2019 Regulation (for example, inflationary increases will likely not be additional where cost lines are in real prices; increasing staffing to reduce the level of overtime will be offset by reduced overtime).
- Efficiency: Demonstrate that the scale of additional expenditure is efficient and proportionate with reference to the identified need, and that consideration has been given to any potential savings or efficiencies, such that the step change is a centreline estimate of the likely associated cost.

7.8 Alongside its response to Draft Decision, MET ASD has submitted a revised Business Plan setting out revised Determined Cost proposals. Staff costs have been lowered by €1.1m over RP4, and Other Operating costs reduced by €3.1m, while forecasts for Depreciation and Exceptional Items remain unchanged. In addition, MET ASD has provided further information with reference to the three-step test of Need, Additionality, and Efficiency.

7.9 On the basis of the responses to the Draft Decision and further information requested from MET ASD, all of which are discussed in detail in this chapter, we have adjusted our Draft Decision as shown in Table 7.1.

Table 7.1: Final MET ASD Determined Costs over RP4

Category	Final Decision	Draft Decision	MET ASD Proposal
Staff Costs (incl. pensions)	26.1	22.4	32.2
Of which pensions	*4.0*	*2.0*	*5.0*
Other Operating Costs	15.5	12.9	16.8
Depreciation	3.5	3.5	3.5
Exceptional Items	6.3	6.3	6.3
Total	**51.5**	**45.1**	**58.9**

Source: IAA, MET ASD RP4 Business Plan. €m 2022 prices. Depreciation is in nominal terms. Note: MET ASD is stated to be in real 2022 prices, however we assess it to be in nominal terms.

General Submissions Received

7.10 Aer Lingus believes that the MET ASD Business Plan '*is not of a quality to be expected of a business seeking finance from its shareholders, stakeholder and/or regulator*', and that it has not benefitted from any engagement with airspace users. Aer Lingus believes this calls into question the ability of MET ASD to deliver the outcomes proposed in its Business Plan, in respect of either cost or timeline.

7.11 Aer Lingus also expresses concern that the MET ASD Business Plan, as published alongside the Draft Decision proposed a real DUC CAGR of +10.5% for the control period, when the Union wide target is -1.1%(sic), stating that there is no justification for such an increase.

7.12 IAG supports the views of Aer Lingus on the quality of the MET ASD Business Plan and an alleged lack of meaningful customer engagement that went into its preparation. Furthermore, IAG echoes the concerns expressed around the lack of justification of pricing, Opex, Capex, and resourcing proposals.

7.13 IATA noted at the consultation meeting that it is entirely unclear from the MET ASD Business Plan (as published alongside the Draft Decision) what could be driving an increase in costs to the level forecast, given the only significant change identified relative to RP3 was a reduction in the core cost allocation key.

7.14 MET ASD states in its reply to the Draft Decision that it is important to note that all costs for the provision of aviation services are recovered in line with the ICAO cost recovery principles. There is no profit motive and the costs recouped are *'returned in full to the exchequer'* and cannot be used by Met Éireann for any alternative purpose.

Response to General Comments

7.15 In respect of MET ASD's response, we note that, like AirNav Ireland, MET ASD, as an ANSP, is required, under 2019 Regulation and the Implementing Decision for RP4, to justify its proposed cost inputs relative to its historic expenditure

levels and trends, as the airlines have identified. As set out in the Draft Decision and by a number of airspace users, and leaving aside technical corrections such as price bases and quantitative errors, it was not clear what was driving the suggested dramatic changes from RP3. It appears, from further review on a bottom-up basis, that these changes may in fact be significantly explained by errors or inaccurate data having previously been provided to the IAA, in particular in relation to the 2023 baseline year for Other Operating costs, and the 2024 baseline year for Staff Costs.

7.16 The identified lack of general substantiation and/or overall coherence remains present to a certain degree in MET ASD's latest updated Business Plan, and response to the Draft Decision. By way of example, in its response to the Draft Decision, MET ASD asserts that its Business Plan does not assume a level of staffing that could be considered as sufficient to replace overtime, with the staffing level set at a minimum in order to cover operational requirements and fulfil basic leave requirements. However, notwithstanding having been requested to do so, MET ASD did not explain the change in this regard since RP3, and/or relative to its 2021 Business Plan. The question which was actually posed was why, as is the case with AirNav Ireland's ATCOs, observer overtime would not diminish relative to RP3, in circumstances where a step increase in headcount is being proposed relative to RP3. Further, or alternatively, which operational requirements and/or leave requirements MET ASD was unable to cover at all during RP3, and what implications resulted from this.

7.17 As outlined in the Draft Decision, any step increases should be set out on the basis of Need, Additionality and Efficiency. The response to the Draft Decision does provide some further substantiation in that regard, particularly in relation to forecast staffing levels, however we also had to again seek further information in order to reconcile the various material provided to us, in an effort to identify the correct material and, consequently, a reasonable level of efficient and eligible costs for RP4. We consider that we have now been able to identify which is the correct material, and have set cost estimates on that basis.

Staff Costs

7.18 In the Draft Decision, we noted that a number of step changes were driving increases in MET ASD's submission in respect of Staff Costs over RP4. MET ASD had forecast staff costs (including pensions) to fall in 2024, but then increase significantly between actual 2023 costs and the start of RP4 and then to remain elevated throughout the period relative to RP3.

7.19 We noted that in line with the 2021 Business Plan submission from MET ASD, the revised RP3 Performance Plan had assumed that staffing levels would reduce slightly to 48 by 2024, largely due to efficiency improvements resulting from the introduction of the Aviation Modernisation and Automation Project (AMAP), which was included in the RP3 Performance Plan. However, in its RP4 Business Plan, MET ASD then submitted that, by the end of 2024, it expected to exceed the 2024 forecast by 4, bringing the total staffing complement to 52. The RP4 submission suggested that an increase of approximately 8 additional operational MET staff would be in place by 2025 relative to the 2023 outturn.

7.20 We noted additionally that a key component of the business case for the AMAP was the operational efficiency this project would bring about through enhanced automation of weather observation, with a total of just 19 observers required by 2024. The MET submission suggested this trend would now, instead, invert over RP4, acknowledging that while there may still be scope to deliver such reductions, any potential efficiency may not be possible until the end of RP4.

7.21 In summary, we assessed that the needs case as regards the proposed step increase in staffing levels had not been met. We reiterated that for any net step change to be remunerated through the determined costs, it needed to be substantiated ahead of the Final Decision, as described above.

7.22 Aside from the proposed increase in staffing level assumptions, we noted that MET ASD was forecasting an increase in overall staff costs in real terms at a level beyond that which could be explained by 8 new staff relative to 2023. Due to issues with the calculations which MET had provided, we made corrections and technical adjustments. However, following refinement of the salary and pension costs, we failed to achieve the same profile as MET ASD. We concluded other unexplained changes may have remained within the calculations, and invited further substantiation from MET ASD.

7.23 As a result of these discrepancies, and in the absence of further substantiation at this point, we proposed to base staff costs on the actual 2023 costs in 2022 prices, i.e. a methodology which excluded any further unexplained changes.

Submissions on Staffing Level Forecasts

7.24 In response to the Draft Decision, MET ASD requested the IAA to conduct a bottom-up review of its staffing inputs and assumptions, rather than the higher-level approach included in the Draft Decision. MET ASD provided detail in this regard in its response to the Draft Decision and in response to additional information requests from the IAA, along with a detailed disaggregated view of the proposed headcount step increases for RP4. The step increases proposed are shown below.

Table 7.2: MET ASD Response on Headcount forecasts over RP4

Role	2023	2024	2025	2026	2027	2028	2029
Corporate Support/Admin	7	7	8	8	8	8	8
Aeronautical Forecaster	8	8	8	8	8	8	8
Observers and Supervisors	25	26	31	31	31	31	31
On Call Tech Support	4	6	6	6	6	6	6
ICT Support	2	2	2	2	2	2	2
Total	**46**	**49**	**55**	**55**	**55**	**55**	**55**

Source: MET ASD. Note: Corporate Services includes AWOS Manager.

7.25 MET ASD states that while a reduction in staffing of the aviation observation process was initially expected to be realised once the AMAP observation system (AWOS) was commissioned and operationalised, research on the

AWOS outputs demonstrate that while they are of high quality, the anticipated staffing reductions cannot be implemented as initially expected:

- International experience, coupled with Met Éireann's internal research and analysis, shows that the new observation system as implemented is under-resourced in terms of the number of sensors, and therefore it is not possible to use the system to deliver fully automated aviation observations of sufficient quality to meet user needs without human supervision.

- To mitigate this finding and to ensure service quality, the human observer must be retained to supervise and intervene with the automatically generated output, until the system is supplemented with additional sensor resources to support fully automated output.

- The step reduction in staffing at the end of RP3 did not occur. Therefore, the baseline for operational weather observers is based on the current requirement of an observations process fully supported by human observers.

7.26 On the basis of the Need, Additionality and Efficiency test in respect of retaining the full complement of observers (i.e. because of the absence of the expected AWOS efficiencies having materialised to date), MET ASD addresses each limb as follows:

- Need: Assign safe and resilient staffing levels to ensure the ongoing provision of high-quality regulated observation services.

- Additionality: Provide the necessary human supervision of automatically generated sensor output and operational support to modify/correct this service as required.

- Efficiency: Staffing levels are retained at the exceptionally lean levels with novel management initiatives used to manage contingency arrangements rather than adopting a simple gross increase in staffing approach.

7.27 Furthermore, MET ASD states that it will invest in additional sensors and the development of appropriate algorithms across its aviation network to allow the commencement of a safe and staged transition to automation during RP4.

7.28 Related to AWOS, relative to the forecast RP3 headcount, MET ASD states that there is an additional staffing requirement for technical support of three FTEs, which it justifies as follows:

- Need: The size and complexity of the AWOS infrastructure is much greater relative to the legacy system which is currently being phased out. It is therefore more demanding in terms of its support requirements, necessitating additional technical support.

- Additionality: The significantly increased scope and complexity of AWOS is such that a team of 6 plus the team manager is determined as the minimum necessary. The team also provides an out of hours on-call service, in addition to usual system support. Technical staff also must maintain their

professional standards, while the demands of ensuring compliance with QMS procedures and increasing compliance demands regarding the MET functional systems under Regulation 2017/373 necessitates the maintenance of an adequately staffed technical support team.

- Efficiency: The technical support team comprises a small expert team of 6 technical support engineers working under the ATSEP regulatory requirements and overseen by 1 manager. These staff work only on aviation systems, across all airport sites and are part of the direct salary costs included in the plan.

7.29 MET ASD states that it is incorrect for the IAA to suggest that AMAP was '*only envisaged to lead to staff reductions*', and that the primary objective was to ensure compliance with ICAO standards and, later, EU regulatory requirements. Reductions in the required staffing complement are still possible, and during RP4 MET ASD will further enhance the technical AWOS system to develop limited automation and garner these staffing efficiencies. MET ASD states that a best-case scenario estimate of the saving that can be expected to be achieved by the end of RP4 is 4 to 6 FTEs currently assigned to the observation process. This, however, is not guaranteed, and to avoid a scenario whereby the resulting cost reduction is not achieved, the potential reduction to FTEs is not included in its plan.

7.30 In relation to the step change in observers forecast by MET ASD over RP4, MET ASD states that the headcount included in the Business Plan is the minimum staffing requirement to provide safe, resilient high-quality operations and services. The minimum requirement for a 24/7 operational position is 6 FTEs. While this allows for some cover for planned annual leave, very little additional capacity is available to support other statutory requirements and leave due to illness. Where the operational teams are at 6 FTEs or fewer per position, statutory requirements and leave due to illness are resourced via overtime, or postponed until resources become available. In circumstances where absences cannot be postponed, rosters are subject to significant strain, examples of which have been shared with the IAA as part of the response to the consultation.

7.31 MET ASD states that, between 2024 and 2025, an additional 5 observers are required across Dublin, Knock, Cork, and Shannon. With respect to Cork, although the position is already complemented by a team of 6 observers, to provide roster resilience, and due to the isolation of the site from other operational sites, one additional FTE is required to provide support.

7.32 With respect to a forecast requirement of an additional 2 FTEs in the Shannon Central Aviation Office (CAO), MET ASD states this office will be staffed by two 24/7 rosters (i.e. two positions) over RP4, both of which require a minimum of 6 FTEs to ensure adequate roster resilience:

- Need: One team will maintain 24/7 observations processes while the other will supervise MWO activities, monitor division wide outputs, manage BCM activities, and manage interaction with service users alongside other administrative function. Currently, with a complement of 10, Shannon

cannot provide full 24/7 coverage of non-observational functions or provide support for the newly developed BCM (Business Continuity Management) systems and procedures. The division-wide BCM system is managed from the Shannon office and cannot be implemented without attendant personnel.

- Additionality: Full 24/7 operational support of all CAP activities and business activities, which is currently limited to 12 hours per day. In particular, the additional staff will allow full 24/7 operational contingency capability for the entire ASD regulated operational service activities including observations from all sites, forecast services and hazardous weather warning services.

- Efficiency: As staff costs are a significant cost driver, the two teams will have interoperability capability and act as contingency for each other.

7.33 Aer Lingus, on the other hand believes that there is no compelling case for an increase in headcount and that the addition of 4 FTEs above forecast by the end of RP3 constitutes inefficient spending and should be disallowed, unless justified by MET ASD.

Submissions on Staff Costs

7.34 In its response to the consultation, MET ASD states that staff costs are directly linked to staff numbers. The method by which staff costs are calculated is based on the Public Spending Code.

7.35 MET ASD asserts that it has presented the IAA with:

- Substantial detail on staff numbers

- Staff salary tables constructed on an individual staff by staff basis

- All computational formulae

- References to the underpinning Public Spending Code guidance.

7.36 MET ASD states that the expected actual staff costs for 2024 will be significantly greater than suggested by the IAA in the Draft Decision, but lower than if MET ASD currently had a full staffing complement.

7.37 Providing explanation for the step increase observed from 2024 to 2025, although stating this is in fact much smaller than presented by the IAA in the Draft Decision, MET ASD states a number of factors contribute to the cost increase:

- Staff numbers not decreasing as projected by the end of RP4.

- An increase in staff numbers is required in order to ensure operational resilience, uninterrupted services and resourcing technical support and BCM activities.

- The public sector pay deal which will add 7.25% by the end of 2024 over

2023, and c.10% over 2.5 years

- Using actual points in salary scales for all staff instead of mid-points results in annual pay inflation on top of pay rises under the public sector pay deal.

Decision on Staff Costs

7.38 As requested by MET ASD in the response to the Draft Decision, we have undertaken a bottom-up review of its staffing assumptions and forecast staffing levels, relative to RP3 and the Draft Decision estimates. In its response to the Draft Decision, along with other supporting material, MET ASD provided further substantiation of the Need, Additionality, and Efficiency of the step increases in staffing which it has proposed for RP4. In addition, further information has been provided on the need for headcount above forecast towards the end of RP3.

7.39 In relation to AWOS, MET ASD has provided substantiation for the need for technical staff headcount to increase above forecast at the end of RP3. While this is an undesirable development given that one of the stated aims of AMAP was to introduce staffing efficiencies, we acknowledge that AMAP (to which AWOS is a component) was implemented with the primary objective of ensuring compliance with ICAO standards, and later EU regulatory requirements. We note, however, contrary to MET ASD's assertion in its response to the Draft Decision, the IAA did not suggest that the only or primary objective of AMAP was to generate staffing efficiencies. We stated that this project was presented and proposed on the basis that it would lead to staffing efficiencies, which, as discussed, have not materialised as was presented. We nonetheless note the stated reasoning for AWOS underdelivering on headcount efficiencies thus far, and recognise MET ASD will endeavour to unlock these efficiencies over RP4 through investment in additional sensors and appropriate algorithms. In respect of the additionality limb of the test, we note MET ASD's submission in this respect is more a restatement of the needs limb of the test, rather than demonstrating additionality. However, as we are satisfied that costs associated with the issue have not been implicitly captured in any other cost line or forecast, we accept the additionality of the step change. In respect of efficiency, we accept MET ASD's substantiation that the headcount assumptions are consistent with efficient staffing.

7.40 As outlined by MET, the minimum staffing requirement to provide safe, resilient high-quality operations and services is 6 FTE, based on a 24/7 position/roster. With respect to Dublin, Shannon and Cork, we are satisfied that MET ASD has justified the Need, Additionality, and Efficiency of the proposed additional Observers over RP4 from the baseline of 26 in 2024, on the basis that Cork requires one additional FTE to ensure roster resilience, Shannon requires two to achieve a full complement of its two rosters, and an additional observer is required in Dublin.

7.41 However, we note that MET ASD's response to the Draft Decision states that, although staffing efficiencies in respect of observers may be possible towards the end of RP4, these have not been accounted for in its proposed staff cost assumptions at all. As explained in Section 2 of the Draft Decision, and reiterated in Section 2 above, that is not the correct approach to forecasting

Determined Costs for the purposes of a regulatory price control. Costs must be forecast on the basis of a centreline approach, balancing both the upside and downside risk associated with future outcomes, not banking the downside outcome. We have corrected this through a downward adjustment to overall staff costs in 2029 to take account of the potential for future efficiencies achieved by AWOS in the final year of RP4. We base this estimate on the lower bound of the potential headcount efficiencies identified by MET ASD. This reduction amounts to €310k in real terms, which is the equivalent of three operational staff members, based on the average staff cost per operational FTE.

7.42 Additionally, the requested bottom-up review of MET ASD's headcount also showed a certain quantum of non-eligible costs relating to service provision at Knock airport. As Knock is outside of the charging zone, associated costs are not eligible and must be allocated outside the Performance Plan, as required by Regulation 549/2004, the 2019 Regulation, and the ICAO principles referenced by MET ASD. We therefore remove costs associated with service provision at Knock from the forecasts, which amounts to c.€300k in real terms per year (including associated pensions).

7.43 In respect of Aer Lingus' comment on the increase in headcount over RP4, we believe that once the above corrections are made, in the further substantiation in the response to the Draft Decision and additional information requested by the IAA, MET ASD has provided sufficient evidence of the Need and Additionality of the roles involved. MET has also revised the 2024 headcount forecast, which is now more in line with the forecast provided in 2021.

7.44 While we agree with MET ASD that staff costs will be higher in RP4 than RP3 due to MET ASD's forecast headcount, the profile should remain relatively flat in real terms between 2025 and 2028, in line with a flat staffing profile, with increases limited to wage growth above the pace of inflation. As described above, we have provided for a slight reduction in Staff Costs in 2029 to account for potential efficiencies.

7.45 In addition to the efficiency adjustment, we note MET ASD has not included an assumption around potential attrition over RP4, but has included an assumption around increments. Basing staff costs on an assumption of no headcount turnover, but only increments (as well as general wage increases) overstates such a forecast. Consequently, for 2026 to 2029, we maintain the 2025 staff cost forecast, when MET ASD expects to have a full complement of 55 staff members, and provide an uplift of 1% of the 2025 forecast to reflect expected real wage increases between 2025 and 2026, based on the already settled public sector pay deal (but applied in real terms).

7.46 Although MET has revised down its forecast Staff Costs from the pre-Draft Decision Business Plan, and the double counting of overheads has been removed, the figures presented to the IAA remain in nominal terms. Therefore, we re-state these costs in real 2022 prices, remove costs related to Knock Airport, project 2026-2029 based on 2025 plus 1% for real wage growth, and make the efficiency adjustment for 2029.

7.47 On the basis of the above, and our assessment of the material provided by MET ASD, we have decided to change our Draft Decision, with the final staff Determined Costs shown in Table 7.3, compared with the Draft position. Costs are now materially higher in the Final Decision due to:

- In the Draft Decision, staff costs for RP4 were held constant from 2023 reported actual costs, with an uplift applied to take account of pay agreements. Therefore, no increases in headcount were included.
- We now accept MET ASD's forecast for an increase in headcount in 2024 on 2023 levels of 3 FTEs composed of 2 technical support staff related to AWOS, and one observer.
- We accept MET ASD's forecast in headcount between the end of RP3 and the start of RP4 of 1 AWOS Manager, and the forecast increase in observers to a certain extent, once ineligible costs associated with service provision at Knock airport have been removed and the forecast trajectory has been corrected to centreline.
- Pension costs are now correctly based on actual headcount, actual salaries, and actual pensionable pay.
- The majority of the increase in Staff Costs between the Draft Decision and the Final Decision is related to the provision of incorrect figures by MET ASD prior to the Draft Decision.

Table 7.3: MET ASD Determined Staff Costs, €'000s

Role	2024	2025	2026	2027	2028	2029
Final Staff Costs	4,922	5,245	5,297	5,297	5,297	4,988
Of which, pension costs	*737*	*802*	*810*	*810*	*810*	*762*
Draft Staff Costs	4,398	4,441	4,487	4,488	4,489	4,489
Of which, pension costs	*396*	*399*	*404*	*404*	*404*	*404*

Source: IAA. Real 2022 Prices

Other Operating Costs

7.48 As described in the Draft Decision, MET ASD incurs Other Operating costs through its use of overarching Met Éireann services and instruments. These costs are allocated on the basis of whether they are direct or core costs. Direct costs are those which are incurred by aviation specific activities and services which are not shared with other Met Éireann divisions, while core costs are those which are associated with the basic meteorological infrastructure which is used by all Met Éireann divisions. Direct costs are therefore allocated in full to aviation, while only a portion of core costs are allocated to aviation, based on an allocation key. For RP4, primarily due to the growing remit of Met Éireann, the core costs allocation key for aviation has been reduced from 27% at the end of RP3, to 17.4%.

7.49 In the MET ASD Business Plan submitted prior to the Draft Decision, we noted

MET ASD was suggesting that Other Operating costs would increase from €1.5m in 2023 (based on actual values reported to the IAA) to €4.5m in real terms by 2029, or €1.6m in 2023 to €5.3m by 2029 in nominal terms. As the core costs allocation key has been materially reduced, we would expect to see the core element of Other Operating costs reducing in real terms relative to RP3. We noted that once the cost base had been corrected from nominal to real, in line with the technical adjustments required as described above, Other Opex was still forecast to increase considerably between 2024 and 2025, before remaining at this level throughout RP4. We were unable to verify any justification for this increase.

7.50 We noted that MET ASD's reported Other Operating costs have fluctuated significantly over RP3, whereas the RP3 Performance Plan assumption was that costs would remain steady at c.€2.4m in real terms. We assessed that, notwithstanding the fluctuations, the actual costs had been in line with the RP3 Performance Plan at €2.5m. On this basis, and without any reasons to assess eligible and efficient costs as being higher than RP3, we proposed to forecast real Other Operating costs using the average historic actual costs from 2020 to 2023 (inclusive), but noted MET ASD's intention to fund a Professorship to develop state of the art Artificial Intelligence (AI) and Machine Learning (ML) capacity to support all divisions within the organisation, and therefore included an associated uplift in the forecast.

7.51 We stated our intention to review any detail which might be provided in response to the Draft Decision in respect of substantiating any step changes as eligible and efficient, and our intention to carry out a further review to ensure that any appropriate costs reductions arising from the reduced core allocation key was reflected in the forecast.

Submissions Received on Other Operating Costs

7.52 In response to the Draft Decision, and in other information provided to the IAA following additional requests, MET ASD has provided further substantiation and explanation of the Other Operating costs forecast profile over RP4. In particular, the breakdown of the actual core costs allocated to aviation have been provided for 2022 and 2023.

7.53 In its response to the Draft Decision, MET ASD states that the step changes in Other Operating costs are required due to the following additional activities:

- AWOS Support Costs (c.€0.2m – c.€0.3m per annum): AWOS, delivered by the AMAP project, is far more complex and broader in scope than the legacy observing infrastructure. There are multiple more sensors, ICT infrastructure, servers, switches, communications and power infrastructure, workstations, and licences that must be paid for. AWOS requires significant ongoing scheduled and ad-hoc support, maintenance, and lifecycle upgrades of its constituent parts, and the Determined Costs for this activity are determined in line with manufacturers maintenance schedules. Travel and subsistence payments for the technical team are also included.

- Airport Security Costs (just €2k per annum): These are incurred as MET

ASD staff working at the State airports are required to comply with EU regulations governing airport access and security.

- QMS Costs (just €4k per annum): These costs are necessarily incurred as an ICAO and EU requirement that MET ANSP hold accreditation to a QMS, with MET ASD therefore holding an accreditation to the ISO 9001:2015 QMS standard.

7.54 In addition, MET ASD states that the errors in the cost tables provided to the IAA have been corrected.

7.55 Aer Lingus expresses support for the reduced core costs allocation key, the IAA's draft assessment that there are no compelling arguments presented for direct costs to rise, and the decision to remove core costs that have been inadvertently added to direct costs.

7.56 In respect of MET ASD's proposals to fund a Professorship post in AI and ML, Aer Lingus states it does not disagree in principle, but is not convinced that this is the most cost-effective solution. It further provides that an objective, positive and robust business case must be presented before it could support such expenditure.

Decision on Other Operating Costs

7.57 In line with our assessment of Staff Costs, we conducted a bottom-up review of Other Operating costs, and requested additional information from MET ASD following publication of the Draft Decision and receipt of MET ASD's response to the Draft Decision. Following the bottom-up review, we now note that it appears that the challenges in understanding the trajectory of costs may have been related to inconsistent and/or incorrect data having been submitted previously, in particular in respect of 2023 whereby MET ASD had previously reported actual costs of €1.5m, which has since been updated at a late stage following additional requests for information from the IAA.

7.58 In the actual core costs now provided by MET ASD for 2022, 2023, and 2024, we note that MET ASD has applied the reduced RP4 allocation key in lieu of the 27% RP3 allocation key. In addition, allocation keys for certain core cost lines are incongruous. We have therefore re-stated 2022-2024 using the correct allocation key to provide a correct assessment of the change in core costs between RP3 and RP4 on the basis of the reduced allocation key. The updated Other Opex costs provided by MET ASD are presented below, in real 2022 prices. We note that MET ASD has outlined these in nominal terms, which we have deflated.

Table 7.4: MET ASD Other Operating Costs, €'000s

	2022	2023	2024	2025	2026	2027	2028	2029
Direct	709	543	709	999	977	1,006	984	949
Core	2,682	2,558	2,682	2,121	2,121	2,121	2,121	2,121
Total	**3,391**	**3,102**	**3,391**	**3,120**	**3,098**	**3,128**	**3,105**	**3,070**

Source: IAA Calculations, MET ASD. Real 2022 Prices

7.59 Table 7.4 provides what we now believe to be an accurate view of MET ASD's real Other Operating costs over RP3 (based on the correct allocation keys which were applicable in RP3), and the proposed profile over RP4. As discussed, given the reduction in the core costs allocation key, we would expect to see a decrease in the core cost category between RP3 and RP4, notwithstanding the addition of c.100k per year for the funding of a Professorship position. Indeed, core costs are now proposed to decrease by c.€560k between 2024 and 2025, and to remain at this level throughout RP4.

7.60 At a direct cost level, Table 7.4 aligns with the inclusion by MET ASD of AWOS support costs, which are fully attributed to aviation, and therefore allocated in full. Accordingly, there is a step increase of €290k in real terms between the end of RP3 and the start of RP4, with costs remaining relatively flat throughout the remainder of the period.

7.61 In relation to the AWOS support costs which are included in the direct costs attributable to aviation over RP4, the IAA has been provided with a breakdown of the AWOS ten-year operating costs by MET ASD, which appears reasonable in our estimation. While AWOS is unlikely to achieve staffing efficiencies until late in RP4, we note the additional Other Operating costs associated with maintenance and upkeep of the infrastructure will be offset in 2029 under the assumption we have included under the Staff Costs section whereby efficiencies may lead to a reduction in eligible observer headcount of 3 (or potentially greater) in 2029. In addition, we note MET ASD's assertion that the primary objective for the implementation of AWOS was to achieve regulatory compliance. We therefore assess that the test of Need, Additionality, and Efficiency of costs associated with AWOS support has been met. We also note that the aerodrome security costs (€2k p.a.) and QMS costs (€4k p.a.) meet the test of Need, Additionality, and Efficiency as both are required for regulatory compliance, as provided by MET ASD, and in any case are not material.

7.62 In respect of funding related to the Professorship, while Aer Lingus agrees in principle with the proposal, it believes it may not be a cost-effective solution. We note, however, that Aer Lingus has not provided any evidence in support of this assertion, nor any view as to any alternative solution which may be more cost effective to deliver on the principle which Aer Lingus supports. Therefore, we assess that this submission does not provide a basis to consider amending the Draft Decision.

7.63 As outlined in the Draft Decision, MET ASD also incurs costs related to the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT), which provides member states with meteorological imagery and data based on weather and climate monitoring from space. In the Draft Decision, we noted that the costs of EUMETSAT are outside of the control of Met Éireann as contributions by each member state are apportioned based on Gross National Income (GNI). No written submissions were received in respect of EUMETSAT. We have therefore decided not to alter our draft position, and include it in the Determined Costs while correcting the price base.

7.64 The Final Determined Other Operating costs, and costs associated with EUMETSAT are shown in Table 7.5, along with the draft position.

Table 7.5: Final Determined Other Operating Costs and EUMETSAT Costs, €'000s

Category	2024	2025	2026	2027	2028	2029
Final Other Operating Costs	3,391	3,120	3,098	3,128	3,105	3,070
Draft Other Operating Costs	*2,572*	*2,572*	*2,572*	*2,572*	*2,572*	*2,572*
Final EUMETSAT	1,140	1,268	1,336	1,257	1,235	1,241
Draft EUMETSAT	*1,140*	*1,268*	*1,336*	*1,257*	*1,235*	*1,241*

Source: IAA Calculations, MET ASD. Real 2022 Prices

Capital Expenditure and Depreciation Costs

7.65 In the Draft Decision, we noted that MET ASD is suggesting that depreciation will be broadly in line with the RP3 level. We assessed that a spike in 2023 could be explained by the High-Performance Computing 1 project being capitalised, which was forecast to become offset in 2024 as AMAP became fully depreciated at the end of 2023.

7.66 We noted that in forecasting the depreciation profile, we made minor adjustments to the Net Book Value (NBV) of some assets to reflect actual asset values at the point of capitalisation. We excluded small amounts of depreciation which had already been remunerated in RP3 to ensure no double counting. We stated that all asset lives carrying over from RP3 remained unchanged, and that we accepted, and used, MET ASD's Depreciation estimate for 2024.

Table 7.6: Overview of Met Capital Projects and Depreciation for RP4, €m

Project	Project Cost	Asset Life (Yr)	Depreciation over RP4	Delivery Year	Allocation
Met Self Briefing Upgrade	0.15	5	0.15	2025	Direct
RADAR Upgrade	19.23	25	0.26	2025	Core
METCOM	1.86	10	0.23	2025	Core + €250k Direct
AUTO OBS	0.50	8	0.25	2026	Direct
IMAMS	6.96	5	0.48	2022	Core
IMAMS 2	8.00	5	0.84	2027	Core
HPC 1	6.69	5	0.70	2023	Core
HPC 2	8.69	5	0.30	2029	Core
Data Visualisation System	0.80	5	0.26	2025	Core

Source: Met ASD and IAA Calculations, Nominal Prices

Submissions on Capital Costs and Depreciation

7.67 In its response to the Draft Decision, Aer Lingus states that the cost estimates for HPC2 and IMaMS2 are not reliable given the early stages of the projects and the errors in MET ASD's Business Plan. It therefore believes that these costs should be removed from the programme and only added at the contract stage, if believed to be efficient by the IAA.

7.68 With respect to the Data Visualisation Programme and Auto Obs programme, Aer Lingus outlines its agreement with the cost allocation methodology, but states that, should any output from these projects be used outside of the stated remit, the IAA should reapportion costs towards those who would otherwise benefit for free.

Decision on Capital Costs and Depreciation

7.69 We agree with Aer Lingus that both the HPC2 and IMaMS2 project are at an early stage of delivery. However, as we did for RP4, we ensure that there is no double charging of depreciation in each reference period by taking into account any depreciation which has already been recouped. We also note that uncertainty over a cost estimate is not a sufficient reason to exclude projects entirely from what is a multiannual price control which must be made in the context of uncertainty.

7.70 We also agree that if there is any change in the remit of the Data Visualisation and Auto Obs programmes, the allocation key for these projects will be changed to ensure the user-pays principle applies.

7.71 Overall, we maintain the position set out in the Draft Decision.

Conclusion

7.72 On the basis of the assessments above, we have arrived at higher estimates for staff costs and Other Operating costs from our initial proposal. In respect of depreciation and exceptional items (which only includes EUMETSAT), we maintain our Draft position. The MET ASD Determined Costs for RP4 are presented below, in real 2022 prices for the purposes of the 2019 Regulation.

Table 7.7: MET ASD RP4 Final Determined Costs, €m

Category	2024	2025	2026	2027	2028	2029
Staff Costs	4.9	5.2	5.3	5.3	5.3	5.0
Other Operating Costs	3.4	3.1	3.1	3.1	3.1	3.1
Depreciation	0.8	0.6	0.7	0.8	0.5	0.9
Exceptional Items (EUMETSAT)	1.1	1.3	1.3	1.3	1.2	1.2
Total	**10.2**	**10.2**	**10.4**	**10.4**	**10.2**	**10.2**

Source: IAA. Real 2022 Prices. Depreciation is in nominal terms.

7.73 As outlined while these forecasts are developed on a bottom-up basis, this

should not be misunderstood as a prescriptive exercise in which MET ASD is bound to follow these input assumptions over RP4. Instead, MET ASD is expected to charge for these Determined Costs plus the adjustments that will flow from them, including a significant upward inflation adjustment for 2024.

8. NSA, Member State, and Eurocontrol Costs

8.1 This section sets out the approach for cost allocation and cost forecasting for the IAA's costs in its role as National Supervisory Authority (NSA). It also sets out the 'Other State' costs, which include Eurocontrol costs, and Member State costs of the Department of Transport associated with ANS.

8.2 This category of costs operates on the basis of full cost recovery rather than incentive regulation as is the case for the ANSPs, i.e. the outturn costs are fully passed through to the unit rates paid by airspace users. These costs are therefore not further explicitly adjusted for inflation, and are included here in nominal terms, except where stated otherwise.

8.3 The legal basis for including these costs is set out in Article 22(1)(a) of the 2019 Regulation. The NSA's actual invoiced costs for a given year are adjusted for in the unit rates on an n+2 basis, as set out in Article 28 of the 2019 Regulation. It is intended that actual costs of the NSA would be invoiced to AirNav Ireland as they are incurred, likely on a quarterly basis in arrears. The actual costs incurred and any variance from the cost forecast will form part of the annual consultations on outturn costs.

Changes to the allocation of costs to NSA

8.4 Relative to the Draft Decision we have made the following amendments to ensure the correct application the NSA cost allocation methodology:

- We have removed one of the cost centres that was included in the total sum for corporate services, a portion of which was subsequently allocated to the NSA. We note that the associated costs for this division were minimal, less than €0.1m for each year of RP4, but have nevertheless been withdrawn and not included in the final NSA costs.
- In the Draft Decision, one seventh of the broader economic regulation/ consumer affairs costs were allocated to the NSA. We have since revised this to better reflect the share of resources in the economic regulation division that is assigned to ANS oversight, and now allocate one third of a smaller subdivision of the economic regulation costs to the NSA. This has resulted in an increase of approximately €0.28m to NSA costs in total across RP4. This is consistent with the allocation key used for this division in RP3.

Submissions received on NSA Costs

8.5 Ryanair does not believe that the separation between the IAA and AirNav Ireland should have resulted in the increase in NSA headcount and costs reflected in the Draft Decision. Ryanair asks us to provide further detail on the NSA headcount since separation.

Response to Submission on NSA Costs

8.6 In response to Ryanair's question regarding the increase in headcount for the

NSA since separation, we refer to the Draft Decision where we outlined that the staff and cost forecasts for the NSA are developed based on the IAA's projected individual staff level payroll costs for the years 2025 and 2026. The payroll figures for the years 2027-2029 are based on the totals from the previous year and are assumed to grow at 1% per year in real terms.

8.7 As a general point, prior to the latter years of RP3, the NSA costs and associated headcount figures were reported without taking account of corporate services such as IT, Finance and HR services. In previous reference periods, these costs were not disaggregated within the IAA (which also included the ANSP) and as a result were not reported as supervision costs. We have now developed a methodology to allocate corporate services to the NSA based on the proportion of each regulatory division's direct costs in the IAA's total direct costs which has resulted in cost increases for the NSA when compared with other reference periods.

8.8 More specifically, we have seen an increase in NSA staff costs arising from the expansion in responsibilities in certain NSA divisions. For example, this was referenced in the Draft Decision with the addition of two extra staff members in the SAR division who are required due to a material change in the volume of oversight conducted by this unit since RP3.

NSA Costs

8.9 The NSA total cost estimate has increased by an average of ca. €0.15m each year since the Draft Decision estimations. The increase in costs can be attributed to the depreciation costs associated with the Building Upgrade project that was not confirmed ahead of the Draft Decision and the increase in the allocation of economic regulation resources to the NSA which had the knock-on impact of increasing the proportion of corporate services costs allocated to the NSA.

8.10 The cost submission from the NSA is based on the IAA's 2024 budgeted costs. The submission was developed by the finance department within the IAA and has been reviewed by the economic regulation division, in particular to ensure that it contains only eligible costs, is consistent with the approach taken to other cost forecasting and is consistent with the IAA's new cost allocation and fees/charges model which was the subject of a consultation in 2023.[29]

8.11 We retain the IAA's 2024 budget as the baseline. In coming to this decision, we considered that the NSA's actual costs for 2023 were marginally below determined level for En Route and marginally above determined for Terminal.

8.12 The IAA divisions which are directly allocated to the NSA include the IAA's Air Navigation Services Division (ANSD), Airspace Division and Search and Rescue (SAR). As per the IAA's fees model, 100% of the costs from these sections are assigned to the NSA. The economic regulation division is responsible for three primary functions in the IAA: the oversight of airport charges and performance at Dublin Airport, oversight of the implementation of

[29] consultation-on-iaa-funding.pdf

the EU Slot Regulation 95/93, and oversight of air navigation services in Ireland under the Single European Sky. As ANS oversight, including the development of the RP4 draft Performance Plan, is one of the three main responsibilities of the economic regulation division, one third of the costs relating to the staff of this cost centre are allocated to the NSA. As stated above, this reflects a change in our approach from the Draft Decision where one seventh of the costs associated with the broader economic regulation division were allocated to the NSA. This was based on the seven divisions which are included under the Economic Regulation, Consumer Affairs & Licensing Directorate. However, upon review we adopted a more granular approach which better reflects the resources assigned to ANS oversight in the economic regulation division alone and is consistent with our approach in RP3.

8.13 The proportion of the IAA's total corporate services costs which are allocated to each revenue generating division is based on its share of direct costs in the IAA's full cost base. As a result of increasing the allocation of economic regulation costs to the NSA and the addition of an extra staff member to ANSD, the proportion of corporate services costs which are allocated to the NSA overall has also increased. On average across RP4, 19% of the IAA's corporate services costs in each year are allocated to the NSA as core costs. This is a slight increase from the Draft Decision, in which we proposed to allocate, on average, 18.72% of corporate services costs to the IAA.

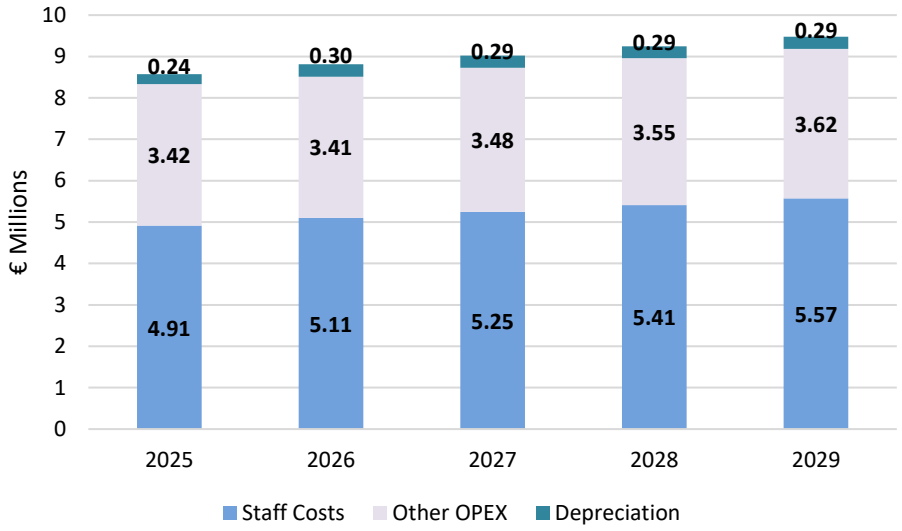
Table 8.1: Overview of NSA Costs 2024-2029, € million

Cost Type	2024	2025	2026	2027	2028	2029
Staff	4.52	4.91	5.11	5.25	5.41	5.57
Of which is pension	0.74	0.78	0.82	0.83	0.86	0.88
Other Opex	3.35	3.42	3.41	3.48	3.55	3.62
Depreciation	0.09	0.24	0.3	0.29	0.29	0.29
Total NSA	**7.96**	**8.58**	**8.82**	**9.02**	**9.25**	**9.48**
DD Variation	*+0.12*	*+0.11*	*+0.17*	*+0.16*	*+0.16*	*+0.16*

Source: IAA Calculations (nominal prices)

8.14 IAA costs associated with other operational functions such as licencing, aerodrome safety and security, airworthiness, and aviation security, have not been apportioned to the NSA.

Figure 8.1: NSA Total Staff Costs, Other Operating Costs, and Depreciation Across RP4



Source: IAA calculations (nominal prices)

8.15 As shown below, the greatest increase in NSA costs in real terms occurs between 2025 and 2026. This is largely due to the increase in depreciation costs in this period associated with the building upgrade works in the HQ building. After 2026, the NSA costs are expected to stay broadly flat in real terms for the remainder of RP4.

Table 8.2: Total NSA costs, real 2022 prices

	2024	2025	2026	2027	2028	2029
2022 Index	107.70	109.86	112.00	114.20	116.46	118.79
NSA Costs (€m)	7.39	7.81	7.87	7.90	7.94	7.98

Source: IAA Calculations. Real 2022 prices.

Staff costs

8.16 The increase in the allocation of economic regulation resources has resulted in an increase of one additional FTE allocated to the NSA compared to the Draft Decision.

Table 8.3: NSA Headcounts for RP4

NSA Section	Headcount	Allocation to NSA	NSA Staff (FTE)
Economic Regulation	5	33.33%	2
ANSD	12	100%	12
Airspace	6	100%	6
SAR	5	100%	5
Corporate Services	46	19%	9
Total NSA			**34**

Source: IAA calculations

8.17 Table 8.4 below shows the revised total forecast staff costs by section. Staff

costs for the Airspace, ANSD and SAR sections are unchanged relative to the Draft Decision. As discussed above, the increase in economic regulation and corporate services staff costs can be attributed to the increase in the respective allocation keys.

Table 8.4: NSA Staff Costs RP4, € million

NSA Section	2025	2026	2027	2028	2029
Economic Regulation	0.17	0.18	0.18	0.19	0.19
ANSD	2.10	2.20	2.25	2.32	2.39
Airspace	0.76	0.79	0.81	0.83	0.86
SAR	0.81	0.84	0.87	0.89	0.92
Corporate Services	1.08	1.11	1.14	1.18	1.21
NSA Total	**4.91**	**5.11**	**5.25**	**5.41**	**5.57**
DD Variation	*+0.06*	*+0.08*	*+0.07*	*+0.07*	*+0.07*

Source: IAA calculations (nominal prices)

8.18 Staff within the IAA ANSD, airspace, and search and rescue divisions are directly allocated to the NSA. The direct costs equivalent to 2 FTEs from the economic regulation team is allocated to the NSA for RP4. On average for each year of RP4, 19% of corporate services staff costs are apportioned to the NSA. As explained above, the allocation key is derived from the proportion of each regulatory division's direct costs within the IAA's total direct costs, in line with the new fees and charges model. The estimates of the NSA's direct costs make up 19% of the total estimated direct costs of the IAA over RP4. The increase in the corporate services allocation key is due to the increase in direct regulatory costs from the economic regulation division, which now makes up a greater proportion of the total direct costs of the IAA.

Other Opex

8.19 Table 8.5 below presents the NSA's final Other Operating cost forecasts for RP4, which are based on the 2024 IAA budget. These are forecast to stay flat in real terms, growing at a rate of 2% per year in nominal terms, in line with inflation forecasts. The first four items in the table (travel, training, administration and consultancy) relate directly to the NSA divisions. Core operating costs are captured in the corporate services Other Operating cost figures. As with staff costs above, on average in each year of RP4, 19% of corporate services Opex is allocated to the NSA.

8.20 As outlined in the Draft Decision, outside of the inflation related trend, there is a small downward step change in Other Opex from 2026, relating to rental of a property of the former Commission for Aviation Regulation. This cost is no longer expected to be incurred from 2026.

8.21 Corporate services Other Opex encompasses a wide range of items. The main components of the corporate services non-staff Opex included in Table 8.5 below (rent and rates, utilities, insurance and software maintenance contracts) represent 62% of the corporate services non-staff operating costs in 2025, and 64% of the total for each year thereafter.

8.22 As noted above, since the Draft Decision, the total corporate services other operating costs has been reduced by removing an ineligible cost centre. Other than this, there has been no other additions/removals to other operating costs. As a result, any variation in the other operating costs presented in Table 8.5 compared to the Draft Decision is due to the increase in the allocation keys for economic regulation and corporate services.

Table 8.5: NSA Forecast Other Opex Costs for RP4, € million

Cost Item	2025	2026	2027	2028	2029
Travel	0.22	0.23	0.23	0.23	0.24
Training	0.07	0.08	0.08	0.08	0.08
Administration	0.25	0.25	0.26	0.26	0.27
Consultancy	0.40	0.41	0.42	0.42	0.43
Corporate Services non-staff opex	2.48	2.45	2.50	2.55	2.60
Of which is Rent and property rates (D'Olier St.)	0.65	0.66	0.67	0.69	0.70
Of which is Utilities.	0.07	0.07	0.08	0.08	0.08
Of which is Insurance	0.10	0.12	0.12	0.12	0.13
Of which is Software Maintenance Contracts	0.72	0.73	0.75	0.76	0.78
NSA Total	**3.42**	**3.41**	**3.48**	**3.55**	**3.62**
DD Variation	*+0.01*	*+0.01*	*+0.01*	*+0.02*	*+0.02*

Source: IAA Calculations (nominal prices)

Depreciation

8.23 The Final Decision allows for costs associated with building upgrade works in the IAA HQ building that were not confirmed ahead of the Draft Decision and therefore not included. This has resulted in an increase in depreciation costs of approximately €0.07m on average in each year of RP4.The finance team within the IAA has provided us with a schedule of works which support the proposed costs. The building works include energy upgrades (including to lifts and lighting), mechanical and equipment works and floor reinstatements. The first part of the project is capitalised in 2024 and the second element of the renovation works is capitalised in 2026.

8.24 As per the Draft Decision, the other RP4 capital projects relate to an annual average IT and office equipment Capex amount of €0.4m in each year, and the MySRS capitalisation of €6.5m from January 2025. MySRS is a project to digitalise various regulatory processes including, for example, oversight programmes and the licensing of ATCOs. Table 8.6 below gives an overview of the total forecast NSA depreciation for RP4.

8.25 The below depreciation figures include the depreciation of existing 2023 IT assets such as mobile devices, printers and video conferencing media devices in 2025 and 2026. As all of the projects relate to the IAA's central forecasts, the NSA allocation key of 19% is again applied. The NSA does not propose to include a return on capital.

Table 8.6: NSA Depreciation Costs, RP4 (€ million)

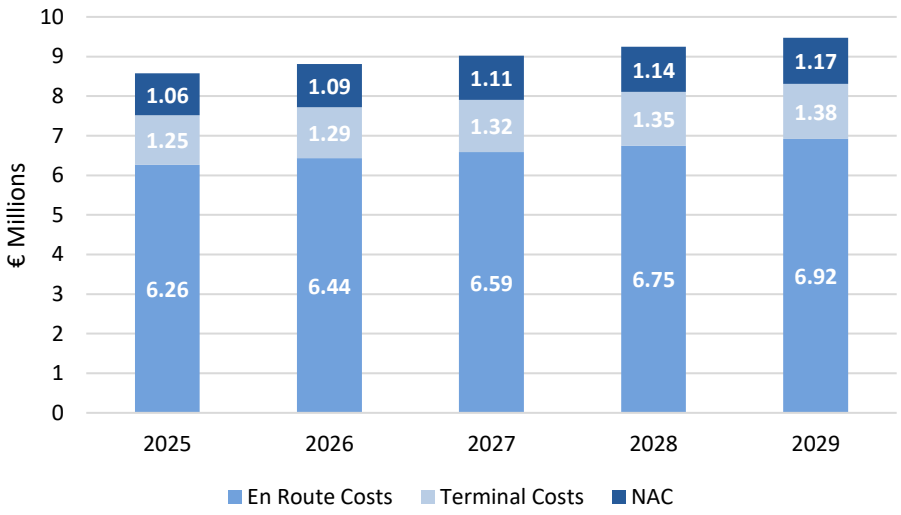
Project Title	Cost	Asset Life (Yrs)	2025	2026	2027	2028	2029
IT & Office Equipment	1.7	3	0.23	0.34	0.34	0.34	0.34
2023 ICT Assets	0.46	3	0.06	0.04	-	-	-
My SRS	6.5	8	0.81	0.81	0.81	0.81	0.81
Building Works	3.79	10	0.17	0.38	0.38	0.38	0.38
Total IAA			1.27	1.57	1.53	1.53	1.53
Total NSA (19%)			**0.24**	**0.3**	**0.29**	**0.29**	**0.29**
DD Variation			*+0.03*	*+0.07*	*+0.07*	*+0.07*	*+0.07*

Source: IAA Calculations (nominal prices).

Allocation of NSA costs to Charging Zones

8.26 No submissions were received in respect of the NSA cost allocation methodology, which is unchanged from the Draft Decision. The costs are split between En Route (73%), Terminal (15%), and North Atlantic Communications (12%). This means that 12% of all of the NSA costs listed above are allocated outside the scope of the Performance Plan and will be collected separately.

Figure 8.2: Final NSA total costs, En Route, Terminal, and NAC for RP4



Source: IAA calculations (nominal prices)

Other State Costs

8.27 Article 22(1) of the 2019 Regulation allows for the inclusion of other state costs such as those of the Department of Transport (including ICAO and ECAC subscriptions) and Eurocontrol. Like NSA costs, these costs are not subject to cost risk sharing. The state bodies' actual costs are thus adjusted for in the unit rates on n+2 basis. These costs are not separately adjusted for inflation.

8.28 Table 8.7 below provides an overview of the cost estimates for each relevant organisation. The Department of Transport costs relate to direct costs only. We allocate the costs for these organisations as follows, which is unchanged from

the Draft Decision: 100% of Eurocontrol, ECAC and ICAO costs to the En Route charging zone, while costs of the Department of Transport will follow the allocations of the NSA (73% En Route, 15% Terminal, 12% NAC).

Table 8.7: Final Other State Costs, € million

Entity	2025	2026	2027	2028	2029
DoT	2.06	2.09	2.12	2.16	2.19
ICAO	0.54	0.54	0.54	0.54	0.54
ECAC	0.04	0.04	0.04	0.04	0.04
Eurocontrol	8.89	9.04	9.03	8.99	9.02
Total	**11.53**	**11.71**	**11.72**	**11.73**	**11.79**
DD Variation	*+0.28*	*+0.28*	*+0.29*	*+0.29*	*+0.3*

Source: Eurocontrol, Department of Transport (nominal prices).

8.29 Since the Draft Decision, we have amended Table 8.7 to reflect the Eurocontrol total cost base as most recently provided to us. All other state costs are unchanged from the Draft Decision.

9. Safety KPA

9.1 The KPI within the Safety KPA is the Effectiveness of Safety Management (EoSM), across five components. The EoSM standards for RP4 are categorised as follows:

- Level A, which is 'Informal Arrangements'. Safety Management System (SMS) processes and/or requirements have not been agreed at the organisation level; they are either not routinely undertaken or depend on the individual assigned to the task.

- Level B, which is 'Defined'. SMS processes and/or requirements are defined but not yet fully implemented, documented or consistently applied.

- Level C, which is 'Managed'. SMS processes and/or requirements are fully documented and consistently applied.

- Level D, which is 'Resilient'. Evidence is available to provide confidence that SMS processes and/or requirements are being applied appropriately and are delivering positive, measurable results.

9.2 In the Draft Decision, we proposed to set local targets for AirNav Ireland in alignment with the Union-wide targets, with EoSM standards that are Level D in the objective of safety risk management, and at least Level C in the other safety objectives of culture, policy, promotion, and assurance. These standards will ensure consistency between local and Union-wide targets.

Table 9.2: Proposed RP4 Targets for AirNav Ireland

Safety Management Objective	2025	2026	2027	2028	2029
Safety policy objectives	C	C	C	C	C
Safety risk management	D	D	D	D	D
Safety assurance	C	C	C	C	C
Safety promotion	C	C	C	C	C
Safety culture	C	C	C	C	C

Source: IAA, Commission Implementing Decision (EU) 2024/1688.

Submissions Received on Safety Targets

9.3 AirNav Ireland states that, as discussed in the RP4 Stakeholder Consultation meeting, it has marginally missed RP3 targets in 2022 and 2023, and has formulated a plan for RP4 that considers the requirements to continuously improve the EoSM.

9.4 The AirNav Ireland Staff Panel supports the proposed safety targets, but is concerned that resources will not be available to meet the more stringent requirements underpinning the targets.

Decision on Safety Targets

9.5 The safety targets remain unchanged from the consultation. There was general support for the safety targets during the consultation process. With respect to the AirNav Ireland Staff Panel and its concern on the resources required to meet the safety targets, given our approach to treat such costs as inputs for the cost forecasts, this relates to cost forecasts rather than proposing an adjustment to the safety targets, and as such is discussed in the Opex and Interdependencies sections.

10. Environment KPA

10.1 The Environment KPA contains one KPI: Horizontal En Route flight efficiency of the actual trajectory (KEA). This indicator measures the additional distance actually flown relative to the great circle distance. Thus, it is intended to measure unnecessary additional distance flown in the FIR, which is wasteful from an environmental perspective.

10.2 Horizontal En Route flight efficiency is expressed as a percentage of additional distance flown relative to the great circle distance, so a relatively low percentage indicates relatively good performance and vice versa.

10.3 National KEA reference values are calculated by the Network Manager as the contribution required from each ANSP in order to meet the KEA target at a Union-wide level.[30] The reference values for Ireland are shown below.

Table 10.3: AirNav Ireland RP4 Reference Values

Horizontal flight efficiency (KEA)	2025	2026	2027	2028	2029
RP4 Reference Values	1.42%	1.40%	1.38%	1.36%	1.34%

Source: Eurocontrol

10.4 In the Draft Decision, we noted that over RP3, the KEA performance of AirNav Ireland has been significantly better than the Union-wide average. We stated that while AirNav Ireland remains one of Europe's best performers in terms of the KEA, the target was missed by 0.31 percentage points in 2023, with AirNav Ireland assessing this to be largely due to factors outside of its control, which claim we have broadly verified, as set out in Section 10 of the Draft Decision.

10.5 Sustainably reducing the environmental impact of aviation is a key goal for Ireland, as it is across the EU. In this regard, in the Draft Decision we noted that challenging targets will drive a focus for both AirNav Ireland and the IAA to continuously assess and monitor performance. From that perspective, we believed it preferable to have a target which, while challenging, seeks to drive performance improvements. In this regard, we stated the reference values proposed by the Network Manager appeared to provide an appropriate balance between achievability/realism and ambition.

10.6 We therefore proposed to implement the national reference values as AirNav Ireland's targets for RP4, and did not propose to implement a financial incentive scheme in relation to the KEA.

Submissions Received on Environment KPA

10.7 The AirNav Ireland Staff Panel believes the Environmental KEA targets to be realistic, stating that targets that reflect the current '*excellent'* performance of the ANSP are appropriate.

[30] For details on the methodology, see: Performance Indicator - Horizontal Flight Efficiency | Aviation Intelligence Unit Portal (ansperformance.eu)

10.8 Ryanair believes that the proposed targets are not ambitious enough, and considers that the implementation of free route airspace (FRA) in the UK should not justify lower targets, particularly when AirNav Ireland's previous performance is taken into account.

10.9 AirNav Ireland reiterates that, following calls for more challenging targets at the consultation meeting, it provided an explanation of how weather is a significant factor which is outside of its control which can affect the KEA. It further asserts that the actual historical horizontal flight inefficiency in the Shannon FIR is approximately 450 metres, with the majority of inefficiencies due to meteorological conditions on the North Atlantic Track (NAT), military training flights, tango routes, French ATC industrial action, maintenance, crew flight-planning/re-routes, traffic presentation and due adjacent ANSP agreements.

Decision on Environment KPA

10.10 We disagree with Ryanair in its assertion that the introduction of FRA should not justify less ambitious KEA targets for AirNav Ireland. While we would expect the introduction of FRA to provide overall benefits to airspace users, as outlined in the Draft Decision, the introduction in UK airspace has provided challenges for AirNav Ireland in terms of its own KEA performance. Prior to the introduction of the UK LD1/West airspace change in UK airspace (which relates to FRA), the KEA was at its lowest level in the year at approximately 1.2% and broadly consistent with 2022. A sharp increase was observed from 23rd March 2023, the same day as the UK airspace change was operationalised. KEA inefficiency peaked in April at 1.6% and remained elevated for the remainder of the year. Performance has normalised somewhat in the opening months of 2024, but remains above 2022 levels, which suggests the introduction of FRA in Western UK airspace continues to impose challenges in meeting KEA targets.

10.11 Furthermore, as explained by AirNav Ireland at the RP4 consultation meeting, and its response to the Draft Decision, weather is a significant contributing factor to KEA inefficiency which is outside of its control. We therefore believe the KEA targets provided by the Network Manager achieve a balance between achievability/realism and ambition. These targets become more ambitious throughout RP4.

10.12 We also note that while disagreeing with the KEA targets, Ryanair has not suggested any alternative reasoned figures, nor provided further substantiation of why the introduction of FRA in UK airspace and its impact on AirNav Ireland should be disregarded as a factor to considered in setting the targets for RP4.

10.13 We agree with the AirNav Ireland Staff Panel that the KEA targets are realistic. On the basis of the submissions received and the reasoning we have provided, we make no changes relative to the Draft Decision. Consequently, we adopt the reference values proposed by the Network Manager as the KEA targets for RP4, as shown in Table 10.3 above. These targets are less challenging than those of RP3 but remain significantly below the Union-wide targets.

11. Capacity KPA

11.1 The capacity KPA relates to the availability of sufficient air traffic control capacity to avoid generating an excessive level of Air Traffic Flow Management (ATFM) delay. There are two KPIs within the capacity KPA, one relating to En Route capacity and one relating to Terminal capacity:

- The average En Route AFTM delay minutes per flight attributable to air navigation services.

- The average arrival ATFM delay minutes per flight attributable to Terminal and airport air navigation services.

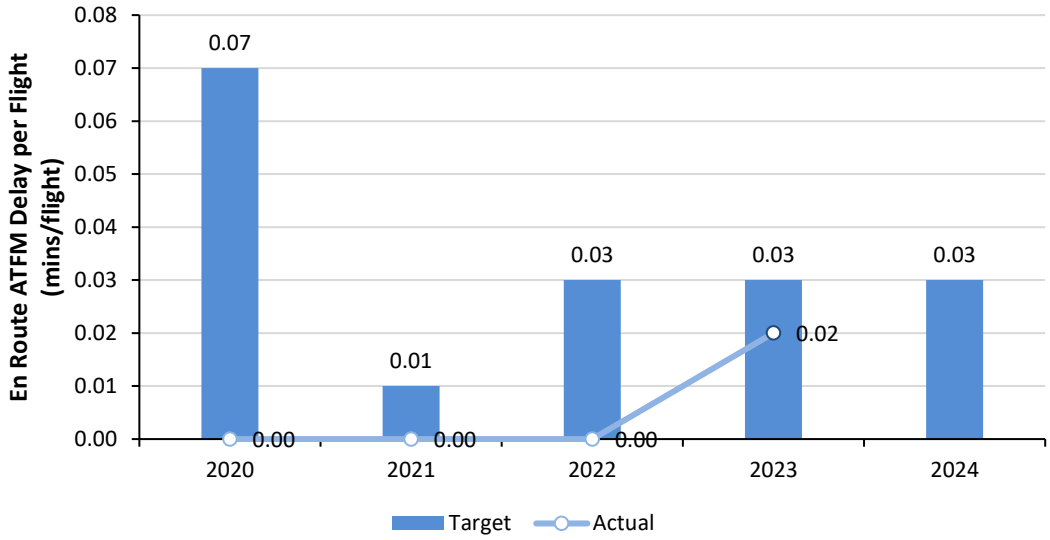
11.2 These targets are both expressed as delay minutes per flight, so, similar to the KEA, a relatively low number indicates relatively better performance and vice versa. There are incentive schemes associated with both KPIs, which are discussed in Section 14.

11.3 In the Draft Decision, we provided an overview of the Union-wide En Route performance over RP3 to-date, and the targets proposed by the Network Manager for RP4, which are in line with RP3 targets in the later years, but more lenient in the early years. Similarly, we provided an overview of the local En Route and terminal capacity performance of Ireland over RP3. Further information on both Union and local level performance can be found in Section 11 of the Draft Decision.

En Route Capacity

11.4 In the Draft Decision, we proposed to adopt more ambitious En Route capacity targets than the corresponding reference values calculated by the Network Manager. Over the first part of the RP3 period, AirNav Ireland's capacity performance has consistently been one of the strongest in the Union, with close to zero delay. AirNav Ireland met all En Route service demand between 2020 and 2022, and achieved the 2023 target despite performance deteriorating such that it came closer to not meeting the target.

Figure 11.1: Actual and Target RP3 ATFM Delay



Source: Ireland RP3 Performance Plan and Network Manager

11.5 We proposed to retain the current RP3 targets (0.03 mins/flight) as the RP4 target for 2025 and 2026, before lowering the target to 0.02 mins/flight from 2027 onwards. We stated that this was with a view to setting an incrementally more ambitious target, to encourage improved performance relative to 2023, and generate an internal consistency by linking it to the year where the CEPA/Think analysis suggests that the current resourcing in staffing levels can be fully addressed, with additional resilience added to the rosters to reduce utilisation to sustainable levels.

Table 11.1: IAA Proposed En Route ATFM Delay Targets

AFTM delay mins. Per flight	2025	2026	2027	2028	2029
RP4 Targets	0.03	0.03	0.02	0.02	0.02

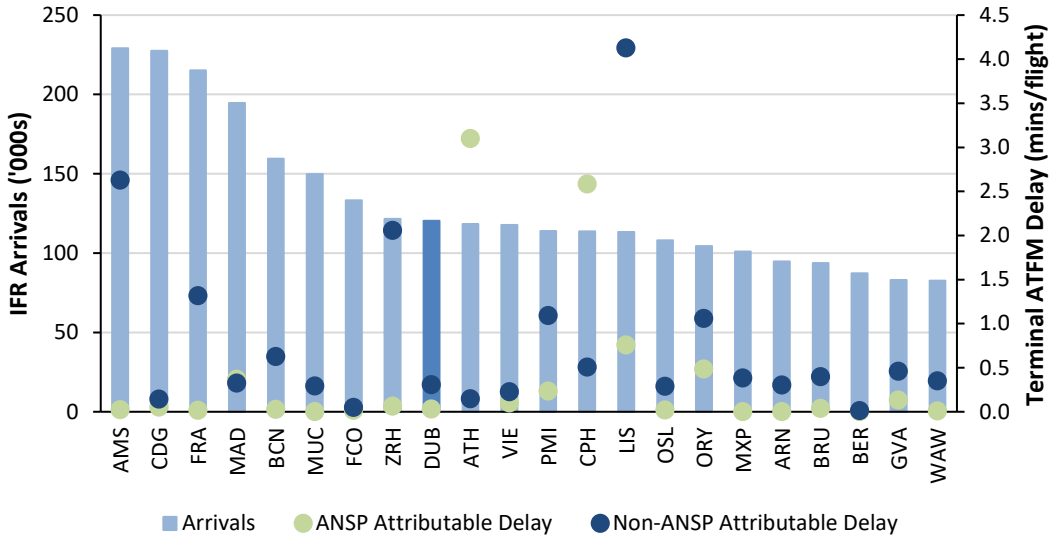
Source: IAA

Terminal Capacity

11.6 There are no Union-wide targets for terminal capacity, so these targets are to be set at a local level by the NSA. Dublin Airport is the main Irish airport which generates Terminal ATFM delay minutes, although over RP3 some spikes of delay were also generated at Shannon Airport. AirNav Ireland met the Terminal ATFM arrival delay targets between 2020 and 2022. The 2023 target, however, was missed by 0.10 mins/flight, but most of this delay was non-ANSP attributable, relating to weather and aerodrome capacity.

11.7 In considering whether the targets set in RP3 remain reasonable for RP4, we also assessed ATFM delay performance at Dublin Airport compared with other SES airports with more than 80k arrivals per annum, as shown in Figure 11.2.

Figure 11.2: Terminal ATFM Delay and IFR Arrivals (airports >80k arrivals), 2023



Source: EUROCONTROL

11.8 Although Terminal ATFM delay exceeded the target in 2023, we noted that Dublin Airport still performed relatively strongly. The above figure shows that despite receiving the 9th highest number of arrivals in 2023, arrival ATFM at Dublin Airport, which generates most delay in Ireland (Shannon accounted for just 2,597 of the total 43,164 delay minutes while Cork accounted for none), had relatively low arrival ATFM delay compared with those experiencing similar levels of arrivals.

11.9 We noted that there is therefore relatively little scope to further lower this target. Overall, we proposed to maintain a national target of 0.2 mins/flight for all years of RP4. This target is further disaggregated by airport below.

Table 11.2: IAA Proposed Terminal ATFM Delay Targets

AFTM delay mins. Per flight	2025	2026	2027	2028	2029
National	0.2	0.2	0.2	0.2	0.2
EIDW – Dublin	0.25	0.25	0.25	0.25	0.25
EICK – Cork	0.0	0.0	0.0	0.0	0.0
EINN – Shannon	0.0	0.0	0.0	0.0	0.0

Source: IAA

11.10 We proposed to adjust the parameters of the Terminal capacity incentive scheme to make it more effectively targeted towards CRSTMP delay, while modulating downwards the pivot values, as described in Section 14.

Submissions Received on Capacity

11.11 IAG believes the capacity targets to be disproportionately stretching in the light of relatively good recent capacity performance, which it believes potentially is leading to a detrimental impact on cost efficiency targets. It states support, in

principle, for ambitions to improve capacity performance, but that further improvements should be in proportion with their effect on costs. IAG would like to understand how the capacity projections would alter should the cost/capacity balance be readdressed such that the DUC trend would align with the Union-wide target trends.

11.12 The AirNav Staff Panel states that there is no ability to generate En Route ATFM delay from Shannon ACC's main traffic flows (eastbound transatlantic flow) as the night shift is staffed to ensure it has 100% available capacity to deliver the service should the ACC have all eastbound North Atlantic Tracks on any given night. Therefore, Shannon ACC can only implement effective regulation on either the westbound flow or on departures and arrivals to Ireland. This means the ANSP has limited scope to adjust headcount for a higher delay target.

11.13 The Staff Panel asserts that historically, AirNav Ireland has underdelivered on its obligations to staff, and that staffing has proven difficult due to high rates of ATCO attrition. Capacity in Dublin in particular has been delivered in 2024 by a high level of reliance on overtime. As these issues relate to staffing and overtime, they are discussed in greater detail in the Opex section of this Decision.

11.14 The Staff Panel believes, from the experience of European counterparts, that the implementation of a new ATC system such as TopSky ATC One will result in additional ATFM delay, stating that it is common to run a new system and an old system simultaneously for a period to validate the new system. As a result, the AirNav Staff Panel believes that additional ATFM delay can be expected in 2028 and 2029 while TopSky ATC One is being introduced.

11.15 For these reasons, the Staff Panel believes that the reference values set by the Network Manager for En Route ATFM delay are more appropriate than those proposed by the IAA. In addition, the Staff Panel believes the proposed terminal delay targets are below what is achievable in RP4, due to staffing constraints.

11.16 AirNav Ireland also believes that it is prudent to plan for delay towards the end of RP4 with the introduction of TopSky ATC One. While not opposing the IAA's En Route and terminal delay targets in its response, AirNav Ireland states achieving these targets will only be possible if the allowance for sufficient ATCOs is provided.

Decision on Capacity KPA

11.17 With respect to IAG's submission, while we acknowledge AirNav Ireland's strong performance in recent years, En Route ATFM delay disimproved markedly in 2023, with delay reaching 0.02 min/flight and almost all of this delay was ANSP attributable. This development, coupled the assessment by CEPA that AirNav Ireland was under resourced with respect to ATCOs in 2023, suggests if no additional capacity improvements are to be implemented, delay would continue to deteriorate throughout RP4 in line with growth in traffic. Furthermore, roster resilience has been operating at an unsustainable level at the ANSP over RP3, with performance being maintained largely as a result of

significant levels of overtime. This is not a sustainable approach to ensuring safe, resilient operations in the medium to long term,

11.18 We have also considered what level of capacity provision would be possible if the DUC target were to be aligned with the Union-wide trend through allowing capacity output to deteriorate. This would, in effect, require no further ATCO increases or investment in the ATM systems. We assess that this would lead to an underresourced ANSP, exacerbate rather than addressing the issues identified by Think/CEPA, AirNav Ireland's underdelivery of investment, and/or neglect the interests of future airspace users by not future-proofing the ANSP through, for example, the investment in a new ATM system. We agree that the increase in the quality of service provision should not be disproportionate with respect to the associated costs, which is reflected in the Opex and Capex analysis we have undertaken which is designed to collectively optimise performance across the KPAs.

11.19 We note both AirNav Ireland and the AirNav Ireland Staff Panel have expressed concern that the implementation of TopSky ATC One and its initial impact on overall delay, citing that it is common practice for new and old systems to operate in tandem at the initial stage of commission. While we accept that implementing TopSky ATC One may require a greater allocation of resources over a certain period, a substantial number of additional resourcing measures outside of TopSky ATC One are also planned throughout RP4 and have been provided for in the Determined Costs, such as, and most notably, a significant increase in ATCO headcount.

11.20 We therefore assess that providing for more ambitious targets towards the end of RP4, when AirNav Ireland should be considerably better resourced, provides a prudent balance between the additional costs which will be required to be borne by airspace users, and the benefit they should expect to achieve as a result. We therefore make no changes to the Draft Decision in this respect.

12. Cost Efficiency KPA, Unit Rate Forecasts, and Financeability

12.1 The cost efficiency KPA includes one Union-Wide KPI, which is the year-on-year trend in the real determined unit cost (DUC) for En Route air navigation services from the 2024 baseline through to the end of RP4.[31] The DUC for a given year is the total determined costs divided by the forecast service units.

12.2 At a Member State level, the cost efficiency KPI includes two KPIs, the DUC for En Route services and the DUC for Terminal services. To assess the draft Performance Plan for consistency with the Union-wide targets, as per Annex IV of the 2019 Regulation, the En Route DUC is assessed with reference to:

- The Union-wide target trend, which for RP4 is to be assessed as the Compound Annual Growth Rate (CAGR) from 2024 to 2029.
- The long-term target trend, which for RP4 is to be assessed as the CAGR from 2019 to 2029.
- The baseline DUC relative to each ANSP's comparator group (which for Ireland includes those of Cyprus, Malta, and Portugal).

12.3 It should then be further assessed with reference to whether any deviations from the target trends can be justified as solely relating to measures to achieve the local capacity targets, or relating to upfront costs which will provide longer-term benefits for airspace users ('*restructuring costs*'). In addition, where there are changes in the nature of the determined costs and/or cost allocation, or in relation to service units, between any of the years 2019, 2024, and 2029, baseline adjustments can be applied to the 2019 and/or 2024 baselines so that they are directly comparable to 2029.

12.4 The short-term Terminal DUC trend (2024 to 2029) is assessed for reasonability with reference to the En Route DUC trend, and the DUC at similar airports.

Union Wide and Local Targets

12.5 The Union wide target trend for En Route services for 2024 to 2029 is -1.2% per year, while the long-term target trend from 2019 to 2029 is -1% per year. In line with the Draft Decision, in assessing how our final estimates compare to these short and long term trends, we have made the following baseline adjustments:

- A correction to the MET ASD actual costs for 2019, the same adjustment which was made for the RP3 Performance Plan.
- An adjustment to the 2019 service units to reflect the distance component being changed from planned to actual flown distances, which, again, is the same adjustment which was made in the RP3 Performance Plan.
- An adjustment to both the 2019 and 2024 cost baselines, to reflect the return of the FMP/AMC positions and the associated change in cost

[31] While termed the 'real' DUC, the DUC is calculated with reference to all costs in the Performance Plan, including those which are always specified in nominal terms, namely all capital costs, the NSA/State costs, and Eurocontrol costs.

allocation, as described in Section 4.

12.6 Having made these adjustments, we observe that, similar to the Draft Decision, the short- and long-term DUC trend is deviating from the target trends, being +2.1% and +0.9%, respectively. This result differs from RP3, where we set a local target which was more stringent by 1.35 percentage points compared to the Union-wide target trend. As set out above, while we consider that cost requirements have been overstated somewhat by the ANSPs, our draft assessment does align with the position that there ought to be significant increases in staffing levels in these areas.

12.7 We note that no regulated entity has reported any restructuring costs within the meaning of Article 2(18) of the 2019 Regulation, and we have not, either, identified any such costs within the RP4 estimates. Consequently, this deviation is not justified on the basis of any restructuring costs.

12.8 We note that our Opex and capital cost forecasts for AirNav Ireland contain a range of measures intended to allow AirNav Ireland to meet the local capacity targets, while also ensuring that the required levels of safety are maintained. We have reviewed the main such measures, and quantified them, to assess whether the deviation from the target trends is necessary and proportionate due to additional determined costs related to measures necessary to achieve the capacity targets. Our findings in that regard are outlined below.

12.9 It should be noted that, based solely on the final Business Plan submissions from MET ASD and AirNav Ireland, before any adjustments by the IAA, we estimate that the short-term trend would have been +4.2%, and the long-term trend would have been +1.7%.

12.10 The DUC for Terminal services shows a similar short-term trend result as for En Route, with a CAGR between 2024 and 2029 of +2.4%. The reasons for the proposed increase in real unit costs are similar to those described above for En Route. Again, based solely on the final Business Plan submissions from MET ASD and AirNav Ireland, before any adjustments by the IAA, we estimate that the short-term trend would have been +4.6%.

Measures to Achieve the En Route Capacity Targets- Operating Expenditure

12.11 As noted above, we have sought to identify whether the deviation from the Union-Wide target trends can be considered necessary and proportionate to meet the capacity targets. As per the Performance Plan submission template, these measures are all quantified in nominal terms. For now, we have only sought to quantify the direct costs of these measures. For example, a proportion of the forecast increase in indirect cost areas such as corporate services staff costs, utilities, travel, and cleaning are indirectly driven by measures to achieve the capacity targets outlined below, such as ATCO recruitment. These could also be allocated to the measures to achieve the capacity targets.

12.12 The single biggest driver of the forecast increase in Determined Costs relates to the forecast direct staff costs of new ATCOs to be recruited. As set out in the CEPA/Think reports, we have concluded that AirNav Ireland is currently

significantly understaffed in respect of ATCOs, which has led to excessive utilisation and insufficient roster resilience, the deferral of investment, and a deteriorating trend in capacity performance which has materialised as an increase in En Route ATFM delay and instances of 'zero flow rates' being imposed.[32] The CEPA/Think forecast ATCO requirement out to 2029, while being somewhat lower than the level proposed by AirNav Ireland in its Business Plan submission, is based on an assumption of addressing this issue, while also taking account of the forecast growth in traffic during RP4, without adding excessive staff. We therefore consider this measure to be necessary and proportionate only to the extent accepted as necessary by us, rather than the level proposed by AirNav Ireland. We note that additional ATCO staffing was also supported by airspace users. We have quantified the proportionate cost of this measure as €20.5m by 2029. The first measure which we have reported as being necessary and proportionate to achieve the capacity targets is therefore the staff costs of new ATCOs which we forecast to be recruited over RP4.

12.13 A second area of staffing where we and CEPA/Think assess that AirNav Ireland is understaffed is in relation to engineers. Again, on the basis that meeting safety requirements cannot be the subject of trade-offs, the primary basis upon which we concluded that this increase was necessary was to deliver the investment programme, in particular the major investments in the ATM systems described below. We conclude that a step increase in engineers is necessary to deliver these investments. We also conclude that AirNav Ireland's Business Plan overstated the requirement, but our adjusted estimate can be considered necessary and proportionate to deliver the investment programme, and consequently to achieve the capacity targets. We note that our lower forecast of engineer staffing requirements was generally supported by airspace users. We have quantified the proportionate cost of this measure as €4.3m by 2029. The second measure which we have reported as being necessary and proportionate to achieve the capacity targets is therefore the step change in engineers which we forecast to be necessary over RP4.

12.14 In its Business Plan submission, AirNav Ireland estimated that the level of Operations Management and Support (OMS) staff needed to increase to a total of 83 by 2029. This is intended to free up ATCOs and engineers from such administrative tasks, enabling the productivity of these staff to be maximised in relation to the provision of capacity and delivery of the investment programme. Through subsequent engagement, AirNav Ireland has provided further details of the specific roles being created. We and CEPA/Think have concluded that this an efficient and proportionate measure, which partly offsets what would otherwise be a requirement for further increases in ATCOs/engineers. We conclude that this is a measure which is necessary and proportionate to achieve the capacity targets. We have quantified the cost of this measure as €3.7m by 2024.

12.15 In relation to Other Operating costs, we have also identified a number of measures which are required to achieve the local capacity targets, either by facilitating the delivery of the ATCOs to be recruited as outlined above, or to

[32] Zero flow rates have been applied in instances where insufficient roster resilience has meant that no ATCO is available for a specified time. If such a restriction is applied, then no aircraft are permitted to fly through that area.

facilitate the new ATM system. We have again estimated the proportionate cost of these measures. The largest such cost line item relates to the cost of training the required new ATCOs, which is approximately €2m per year. There is also a forecast step increase in the cost of maintenance and spares, particularly at the end of RP4, driven by the new ATM system. We have quantified the total costs of this measure as just under €4m by 2029, and reported it as the fourth measure.

Measures to Achieve the Capacity Targets- New Investments

12.16 We have also considered the extent to which the variance is driven by investments which are necessary and proportionate to achieve the capacity targets. We have identified a number of such investments. Further details on these projects are available in Section 15 of the IAA's Draft Decision and Final Decision. It should be noted that, as set out in Section 6, the IAA has applied a 20% programme level reduction to AirNav Ireland's proposed capital investment programme, with the exception of the TopSky ATC One project. For consistency with the RP4 Determined Costs, the capital costs of project-level measures outlined below also contain the same downward adjustment, meaning that they are potentially conservative if viewed in absolute terms.

12.17 Firstly, major investment in the main ATM system is driving incremental capital costs over RP4. Specifically, as noted above, this includes the replacement of the current ATM system with the TopSky ATC One system, as well as further COOPANS builds. These projects provide for a range of enhanced functionality to support ATCO decision making, enhancing productivity and facilitating AirNav Ireland in achieving the capacity targets. The shift towards modern, open architecture allows for new features such as Automatic Speech Recognition, Alternate Trajectories, and Conflict Resolution Advisories to be added. The automation of routine tasks is forecast to increase ATCO productivity. In our forecast ATCO requirements, the IAA has assumed ATCO productivity improvements over RP4 on the basis of this investment (and following our assessment that AirNav Ireland did not sufficiently account for this productivity improvement in its Business Plan submission). We have quantified the capital costs of investing in the TopSky ATC One system, and in the planned COOPANS builds over RP4, at just under €5m by 2029.

12.18 Secondly, AirNav Ireland proposes to invest in a new contingency ATM system. Such a system is necessary to ensure that the capacity targets can be met. In a situation where the contingency system is needed, the new system will provide increased capacity compared to the current contingency system, and will mean continuity of service is assured in such instances. In addition, if this project is not delivered, there is a risk that the existing system will become unserviceable in the near future. This would lead to a reversion to a manual fallback system which would cause significant flow control issues in Irish controlled airspace. We conclude that this investment is necessary and proportionate to achieve the capacity targets. We have quantified the capital costs of investing in the contingency ATM system over RP4 at just under €1m by 2029.

12.19 Thirdly, AirNav Ireland proposes to invest in RADAR and surveillance systems,

in support of the provision of air traffic control services, in particular by replacing end-of-life RADAR components that have reached end-of-life. The IAA has verified the end-of-life status of these components, as set out in sections 15 of the Draft Decision and Final Decision. The IAA notes that AirNav Ireland cannot provide a 5NM or 3NM radar separation service without sufficient reliable radar coverage. Procedures in place to cope with the loss of RADARs typically require increased separations, leading to reduced capacity and productivity. Our cost forecast and capacity targets rely on the availability of such coverage. We therefore conclude that this investment is necessary and proportionate to achieve the capacity targets. We have quantified the capital cost of this investment at just over €2m by 2029.

12.20 Finally, we have identified a number of smaller capacity related investments that primarily contribute to AirNav Ireland's ability to train ATCOs, maintain existing navigational equipment to ensure capacity is not compromised, and service or support the investments in the ATM systems.

12.21 The building extensions to both the Ballycasey and Dublin ACCs will increase capacity for equipment testing and proving facilities needed to implement new systems. The classroom capacity that will be added to both centres is necessary to deliver the future ATC service and will cater for the additional staff members which we have included in the Opex forecasts, as outlined above.

12.22 AirNav Ireland is investing in the resilience of systems needed for service provision featuring a range of different power supplies. Modular UPS supporting TopSky ATC One will provide more resilient and scalable back-up power supplies to all ATC positions and will be more scalable to support TopSky ATC One systems. Similarly, the PV Installation is intended to ensure service continuity, and consequently capacity, is not impacted in the event of national power outages. By introducing fibre feeds in place of microwave links at certain remote sites, AirNav Ireland is working to ensure that capacity is not compromised during extreme weather conditions.

12.23 AirNav Ireland's investments in the NOKIA Service Aggregation Routers, Air Traffic Management Surveillance Tracker and Server (ARTAS) and Surveillance Analysis Support System for ATC Centres (SASS-C) projects will ensure that AirNav Ireland continues to provide 5NM and 3NM RADAR separation. The ARTAS and SASSC systems, in particular, are needed to support the introduction of the new ATM system referenced above.

12.24 Finally, AirNav Ireland also proposes to invest in Distance Measuring Equipment (DME) to support En Route services in the event of Global Navigation Satellite System (GNSS) outages. We note that in the event of a GNSS outage, AirNav Ireland would need to rely on conventional Navaids to ensure that capacity is not constrained.

12.25 We conclude that the above investments are necessary and proportionate to achieve the capacity targets. We have quantified the total capital costs of these investments as €1.6m by 2029.

Measures to Achieve the Capacity Targets- Summary

12.26 Taking account of the above results in a total estimate of €42m, in nominal terms, of direct En Route costs of the main measures to achieve the capacity targets by 2029. These are summarised in the table below.

Table 12.1: Determined Direct Costs of Main Measures to Achieve Capacity Targets, €m

Measure	2025	2026	2027	2028	2029
New ATCO Staff Costs	7.5	11.5	14.2	18.0	20.5
New Engineer Staff Costs	3.4	3.5	3.8	4.0	4.3
New OMS Staff Costs	2.5	2.9	3.3	3.6	3.7
Other Opex	3.4	4.1	4.7	3.9	4.0
Investment in main ATM system	0.7	1.6	2.8	3.1	4.8
Investment in contingency ATM system	0	0.2	0.8	0.8	0.9
Investment in RADAR systems	0.1	0.5	1.6	2.0	2.2
Other capacity related investment	0	0.1	0.4	1.0	1.6
Total	**17.5**	**24.5**	**31.5**	**36.5**	**41.9**

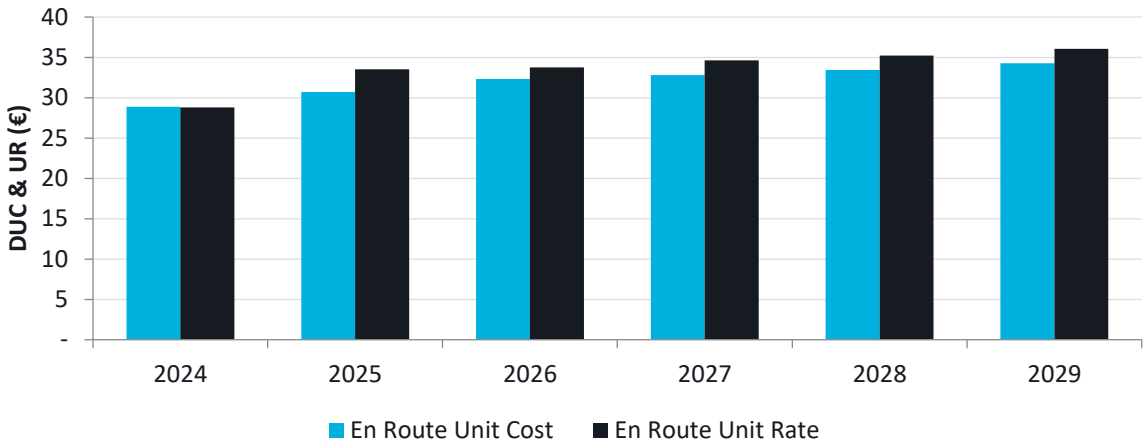
Source: IAA. Nominal Prices.

12.27 To assess whether the deviation from the target trends is exclusively due to these measures, we have converted the operating cost-related measures to real 2022 prices and recalculated the DUC trend net of these measures. In that case, the short-term DUC trend reduces to -2.9%, and the long-term DUC trend reduces to -1.7%. These align with, and outperform, the EU-wide target trends of -1.2% and -1% respectively. We therefore conclude that the deviation from the target trends is exclusively driven by measures which are necessary and proportionate to achieve the capacity targets.

Forecast Unit Rates

12.28 Figure 12.1 shows the forecast En Route unit cost and unit rates, in nominal terms, with reference to 2024 actual unit rate and forecast unit cost.

Figure 12.1: Forecast En Route Unit Costs and Unit Rates



Source: IAA. Nominal prices.

12.29 Based on our determined cost forecasts, and the application of adjustments to the unit rates to the extent that these are currently ascertainable, we forecast that the En Route unit rate will increase in nominal terms from €28.78 in 2024 to €33.52 next year, and then to €36.05 by 2029. Compared to the Draft Decision, this is an increase of €0.78 and €0.40 to the unit rates in 2025 and 2029 respectively. One driver of the upward trajectory is the increasing unit cost, as described above. Compared to the Draft Decision, there is an increase of €0.59 on average to the En Route determined unit cost for each year of RP4.

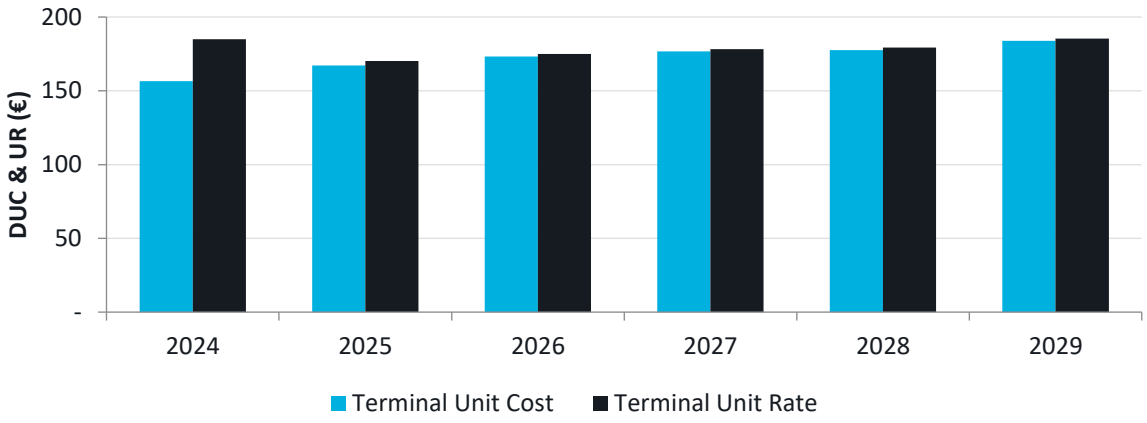
12.30 The unit rate remains consistently higher than the unit cost in each year of the reference period as a result of the recovery of unrecovered revenues relating to 2020 and 2021, as decided at EU level during RP3, which equates to €10m per year across RP4. In 2025, there is a further upward inflation adjustment in respect of 2023 of €10.5m, as decided in RP3.

12.31 Conversely, in 2025 and 2026, the unit rate adjustments also include the return of capital costs associated with all unspent Capex over RP3. This figure is final for 2020 to 2023, all of which has been included in the adjustments for 2025. This has the effect of moderating the step increase in the unit rate between 2024 and 2025. The figure has also been estimated for 2024, and this estimate has been provisionally included in the adjustments for 2026.

12.32 We note that, based on the final Business Plan submissions from MET ASD and AirNav Ireland before any adjustments have been made by the IAA, the En Route unit rate by 2029 would have been approximately €40, 11% higher than our estimate.

12.33 Figure 12.2 shows the equivalent chart for the Terminal charging zone.

Figure 12.2: Forecast Terminal Unit Costs and Unit Rates



Source: IAA. Nominal prices.

12.34 Again, based on the determined cost forecasts, and the application of adjustments to the unit rates to the extent that these adjustments are currently ascertainable, we forecast that the Terminal unit rate will decrease in nominal terms from €184.90 in 2024 to €170.22 in 2025, and then slowly increase back to €185.36 by 2029. Compared to the Draft Decision the unit rate for 2025 is €3.03 higher and the rate in 2029 is €0.37 lower. The unit cost trajectory is similar to En Route, however, in this case, the increased costs and the upward unit rate adjustments are more than offset by downward adjustments relating to traffic risk sharing from RP3, Other Revenues, and the return of capital costs associated with all unspent Capex over RP3. Compared to the Draft Decision, there is an increase of €1.60 on average in the Terminal determined unit cost for each year of RP4.

12.35 The capital costs due for return are relatively higher compared to the unit cost base for Terminal than for En Route. To generate a more stable profile, as shown above, we proposed that the return would be spread across RP4, rather than frontloaded as for En Route. This approach was supported at the stakeholder consultation and is reflected in the above unit rate forecasts. Consequently, the unspent capital cost returns come close to offsetting the upward adjustment in relation to unrecovered revenues from 2020 and 2021, in each year of RP4, such that the unit rate closely reflects the unit cost.

12.36 We note that, based on the final Business Plan submissions from MET ASD and AirNav Ireland before any adjustments by the IAA, the Terminal unit rate would have been approximately €210 by 2029, approximately 13.5% higher than our final estimate.

Financeability and Stress Tests

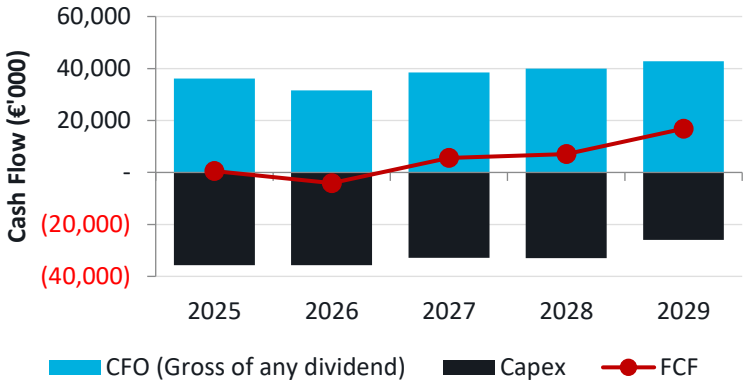
12.37 We have conducted a financeability assessment of the AirNav Ireland regulated entity, and stress tested our proposals, in line with our usual approach to making a price control decision and as required for inclusion in the draft Performance Plan submission. Given that AirNav Ireland accrues future unit rate adjustments such that its profitability can be significantly different from its cash flow, we have not sought to forecast its profitability or to estimate a shadow

credit rating but focus instead on cash flows.

12.38 The Draft Decision contained a modelling error in this section which understated AirNav Ireland's Capex across RP4, overstating its forecast cash flows over the period. We have since corrected this error and updated the section below to reflect this financial position.

12.39 We note that AirNav Ireland will start RP4 with no debt and a positive cash balance. Figure 12.3 below shows the base case forecast cash flows over RP4, where Capex, Opex, and En Route and Terminal revenues align with our assumptions, and the unit rate adjustments are applied as per the 2019 Regulation.

Figure 12.3: Base Case Cash Flow Forecasts



Source: IAA Calculations. Nominal.

12.40 As shown above, in the base case, AirNav Ireland can fund forecast Capex from cash flow from operations within RP4 alone. The positive cash flow from operations in excess of the capital cost allowances is primarily driven by the recovery of unrecovered revenues from 2020 and 2021, which equates to almost €12m per year. This would see AirNav Ireland generate approximately €25m, overall, in free cash flow across RP4.

12.41 After adjusting for the under estimation of Capex in the Draft Decision, our position remains that AirNav Ireland will still have sufficient financial resources and resilience to deal with any significant downside scenario even without raising any debt, a lever which is open to it in any case. It should also be noted that, in the event of an significant downside scenario, the 2019 Regulation allows for the Performance Plan to be reopened.

13. Interdependencies

13.1 An important element of the target-setting process for each of the KPAs is the consideration of the interdependencies between them, and therefore the extent to which there are potential trade-offs between achieving performance targets across different KPAs. More broadly, this reflects the proper approach to any price control decision, where the assumptions and targets should be collectively unbiased and internally consistent with each other.

13.2 Conceptually, there is likely to be a trade-off between cost efficiency and each of the other three KPAs, namely Capacity, Environment, and Safety. Improving performance in each of these areas may require additional resources to be deployed and additional costs to be incurred, which will increase costs and reduce cost-efficiency performance.

13.3 The trade-off between cost efficiency and the other three KPAs also implies that there are potential trade-offs between the Capacity, Environment, and Safety KPAs, because, if performance improvements are mutually exclusive, costs incurred in improving one KPA implies foregoing improving another. In practice, performance improvements in each KPA may not be fully mutually exclusive, although costs incurred in one area are likely to improve performance in one KPA more than others, which implies some level of trade-off.

13.4 Interdependencies and trade-offs can inform the target-setting process such that KPA targets are set at the optimum point which simultaneously maximises the combined performance across all KPAs. However, the extent to which this can be achieved in practice is limited by regulatory and other constraints. The remainder of this section discusses the interdependencies and trade-offs between the KPAs.

13.5 We note that, in their respective responses to the Draft Decision, the emphasis on recognising and taking account of the interaction between safety and the other KPAs was common in the responses from both AirNav Ireland and the AirNav Ireland Staff Panel.

Safety and the other KPAs

13.6 While a trade-off between the Safety KPA and other KPAs exists, the importance of ensuring the required level of operational safety and safety management means that this interdependency should be reflected more as an input than a trade-off. In practice, this usually means including cost forecasting assumptions which are consistent with fully meeting the required levels of safety. For example, in the engineering staff forecasts, we include the 7 additional staff which we assessed to be required as a result of EU Regulation 2017/373, rather than assessing the costs and benefits of doing so.

13.7 Considering interdependencies with other KPAs, all necessary costs should be incurred to achieve the required level of safety performance, irrespective of whether the funds and resources associated with these costs could yield greater improvements in performance in other KPAs (or adversely affect performance in other KPAs).

13.8 AirNav Ireland's Business Plan reiterates its focus on safety, stating that safety remains its '*ultimate priority*'. It also stresses the need for sufficient funds to ensure safety, highlighting the interdependency between safety and cost-efficiency. As set out in Section 12, it is clear that AirNav Ireland will have sufficient funds to ensure safety, even if it were to be unable to fully meet the cost efficiency targets in doing so.

Capacity and Cost Efficiency

13.9 For an ANSP operating efficiently, providing additional capacity will incur additional costs. However, establishing a relationship between cost efficiency and capacity is not straightforward in practice as there are a number of dimensions to consider.

13.10 The relationship between cost efficiency (as measured by the DUC) and ANSP-attributable delay is partly lagged, with additional capacity being significantly linked to investment in infrastructure or training of additional ATCOs, both of which have lead times of several years (although some additional capacity can be provided in the short term through, for example, additional overtime). The level of traffic, particularly when significantly higher than forecast, is also an important driver of available capacity and delay.

13.11 In its Business Plan, AirNav Ireland has laid out what it sees as the critical features needed to provide sufficient capacity. This includes delivering sufficient ATCO resources (reduced reliance on overtime, demand from staff for a better work-life balance, allowances for job-sharing, statutory and annual leave, etc.), and delivering a Capex programme which will allow it to cope with forecast traffic growth.

13.12 Ideally, capacity targets should be set at the optimum point where the marginal cost associated with any additional reduction in delay exceeds the marginal economic benefits associated with any further delay reduction. This aligns with the PRB's economic cost of delay concept. An estimate of this optimum point is considered when setting union-wide capacity targets and national reference values.

13.13 We have taken this interdependency into account by, in particular, proposing capacity targets which we consider to be appropriately challenging but not premised on eliminating all ATFM delay, as the marginal cost of doing so is likely to exceed the benefit. Equally, we have sought to develop cost forecasting assumptions which are consistent with reversing the trend of increasing ATFM delay and delivering very low ATFM delay levels over RP4 and beyond, in particular through significant investment in the ATM systems and in additional ATCO and engineering staff.

Capacity and Environment

13.14 As noted in the Draft Decision, and by AirNav Ireland in its Business Plan, the PRB study on the interdependency between capacity and environment estimated that an increase of 1 minute of En Route ATFM delay per flight causes an increase of 0.14 percentage points in the KEA. Less capacity and

more congested airspace imply that airspace users have less ability to use the most efficient flight routing and, conversely, more capacity implies more efficient flight paths can be achieved. Therefore, while performance in these KPAs appears to be interdependent, there does not appear to be an inherent trade-off.

13.15 AirNav Ireland similarly notes that by sufficiently increasing capacity, this will also contribute to positive performance in the Environment KPA, demonstrating the correlation between the two KPAs. From that perspective, and particularly given the relatively limited levers available to AirNav Ireland to further improve KEA performance directly, it appears that the primary trade-off is of an indirect nature with cost efficiency, through the capacity and cost efficiency trade-off described above.

14. Traffic Risk Sharing and Incentive Schemes

Traffic Risk Sharing (TRS)

14.1 The TRS applies to AirNav Ireland's determined costs, based on the difference between the Performance Plan forecast service units and actual service units. The default position is that risk associated with service unit variance of +/-2% relative to the Performance Plan forecast is fully allocated to the ANSP, variance between 2% and 10% in service units is allocated 30% to the ANSP and 70% to airspace users, and any variance above 10% is fully allocated to airspace users.

14.2 The maximum traffic risk exposure of the ANSP is therefore 4.4% of determined costs (2%+(30%*8%)). That risk materialises when service units vary by 10% or more from the forecast. The adjustments are made to the unit rate in year n+2.

Table 14.1: Default allocation of traffic risk

SU Variance	Implications on unit rate
+/-2%	No adjustments
+/-2% to +/-10%	70% of the difference passed onto airspace users
+/-10%	All of the difference is passed onto airspace users.

Source: 2019 Regulation

14.3 The 2019 Regulation allows for the NSA to alter the parameters in order to increase (but not decrease) the ANSP's risk exposure above 4.4%. As per our position in the Draft Decision we have not altered the parameters of the TRS beyond the default level.

Decision on Traffic Risk Sharing

14.4 We note that AirNav Ireland was the only respondent to comment on the parameters of the TRS and acknowledge its agreement with our proposed approach. As stated above, traffic risk sharing mechanism remains as was proposed in the Draft Decision.

Overview of Incentive Schemes and Parameters

14.5 The incentive scheme parameters are set out within the 2019 Regulation, supplemented by the supporting material on incentives, which provides additional guidance on how parameters should be set.[33]

14.6 The 2019 Regulation sets out that performance targets should be subject to incentives that encourage better performance from the ANSP. Incentive schemes should be effective, and parameters should be set in a non-discriminatory and transparent manner. The Safety KPA is not to be subject to any incentives due to its overriding nature, while incentives are inherent in the Cost Efficiency KPA through the allocation of cost and traffic risk. The possibility

[33] bad85a80-0b38-411b-a76c-e7e583c6012d_en (europa.eu)

of incentive schemes therefore arises in relation to the Capacity and Environment KPAs.

Setting Parameters for Capacity Incentive Schemes

14.7 The objective of the capacity incentive scheme is to provide financial incentives to ANSPs to ensure that ATFM delay is not excessive, ideally in line with the economically optimum level. Given the trade-off between the provision of capacity and cost, it is likely to be disproportionate and inefficient to target zero ATFM delay, even if, in some years, a level of delay at or close to zero is ultimately achieved.

En Route Capacity Incentive Scheme

14.8 In the Draft Decision (and as outlined in Section 10), we proposed to retain the En Route ATFM delay target for 2024 (0.03 mins/flight) as the RP4 target for 2025 and 2026, before lowering the target to 0.02 mins/flight from 2027 onwards. Based on the RP4 draft Performance Plan template for submission to the European Commission, it appears to be anticipated that, if the pivot values are Fixed, are set in alignment with the En Route ATFM delay targets. As specified by the Implementing Decision, the threshold should be +/-0.05 around the pivot value.

14.9 We proposed to set the deadband to zero, which we assessed would deliver the same result as was considered appropriate for RP3, namely that service quality rebate payments start to be paid at the point where the delay target is exceeded. Our Draft Decision did not provide for bonus payments to AirNav Ireland for achieving its capacity targets. We proposed to set the maximum penalty payable at 1% of Determined Costs. AirNav Ireland would begin to incur financial penalties if performance were to deteriorate beyond the annual target. The full penalty of 1% would only become payable if delay were to be at or above 0.05 minutes in excess of the pivot value.

Table 14.2: En Route Incentive Scheme Parameters

Parameters	Unit	2025	2026	2027	2028	2029
Target	Avg. mins delay	0.03	0.03	0.02	0.02	0.02
Pivot Value	Avg. mins delay	0.03	0.03	0.02	0.02	0.02
Deadband	Fraction of min	±0.0 minutes				
Threshold	Avg. mins delay	±0.05				
Max. Bonus	% of DC	0%				
Max. Penalty	% of DC	1%				

Source: IAA

Submissions on the En Route Incentive Scheme

14.10 While AirNav Ireland is not opposed to the proposal not to modulate the pivot values for the En Route capacity scheme based on the annual update of the NOP, it proposes that the IAA should introduce CRSTMP modulation for the En Route capacity incentive scheme and modulate the pivot values based on the

actual CRSTMP delay during the actual year (i.e. subtract the non-CRSTMP delay both from the actual delay as well as from the pivot value) rather than the fixed pivot values set out in the Draft Decision. AirNav says this suggestion has risen due to what it refers to as '*global-wide consensus that the climate is changing*' and ensuring its protection from '*high level of weather delays*'.

14.11 The AirNav Ireland Staff Panel finds the proposed pivot values to be appropriate. However, it raises concerns that the proposed financial penalties could be '*counter-productive*' should AirNav Ireland miss its capacity targets and suffer a financial loss that would negatively impact on the terms and conditions AirNav Ireland can offer to staff. It states that missing the target would create a '*negative feedback loop*' for AirNav Ireland.

Decision on the En Route Capacity Incentive Scheme

14.12 We note that AirNav Ireland did not propose a pivot value for En Route CRSTMP delay for consideration in the Final Decision. We also note that AirNav Ireland's suggestion that climate change may lead to a major step change relative to what has been observed to date in terms of weather contribution to En Route ATFM delay has not been substantiated by evidence from AirNav Ireland. Furthermore, in the event of such a scenario materialising, the 2019 Regulation allows for the reopening of the Performance Plan in a discrete manner.

14.13 Having considered the submissions from both AirNav Ireland and the AirNav Ireland Staff Panel we have decided to retain the En Route Capacity incentive scheme as described in the Draft Decision. While the majority of historic En Route delay has been due to ANSP related delays, if we were proposing to modulate the pivot values for En Route CRSTMP delays, as suggested by AirNav Ireland, in our view this should also be accompanied by a lower CRSTMP pivot value.

Terminal Capacity Incentive Scheme

14.14 In the Draft Decision and as set out in Section 11, we set total arrival ATFM delay targets of 0.2 minutes per flight. Unlike En Route ATFM delay, the majority of arrival delay is not ANSP attributable. We therefore proposed to set Modulated pivot values of 0.1 minutes of delay per flight but limited to CRSTMP delay only. Other than that, we propose to set the parameters in the same manner as described above in relation to the En Route incentive scheme, as shown in Table 14.3.

Table 14.3: Terminal Incentive Scheme Parameters

Parameter		2025	2026	2027	2028	2029
Total delay target	Avg. mins delay	0.2	0.2	0.2	0.2	0.2
Pivot Value*	Avg. mins delay	0.1	0.1	0.1	0.1	0.1
Deadband	Avg. mins delay	0				
Max. Bonus	% of DC	0%				
Max. Penalty	% of DC	1%				

Source: IAA

**Modulated based on CRSTMP delay codes only*

Submissions on the Terminal Capacity Incentive Scheme

14.15 AirNav Ireland supports the IAA's proposal to modulate the pivot values for the Terminal incentive scheme based on the CRTSMP codes only. However, it does not agree with the decision to subtract 0.1 from the terminal capacity targets to get to the modulated pivot values, which it says, '*dramatically reduces the terminal target for the purposes of penalty calculation also for the non-CRSTMP causes*'. AirNav Ireland proposes that, similarly as for the En Route scheme, it would support modulating the pivot values based on the actual CRSTMP delay during the actual year (i.e. subtract the non-CRSTMP delay both from the actual delay as well as from the pivot value). This way, it says, it would be protected from the effect of the delay which it cannot control while the terminal targets would not be effectively cut by 50% for the delay that it can influence.

14.16 The AirNav Ireland Staff Panel states that the proposed terminal delay targets are below what it believes to be achievable by AirNav Ireland in RP4 due to '*staffing constraints*'. As with the En Route capacity incentive scheme above, the Staff Panel is concerned about the impact of the financial penalties should AirNav Ireland fail to meet the capacity targets.

14.17 AirNav Ireland remarks that the IAA has proposed to not introduce any dead bands in either of the capacity incentive schemes. AirNav Ireland says that the IAA should consider the PRB's Guidance Document which states that a tolerance margin (or dead band) is to be included as part of the incentive scheme even though it does not specify how big it should be. AirNav Ireland says that the purpose of the dead band is to protect the ANSPs from a penalty in case of a marginal difference in their performance compared to the target, as well as not to benefit from a performance that is only marginally better than the target.

14.18 Ryanair supports the IAA's position not to attribute any bonus to AirNav Ireland for reaching the target in either En Route or Terminal delays.

Decision on the Terminal Capacity Incentive Scheme

14.19 In response to the '*staffing constraints'* point raised by the AirNav Ireland Staff Panel, we are confident that the costs forecasts provided for in RP4 will allow AirNav Ireland to meet the targets as described above. Furthermore, to address

the AirNav Ireland Staff Panel's concerns around the financial implications of a penalty incentive scheme, we refer to Section 12 where we outline our findings on the financeability of the AirNav Ireland regulated entity. We find that even in the event of a downside scenario which could result in AirNav Ireland paying an incentive scheme penalty in year n+2, the effect of this would be limited to a reduction in profit.

14.20 In response to AirNav Ireland's suggestion that we further consider introducing a non-zero deadband (to both the En Route and Terminal schemes), we note that the Performance Plan does include a deadband. In both cases, the deadband has been set to zero, which is symmetric around the pivot value. We have outline above and in the Draft Decision, our reasons for setting a deadband of zero as part of a set of incentive scheme parameters which we consider to be collectively reasonable for AirNav Ireland for RP4. An equivalent reasonable outcome could be achieved by, for example, setting a lower pivot value accompanied by a non-zero deadband.

14.21 We do not agree with AirNav Ireland's submission that the proposed construction of the incentive scheme would '*dramatically*' reduce the terminal incentive scheme target. We proposed to set a CRSTMP-only pivot value of 0.1, rather than a total delay pivot value of 0.2. In making this point AirNav Ireland appears to be comparing a CRSTMP-only target, with a total delay target. AirNav Ireland has not provided any evidence, and we do not otherwise see any evidence, to suggest that setting the incentive scheme such that a penalty starts to become payable if CRSTMP delay exceeds 0.1 mins is unreasonable or cannot be achieved by AirNav Ireland. This expectation of AirNav Ireland's ability to meet the targets is consistent with our approach to cost forecasts.

14.22 As a result, we have decided to retain the parameters of the Terminal Capacity incentive scheme as laid out in the Draft Decision.

Environment KPA

14.23 As set out in Section 10, we set the KEA targets in line with the national reference values. We acknowledged in the Draft Decision that more work is needed to establish the key drivers of KEA performance attributable to the ANSP, before any associated incentive scheme could be adopted. AirNav Ireland should only be financially incentivised to reduce KEA that is within its control, and without this information, it is difficult to implement a fair and effective incentive scheme.

14.24 We also note that a number of new environmental indicators will be trialled over RP4, with a view to potentially being used for target setting in the future. In that context, we see no basis to implement an environment KPA incentive scheme at this time.

Submissions on the Environment Incentive Scheme

14.25 The AirNav Ireland Staff Panel finds it appropriate that no financial incentive scheme is proposed for the environment KPA given that many factors affecting

the KEA are outside of AirNav Ireland's control.

Decision on the Environment Incentive Scheme

14.26 In line with the Draft Decision, we have not implemented an environment KPA incentive scheme for RP4.

15. Appendix: Capex projects with updated information

Introduction

15.1 A number of verification questions and requests for further information were outstanding at the time of publishing the Draft Decision. This section outlines the projects where additional information was provided by AirNav Ireland following publication of the Draft Decision. Supporting materials were not available for every request we submitted (due to timing/procurement processes etc.) and we account for this degree of uncertainty in the programme level reduction of 20%.

15.2 Our draft analysis of each project in AirNav Ireland's investment programme is covered in Appendix 1 of the Draft Decision. This section concludes our assessment of projects where new information has become available since the Draft Decision. Where we do not further address one of the projects in the investment programme, that is because there was no outstanding verification requests nor submissions on that project in response to the Draft Decision, and consequently our analysis remains as stated in the Draft Decision appendix.

15.3 Ryanair's submission was the only reply to refer directly to specific projects and we have responded to this in Section 6 above.

Property, Security and Sustainability projects (Appendix 1)

Essential Security Hardening Works and Services- Proposed Cost €0.9m

15.4 Following publication of the Draft Decision, AirNav Ireland submitted a project sheet for '*essential security hardening works and services*' at AirNav Ireland Facilities at The Times Building, Dublin Air Traffic Control Centre, Cork Air Traffic Control Centre, Shannon Air Traffic Control Centre and Ballycasey Centre.[34]

15.5 The project follows from the recommendations of an independent risk assessment of AirNav Ireland's critical assets and areas and will include additional investment in perimeter protections, CCTV analytical solutions for detection and tracking, building hardening of security doors and windows, room hardening of doors and access control units, and equipment hardening with inner protections such as caging, grillage or demarcation of areas with separation partitions etc.

15.6 The primary driver of the project is to ensure safety through adequate protection of AirNav Ireland facilities and equipment and replacement of security systems which AirNav Ireland has said are nearing end of life.

15.7 Although this project is expected to be delivered during the time period of RP4, due to its late submission we will not be adding its associated costs into the determined costs for RP4. As we mentioned in the Draft Decision, considering AirNav Ireland's CAPEX projects on a programme level affords it a level of

[34] The project was referenced in AirNav Ireland's response to consultation document.

flexibility in project delivery. Consequently, AirNav Ireland may use the Capex flexibility which we afford it in order to deliver this project.

Technical Services & Operations Projects (Appendix 3)

RP4-SURV-04 Radar Upgrade Phase 2- Proposed cost €22m*

15.8 This major project forms part of AirNav Ireland's national radar upgrade programme. The first phase of radar upgrades began in RP3. Phase 2 is planned to involve the upgrade of the remaining four radar sites (Shannon, Cork, Dublin Radar 3, Mount Gabriel 2) to RSM 970 NG models, including the three combined airport radars.[35] Radar subsystems, such as radar antennas, radomes and ancillaries at all 8 radar sites will be addressed in this phase.

15.9 We had asked AirNav Ireland to provide us with more detail underlying the cost basis for this major project. Since publication of the Draft Decision, AirNav Ireland provided us with a Rough Order of Magnitude offer from the supplier. The quotation received reflects the proposed cost in AirNav Ireland's Business Plan (with an additional 10% to allow for additional costs for ancillary services during installation e.g. crane hire).

15.10 As it is in line with the asset life we proposed for phase 1 of the radar upgrades in RP3, we agree with AirNav Ireland's proposed asset life of 12 years.

W002 RADAR Overhaul – Remote Control and Monitoring System (RCMS) Phase 1- Proposed cost €4m

15.11 Phase 1 of the national radar upgrade project, which is continuing from RP3 addresses the upgrades of the oldest 4 of these 8 radars, at Woodcock Hill, Malin, Dooncarton and Mt. Gabriel 1.

15.12 The project cost is inclusive of the cost of upgrading the Remote Control and Monitoring System (RCMS) for all radars. Following publication of the Draft Decision, AirNav Ireland also provided us with a supplier quotation which supports its Business Plan cost estimate for this project.

15.13 The proposed asset life of 12 years for this project in RP3 is retained.

R016 Met Server: Shannon, Cork and Dublin - Proposed cost €3m

15.14 The aim of this project is to ensure the availability of accurate Local Airport Weather information by upgrading the existing METREP function in COOPANS. This upgrade was completed in the Dublin control centre during RP3.This project is linked to the AMAP project which has been delivered by MET ASD which covers the new MET sensors at each airfield and runway (Dublin, Cork and Shannon).

15.15 We asked AirNav Ireland to provide further details on why the cost estimate had been revised upward from €1.8m in RP3. Following publication of the Draft

[35] https://www.thalesgroup.com/en/markets/aerospace/air-traffic-management/surveillance/rsm-ng

Decision, AirNav Ireland stated that the scope of the project in Dublin was expanded to include '*contingency wind*' and provide an additional Automatic Terminal Information Service (ATIS) service for the new north runway 28R/10L, which increased the cost.

15.16 The need for the addition of the contingency wind feature arose when the MET sensors installed on the north runway, required for wind speed and direction could not connect to the displays at Dublin ATC due to a delay in the joint MDP/AMAP project being delivered by AirNav Ireland and MET Eireann. The contingency wind solution was developed to provide the minimum requirement of displaying wind speed and direction for the Northern Runway at ATC positions in the ACC and Tower in time for the O-Date of the North Runway in August 2022.

RP4-COMM-01 Midlife Upgrade for CEROC Main R&S VCCS – Proposed cost €2m

15.17 This project involves a midlife upgrade of the CEROC main Rohde & Schwarz Voice Communication and Control Systems (VCCS). Works will include the upgrade of COTS (Commercial off the shelf) hardware (servers, switches, routers, gateways, operating working positions, firewalls, etc.) to enable continued support from the manufacturer due to the end of life of hardware, and software/firmware upgrade to allow control and interaction with VHF radios.

15.18 We asked AirNav Ireland to provide further detail underlying the cost proposal for this project. Following the Draft Decision, AirNav Ireland provided us with a supplier quotation for the hardware upgrades which amounted to over half of the proposed cost. The remainder of the budget (which reflects the proposed cost) is allocated to network upgrade equipment, installation and ancillaries and 10% contingency (including inflation).

RP4-COMM-03 Dublin & Ballycasey CVF VCCS Replacement - Proposed cost €0.75m

15.19 This RP4 project covers the cost to the modification of the Ballycasey CVF to be able to accommodate the new planned VCCS installation and the process of extending the VCCS into the current Dublin CVF for contingency and training purposes. AirNav Ireland provided us with a supplier quotation and an estimate for installation costs which informed the cost proposal for this project.

RP4-NAVG-01 Doppler VHF Omni Directional Range (DVOR)/Distance Measuring Equipment (DME) – Proposed cost €3m

15.20 DVOR/DMEs are used to support En Route services in the event of a Global Navigation Satellite System (GNSS) failure, and act as conventional navigational aids. The existing DVOR/DMEs were installed between 2006 and 2008 and AirNav Ireland says they are approaching end-of-life with some components of the systems now obsolete.

15.21 We asked AirNav Ireland to clarify why the cost of a DVOR for Knock Airport was included in its Business Plan. It stated that, while the equipment is located

adjacent to Knock Airport, it is an En Route directional marker which covers the airspace in the North-West of Ireland. AirNav Ireland also provided us with a supplier quotation which was slightly below the proposed cost in the Business Plan. AirNav Ireland explained that the quotation only includes the cost of the equipment to be replaced and not any civil works which will be required for a replacement counterpose/ cabling and power.

RP4-COMM-06 MEP EVCS Mid-life Upgrade - Proposed cost €1.75m

15.22 This project will deliver a mid-life hardware upgrade to the MEP Emergency Voice Communications Switch (EVCS) at all AirNav MEP EVCS systems. This mid-life upgrade will maintain the equipment ahead of an anticipated full replacement in RP5. AirNav Ireland has since provided us with a supplier quotation which is marginally below the proposed cost in its Business Plan for this project.

RP4-COMM-07 VOIP Skysoft Recording System- Proposed Cost €0.5m

15.23 This minor project will deliver Skysoft '*off the glass*' recording system upgrades at Dublin ACC and Ballycasey ACC, a replacement of the system at Shannon tower and a new *'off the glass'* recording system at Cork tower.

15.24 AirNav Ireland has provided us with quotations for the equipment at Shannon Tower, Ballycasey and Cork Tower. The Dublin upgrade quotation was not available ahead of this decision, but we estimate that the cost of the equipment amounts to approximately €0.225m. AirNav Ireland did not provide any additional information on the other 'works' that would be covered under the project cost.

U008 Independent IP Network - Proposed cost €0.5m

15.25 The purpose of this minor project is to establish an independent IP network that will mitigate the loss of the Nokia Backbone and support ongoing safe operation of the operational COOPANS, VCS and CASDS systems.

15.26 When asked about the underlying cost basis for this project, AirNav Ireland stated that, as this Independent Network's primary goal is related to contingency, the equipment costs are estimated at 40% of that of the main network. This equates to 32 circuits (current Backbone Network) at €7,000 each. It estimated that this would amount to a cost of €250,000 in 2 years' time. AirNav Ireland did not provide any further information on how it arrived at a total cost of €0.5m for this project.

W005 ISMS (Information Security Management System) - Proposed cost €1.2m

15.27 Regulation 203/2023 requires AirNav Ireland to build an Information Security Management System (ISMS) to be implemented by February 2026. The regulation also imposes a requirement to analyse 'events' that may potentially impact the safe performance of the ATM system - requiring AirNav Ireland to implement a Security Incident Event Manager (SIEM Solution).

15.28 We asked AirNav Ireland to explain what was driving the proposed increase in cost of the SIEM Solution from €0.33m in RP3 to €0.72m in RP4. It stated that the initial SIEM budget was to integrate into the Cyber LAB: Security Test & Validation and to roll this out to the overall ATM systems would require additional CAPEX in respect of the SIEM system itself. It also stated that Regulation 203/2023 (Part-IS), which is due to come into effect in Q1 2026, has driven up the scope/cost for the ISMS project.

Z001 COOPANS TopSky ATC One Platform Upgrade- Proposed cost €54.9m*

15.29 Under the '*Technical Services & Operations Projects (Appendix 3)*' of Appendix one in the Draft Decision we set out full details of this major project.

15.30 This flagship project for AirNav Ireland will provide for a new ATM system which will enhance performance under all four KPAs. enable longer term SES alignment, and compliance with CP1. The system is being procured via the COOPANS alliance. COOPANS is a partnership between AirNav Ireland and five other ANSPs, as well as the ATM systems supplier, Thales, for the delivery of ATM systems and functionality intended to steadily enhance safety and productivity.

15.31 In response to our question around how it has estimated hardware and local costs of TopSky ATC One, AirNav Ireland has said that COOPANS partners have estimated a cost of €5m per ACC installation of TopSky ATC One. Given that AirNav Ireland has said that it will need to install the new system in 10 different centres it estimates hardware costs of €12.5m including inflation for three ACCs, two towers, validation and contingency rigs. Approximately €10.3m of this cost is capitalised in 2026.

15.32 As outlined in Section 6 above we have amended the asset life of this project from 8 years in the Draft Decision to 12 years.

R035 I-ATS – Proposed cost €0.7m

15.33 In RP3, AirNav Ireland introduced an Integrated Air Traffic System (I-ATS) at the new Dublin Airport control tower. Airport Collaborative Decision-Making (A-CDM) trials with Eurocontrol have identified a number of A-CDM issues, which need to be rectified to enable the system to be fully A-CDM compliant. This project is intended to deliver software updates to the I-ATS system and A-CDM compliance.

15.34 AirNav Ireland has since provided further details on how the enhancements delivered by this project will enhance safety, and also the supplier quotation to deliver the ACDM enhancements, which is slightly below the proposed cost for this aspect of the project in AirNav's Business Plan.

RP4-FDPS-02 Aeronautical Information Management (AIM) System Upgrade- Proposed cost €1m

15.35 Aeronautical Information Management (AIM) ensures that accurate and up-to-date information is available to pilots, air traffic controllers, and other aviation

professionals. This project is to provide software upgrades and replace hardware to facilitate the migration to the Eurocontrol eEAD system.

15.36 AirNav Ireland has explained that the cost estimate is made up of €0.2m for hardware costs (including workstations, servers, routers etc.), an allowance for software costs (which is not yet known to AirNav Ireland) and the cost of a new interface to daa for the provision of digital Aeronautical information for online validation and publication via SWIM in compliance with the CP1 regulation. As the cost of the software provided by EAD is not yet known, the overall cost proposal for this project remains uncertain at this point.

RP4-FDPS-03 Centralised Monitoring System (CMS) System Upgrade- Proposed cost €0.9m

15.37 The Centralised Monitoring System (CMS) integrates a number of monitoring systems from AirNav functional systems to provide a reduced number of Human Machine Interfaces (HMIs) at the technical control desk. This project will deliver a hardware replacement and software refresh during RP4.

15.38 AirNav Ireland has said that the cost estimate is based on previous CMS system upgrades and hardware prices and has provided us with an upgrade contract from 2019 as an example of works delivered at the Dublin Tower. It noted that the RP4 project involves the total replacement of equipment at Dublin, Ballycasey, Cork and CEROC which it estimates will cost eight times that of the 2019 project.

RP4-FDPS-04 CASDS Refresh- Proposed cost €4.5m

15.39 The Contingency Air Situation Display System (CASDS) is a contingency ATM system to be used in the event of a major failure of the COOPANS system. As per the associated project outlined below, the old Emergency Air Situation Display System (EASDS) will be replaced during RP4 by CASDS, and the purpose of this project is to refresh that new CASDS towards the end of RP4 to cater for security and regulatory amendments, and to maintain the system.

15.40 In response to our question on the need for such a significant upgrade project two years after a new underlying system is itself expected to be delivered, AirNav Ireland has said that as the main ATM system HMI in Topsky ATC One is being significantly modified in 2028 and 2029, the CASDS HMI system will need modification to mirror the transition to Topsky ATC One. To deploy the new CASDS system in 2026, AirNav Ireland has said it is necessary to purchase the hardware in 2024 for FAT and SAT validation and training. It further stated new regulations deadlines will occur in the RP4 period up to 2029, some of which may need to be deployed in the CASDS system.

*U002 COOPANS Roadmap Builds (Dublin and Shannon) *- Proposed cost €8m*

15.41 This major project, which is continuing from RP3 with no change in cost, provides for the next round of COOPANS builds, intended to provide further functionalities to the ATM systems to enhance efficiency and safety. The project will deliver new releases of the COOPANS platform including new software and

hardware at Dublin and Shannon.

15.42 Given the significant investment involved with the delivery of the TopSky ATC One system, we asked AirNav Ireland how the other COOPANS builds interrelate with the new ATM system. Since the Draft Decision, AirNav Ireland has further outlined the COOPANS hardware, software and network upgrades that are being delivered through the builds are due to various equipment reaching end-of-support pre-installation of TopSky ATC One, and the need to maintain the cyber security profile and ensure business continuity until TopSky ATC One becomes operational.

U003 Contingency Air Situation Display System and Simulator for Dublin and Shannon (CASDS)- Proposed cost €9.5m*

15.43 The purpose of this major project is to replace the current Emergency Air Situation Display System (EASDS), which was introduced into operational service in 2008. As noted above, the EASDS is used as a contingency ATM system in the event of a major failure of the COOPANS system.

15.44 As outlined in Section 6 above, we have split this project into its component parts in order to set an asset life which better reflects the system's likely operational life. In keeping with an asset life we set for the Dublin Tower simulator in RP3 we retain the 8 year asset life for the CASDS simulators, but set the life of the underlying system to 12 years.

RP4-OPS-02 ASMGCS Cork & Shannon - Proposed cost €12m*

15.45 Advanced Surface Movements and Guidance Control System (ASMGCS) is a system used at airports to provide routing, guidance and surveillance for the control of aircraft and vehicles. This project is to deliver the infrastructure and technology to provide A-SMGCS at Cork and Shannon Airports. It is already in place at Dublin Airport.

15.46 We requested Order of Magnitude costings from AirNav Ireland or an explanation from where the cost was derived. It has stated that the current cost estimate is based on internal expert knowledge developed from delivering previous projects such as the North Runway and that exact pricing will be determined through the procurement process. We therefore conclude that there is a high degree of uncertainty over this project cost estimate.

RP4-OPS-04 Shannon & Dublin ACC Console Replacement- Proposed cost €1.5m

15.47 This project involves a replacement of all working positions in the Shannon En Route and Dublin operations room, on the grounds that the current equipment no longer meets modern health and safety standards.

15.48 Following the Draft Decision, AirNav Ireland provided us with supplier quotations for the consoles in both Dublin and Shannon that are considerably lower than the proposed costs in AirNav Ireland's Business Plan. AirNav Ireland explained that the variation was due to estimated inflation, a delivery charge

and the assumption that additional consoles will be in place when the equipment is ordered. We have accounted for such issues through the programme level adjustment of 20%.