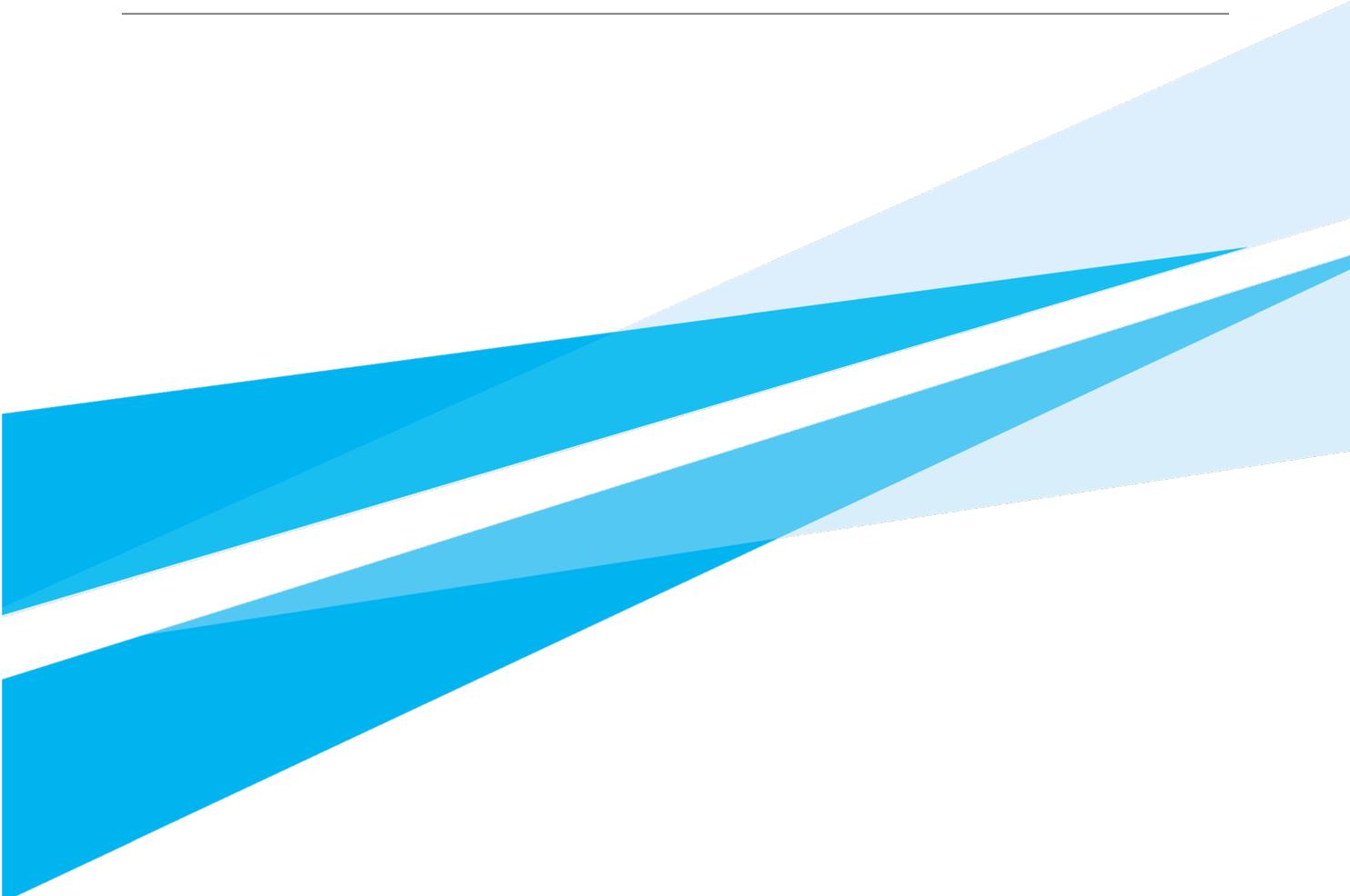


Airways' proposed pricing for the 2022-2025 period

Further information



Deadline for additional submissions: 30 May 2022

Please send submissions by email to submissions@airways.co.nz

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1. Consultation process

This document addresses submitters' requests for further information in response to the questions asked in the Consultation Document – Proposed Pricing for the 2022-2025 Period, dated April 2022 (Consultation Document). In addition to providing this further information, we are holding a workshop to give interested parties an opportunity to ask any questions and allowing submitters time to add to their primary submissions if required. Any additional submissions are to be made by 30 May 2022. All submissions received will be posted on the Airways website.

Airways will then consider all submissions before making a decision. The new pricing and responses to submissions will be published in June 2022. An indicative timeline is set out below.

Figure 1: Public consultation timeline

Dates for 2022	Consultation activity
20 May	Further information provided
23 May	Workshop, stepping through our Economic Value Added (EVA) model and answering any questions on the additional information provided
30 May	Closing date for any additional submissions
31 May	Submissions published on Airways' website
June	Submissions considered and prices finalised
30 June	Final prices and Airways' response to the submissions published
1 August	New prices take effect

1.1 Guide to making a submission

Any further submissions in response to the additional information are to be emailed to submissions@airways.co.nz. Please note that all submissions will be posted on the Airways website. This is an important step as it allows us to run a transparent consultation process and enables others to consider whether they wish to make cross-submissions. However, if you wish to provide Airways with confidential information in a submission, you must supply both confidential and public versions of your submissions. The public version will be the one published on our website. The responsibility for ensuring that confidential information is not included in a public version of a submission rests with the submitter.

2. Executive Summary

Airways has been consulting with our customers, stakeholders and the industry on our Price Reset for the period 1 August 2022 to 30 June 2025. The Consultation Document can be download from Airways' website at:

<https://www.airways.co.nz/about/performance-and-pricing/air-navigation-services-pricing-and-terms/> and within the section *Current Consultations*.

Following requests for additional information, this document provides further material on our operating costs, capital plan and EVA model to assist in your understanding. It does not provide responses to the feedback provided. Our responses to the feedback received will form part of our final decision paper which will be released at the end of June.

Airways acknowledges these are unprecedented times and we are committed to playing our part in the recovery of the industry, and the building of a safe and resilient aviation network for the future.

With the support of our shareholder, Airways has limited price increases to the extent reasonably possible to stay within our equity and funding parameters. A pathway back to profit is a requirement to meet funding obligations.

After four years of losses, our shareholder and lenders expect the company to return to profit in the 2023/24 financial year in order to maintain safe services and commit to its investment programme.

Figure 2: Economic value added

	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
	Actual	Actual	Forecast	Plan	Plan	Plan
REVENUE						
Airways' charges	172,813	122,018	129,704	183,152	238,373	245,804
Other revenue	6,373	5,494	6,058	361	365	369
	179,187	127,512	135,763	183,513	238,737	246,173
Building Blocks						
Operating costs - labour	115,204	105,973	114,355	119,239	122,437	125,703
Operating costs – other	37,514	37,642	40,125	48,184	49,113	48,482
Depreciation	29,593	23,109	26,143	30,694	35,416	38,393
Income tax	212	(3,559)	(12,658)	(4,089)	8,896	9,407
EVA Net Profit / (Loss)	(3,336)	(35,654)	(32,202)	(10,515)	22,875	24,188
Capital Charge (Commercial return)	16,260	17,205	20,310	22,099	23,103	24,188
EVA	(19,596)	(52,859)	(52,513)	(32,614)	(228)	0

If Airways were to apply its EVA framework such that EVA=0, target revenue would be \$228.5m in FY23 year. We can under recover revenue of \$45.3m and fund the losses through debt and equity while staying within our current funding limits.

The current effects of inflation and tightening labour market conditions has impacted the forward view on cost base, particularly labour costs. While collective settlements are yet to be concluded, we now expect wage inflation rates to be much higher than what was assumed in the proposed price increase to 8% in FY23.

Airways is seeking to balance the broader considerations of the industry, as we continue to recover, with the financial requirements to sustain operations. Prices will ultimately be set on the best available information as close to the reset period as practical. Forecasts and assumptions are therefore subject to change following the consultation period.

3. Operating costs

Submitters requested further breakdown of other operating costs, FTE assumptions and the inflation rates assumed in the forecast. This section focuses on the further information requested.

FY22 operating costs are lower than planned which in part is the result of cost adjustments made during the COVID-19 pandemic.

Figure 3: Change in base operating costs (excluding inflation)

	FY22 Pricing	FY22 Forecast	Proposed Plan \$m			YOY % change		
			FY23	FY24	FY25	FY23	FY24	FY25
Labour costs	120.9	114.4	116.5	117.0	117.6	1.9%	0.4%	0.6%
Other costs	48.2	40.1	45.4	44.3	42.1	13.2%	(2.4%)	(5.1%)
Total operating costs	169.1	154.5	161.9	161.3	159.7	4.8%	(0.4%)	(1.0%)

3.1 Labour costs / FTEs

Headcount was reduced during COVID-19 but pressure has come on staffing levels due to the number of in-flight projects and initiatives, roster resilience to manage COVID-19, and the contingency to move into the new operational facilities. In addition, we have an aging operational workforce which requires proactive recruitment due to the comprehensive and intensive training pathway to qualification.

Figure 4: FTEs

	FY22 Forecast	FY23	FY24	FY25
Air Traffic Services	411	423	423	423
Technology	195	205	205	205
Corporate Services	62	66	66	66
Safety and Assurance	18	20	20	20
Total	686	715	715	715

The Air Traffic Services division is a mix of air traffic controllers (ATC), flight service staff and management.

Submitters requested further information on resources used for project work and if we expect any changes in FTE numbers when we complete the move into the new operational facilities. We list these questions and responses below:

***Are staff that are engaged to run projects taken from operational rosters at ATC salary levels?
What is the ATC resourcing plan to support projects and are these resources paid the ATC salary level?***

The majority of staff working on projects are not ATC operational staff. When specialist ATC involvement is required for projects, a secondment-type arrangement is generally put in place for the period required. We also have a small team of specialists that permanently sit within our Technology division to provide operational ATC expertise and subject matter expert input. These specialist staff fall under the terms of the ALPA ATC Collective Agreement and are paid accordingly.

If project staff are sourced externally, are they contracted only for the term required?

Project staff are primarily sourced internally. In limited circumstances subject matter experts will be brought in to fill skill gaps. Airways' Project Management Office is largely outsourced, which allows us to scale as required.

Can we expect a lower FTE count once the move into new operational facilities has been completed and there is no longer a 'bow-wave' of operational staff required to run programmes such as 'ghosting'?

The transition into the new facilities will not change the number of operational staff required as we have been able to accommodate the transition within current operational capacity. There will be less pressure on the resource pool once the move to the new buildings is complete, however, there is a need to bring in trainees in anticipation of likely future retirements.

There may be some marginal changes to staffing levels once other key initiatives are delivered, however, these would only be in limited instances where we have additional staff for a particular project.

Are baseline ATC FTE numbers expected to increase, decrease or remain stable throughout the pricing period?

Baseline ATC FTE numbers are expected to remain relatively stable during the pricing period. Changes to staffing levels would mainly be driven by changes to services and operating shifts. No material change is contemplated over the pricing period.

Will ATC salaries be reduced through replacement of the ageing workforce by recruits on lower pay bands?

The ALPA ATC Collective Agreement does reference tenure, therefore, new recruits generally do start on lower pay bands than staff leaving the workforce. However, any reductions in cost associated with changes in the staffing mix would likely be negligible as the remainder of the cohort will continue tenure progression.

3.2 Other operating costs

This section describes the drivers of the other operating costs (excluding inflationary uplifts):

Figure 5: Other operating costs

	Proposed Plan \$m				YOY % change		
	FY22 Forecast	FY23	FY24	FY25	FY23	FY24	FY25
Equipment costs	15.1	16.3	16.4	16.5	7.7%	0.9%	0.3%
Travel costs	1.8	2.5	2.5	2.4	37.3%	(0.2%)	(0.7%)
Occupancy costs	4.3	4.3	4.3	4.3	(0.7%)	(0.2%)	(0.7%)
Information costs	5.0	5.9	5.6	5.5	18.6%	(5.2%)	(0.7%)
Professional services	2.5	2.8	2.8	2.7	9.2%	(0.2%)	(0.7%)
Corporate costs	1.6	1.5	1.5	1.5	(6.5%)	(0.2%)	(0.7%)
Intercompany charges (net)	5.7	7.6	7.8	7.6	32.6%	2.6%	(2.9%)
Initiatives	4.0	4.6	3.5	1.5	14.6%	(23.8%)	(55.9%)
Total other operating costs (Excluding inflationary uplifts)	40.1	45.4	44.3	42.1	13.2%	(2.4%)	5.1%

Equipment costs: the deferral of maintenance due to COVID-19 restrictions and aging infrastructure has resulted in a higher level of repairs and maintenance work scheduled over this period. Several end-of-life property and navigational assets will also be decommissioned.

Travel costs: expected to return to more normal levels now that restrictions have lifted, including to a number of conferences/trainings that were put on hold through the COVID-19 period.

Occupancy costs: the IL4 buildings in Auckland and Christchurch are scheduled to become operational in FY23. This will result in some duplication of costs until the current facilities can be decommissioned and existing leases terminated, although these costs have been offset by cost reductions in other areas.

Information costs: supplier price pressure has seen several of our existing, larger contracts increase at a rate higher than inflation. There are new agreements for maintenance and support contracts to cover an updated technology stack.

Intercompany charges: ab Initio recruitment and training will increase in FY23 having been paused during COVID-19.

Initiatives: key initiatives include:

- Implementation of a service management toolset – ServiceNow
- Replacement of the end-of-life accounting platform from TechnologyOne to Microsoft Dynamics
- Implementation of data centre information tool (OPEX) for rack and wiring management
- Final stage of Safety Culture Programme - implementation of Presage review findings

- SkylineX training - training costs associated with the rollout of Stripless Technology to sectors
- Training costs associated with the rollout of Electronic Flight Strips to remaining towers

3.3 Inflationary inputs

The current effects of inflation and tightening labour market conditions has impacted the forward view on cost base, particularly labour costs. While collective settlements are yet to be concluded, we now expect wage inflation rates to be much higher than what was assumed in the proposed price increase to 8% in FY23.

Due to ongoing union negotiations, we had intentionally left 'Figure 6 - Inflation assumptions ' blank in the Consultation Document. However, in response to feedback received, we confirm we had used the September New Zealand Institute Economic Research's (NZIER) Labour Cost Index (LCI) Forecast in our assumptions.

Figure 6: Inflation assumptions used in forecast

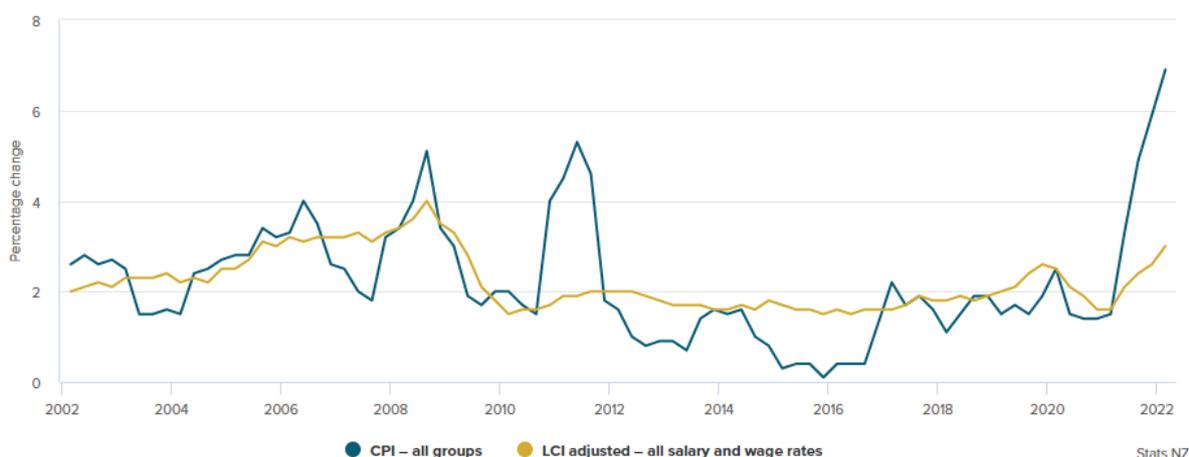
Cost type	Source	Change			
		FY23	FY24	FY25	Cumulative
ATC salaries	ATC collective settlement	2.6%	2.3%	2.1%	7.2%
	NZIER LCI forecast (Sep 21)	2.6%	2.3%	2.1%	7.2%
Other labour costs	NZIER LCI forecast (Sep 21)	2.6%	2.3%	2.1%	7.2%
Other costs	NZIER PPI (inputs) forecast (Sep 21)	5.7%	4.2%	3.3%	13.8%

The NZIER February PPI forecast is slightly down on the September forecast. This will be updated in our final prices.

Airways' approach to cost inflation is that within a pricing period, labour costs are escalated using the Stats NZ LCI. Airways then bears the risk of actual labour cost inflation differing from the LCI within the period. At the beginning of each new pricing period, year one costs are set based on actuals and thus there is a reset. That is to say, Airways bears within period cost inflation risk, but customers bear between period cost inflation risk.

In the context of the current pricing consultation, we have not yet finalised our collective agreements for air traffic controllers and the technical areas of the business, and thus we do not yet know what our actual labour costs will be heading into the new pricing period. While Airways could estimate year one costs by projecting historical costs forward using LCI, in our view, this would be likely to underestimate Airways' actual costs at the start of the new pricing period. As Figure 7 demonstrates, New Zealand is currently in the unusual circumstance of consumer price index (CPI) growth materially exceeding LCI growth.

Figure 7: LCI and CPI, annual percentage change, March 2002-March 2022 quarters



Source: StatsNZ

In the absence of the negotiations settling before we set our prices, we are considering setting year one labour costs by inflating labour costs using CPI. If actual labour costs settle at a lower level than that implied by CPI, Airways will rebate the difference back to customers, so that customers are no worse off versus a situation where Airways delayed setting prices until after the negotiations settled. Regarding within period escalation, Airways is proposing to continue with our existing approach of using LCI. It is however our intent to consult on whether LCI is the appropriate measure for within period escalation at the next pricing consultation.

The inflation rates, along with salary and wage expectations will be updated to reflect the current forecast and market conditions at the time of setting the final prices.

Submitters requested further detail regarding the methodology for calculating labour costs for the collective agreement. The collective agreement increases are negotiated using CPI as a data point and then may increase based on any value exchanges throughout the negotiation.

3.4 Risk-free rate

Submitters requested further information regarding the risk-free rate that will be used at the time of setting prices. The New Zealand Commerce Commission (NZCC) estimates the risk-free rate as the yield on Government stock. The NZCC estimates the rate as the average of the daily yields over the three-month period preceding the start of the disclosure year. Therefore the rate will be updated again to reflect the current market rate, prior to prices being set. We expect the rate will be higher than the 1.7% used in the Consultation Document. This will be confirmed in the Decision Document.

Our responses to the feedback received on other WACC inputs used will form part of our Decision Document released at the end of June.

4. Economic Value Added Model - Building block components of overall revenue

Customers requested Airways provide a Building Block Model (BBM). Airways' overall revenue has been calculated using the EVA Framework which is equivalent to applying a BBM. The EVA framework calculates overall revenue as the aggregate of costs and a commercial return (the building blocks). The EVA calculation outlining the building blocks is provided in figure 8. Further breakdown of costs is included at section 3 and the capital charge calculation is in Appendix 1.

In the FY2022/23 year we have proposed an average price increase of 8%. This increase is insufficient to cover costs and results in the negative EVA for that year. To put this in the context of a BBM, negative EVA means that Airways' expected revenue is less than the allowable revenue which would be determined by a BBM.

Figure 8: Economic value added

	2019/20 Actual	2020/21 Actual	2021/22 Forecast	2022/23 Plan	2023/24 Plan	2024/25 Plan
REVENUE						
Airways' charges	172,813	122,018	129,704	183,152	238,373	245,804
Other revenue	6,373	5,494	6,058	361	365	369
	179,187	127,512	135,763	183,513	238,737	246,173
Building Blocks						
Operating costs - labour	115,204	105,973	114,355	119,239	122,437	125,703
Operating costs – other	37,514	37,642	40,125	48,184	49,113	48,482
Depreciation	29,593	23,109	26,143	30,694	35,416	38,393
Income tax	212	(3,559)	(12,658)	(4,089)	8,896	9,407
EVA Net Profit / (Loss)	(3,336)	(35,654)	(32,202)	(10,515)	22,875	24,188
Capital charge (Commercial return)	16,260	17,205	20,310	22,099	23,103	24,188
EVA	(19,596)	(52,859)	(52,513)	(32,614)	(228)	0

The EVA will be updated to reflect the current forecast and market conditions at the time of setting the final prices.

5. Proposed capital plan

Airways has developed a capital investment plan which advances strategic objectives and ensures operational safety and resilience. Airways appreciates the constraints on the industry and that customers only want to pay for investments which are essential and required. However, deferral of investment does introduce service risk and customer disruption which we wish to avoid and minimise to the extent we reasonably can.

Many of the proposed investments are over an extended period of time. The change made to Airways' Pricing Framework removes 'work-in-progress' (WIP) from the asset base and has the effect of only charging customers for new services once they are commissioned, rather than when they are being developed. We have provided an example for the Auckland Tower Replacement project in Appendix 3 and confirm that the change in the treatment of WIP is NPV neutral.

An investment programme of \$188.3m is proposed for FY23-25. Detail of capital projects is set out in figure 10. Commissioning dates and project spend will be updated prior to setting prices.

5.1 Major investments

The major investments proposed for the period FY23-FY25 are summarised in figure 9 below.

Submitters requested further details for the capex spend during the period and clarification on the treatment of the WIP.

Figure 9 provides further detail on total key project spend and estimated commissioning dates. The commissioning date determines when the cost enters our pricing asset base. The assets do not enter the pricing asset base until such time as they are commissioned. A sample of our WIP account transfer to the asset base is provided in Appendix 2.

Figure 9: Major capital investment

Major investment (\$m)	Financial Year				Total Project	Est. Commission date
	FY23	FY24	FY25	Total FY23-FY25		
Auckland Tower replacement	7.0	10.0	10.0	27.0	34.7	Dec 2026
Regional Tower services	-	1.0	3.0	4.0	15.0	Dec 2026
Primary & Secondary Radar replacement	8.5	14.5	11.0	34.0	46.1	CH Jan 2024 AK Nov 2024 WN Sep 2025
ATC transition (IL4'S + tower upgrades)						
Airways Recorder System	0.1	0.3	0.1	0.5	1.8	May 2024
Enhanced Contingency Hot Standby Capability	-	0.5	-	0.5	1.0	June 2024
Skyline X - Future Functionality	1.0	2.0	-	3.0	3.4	Apr 2027
Skyline X - Oceanic Integration	-	-	3.0	3.0	8.0	Various
Technical Transition New Ops Facilities	0.9	0.6	-	1.5	2.4	Various

VCS Replacement	1.8	1.3	0.1	3.3	11.7	Jan 2023
VHF Comms IP Radio upgrade	0.0	-	-	-	2.7	June 2025
Drone management	1.5	1.5	3.3	6.3	10.3	June 2025 and May 2027
Total	21.0	31.7	30.5	83.1	137.1	

Commissioning dates will be revised and updated prior to setting final prices, since setting our proposed capital plan, some projects have been delayed.

Primary Surveillance Radar (PSR) & Secondary Surveillance Radar (SSR) replacement

Air New Zealand has requested the split between PSR and SSR. We have not costed the project as standalone PSRs or SSRs but rather we have costed this project as one system that performs both functions of non-cooperative (PSR) and cooperative (SSR) surveillance with many common components, infrastructure and implementation work. Therefore, if we split the \$46m investment into PSR vs SSR portions, neither portion could be delivered for the attributed investment value. As part of our RFP process, the supplier has indicated the PSR represents two-thirds of the cost. However, \$29m will not be enough for three standalone PSRs. Similarly, \$17m will not be enough for three standalone SSRs.

Auckland Tower Replacement Project

Submitters requested further details on the plan for the proposed tower.

The Auckland Tower is an aging asset and is due for replacement by the end of 2026. Any extension to this timeframe will require further investment in the asset.

The Auckland Tower Replacement Project was in flight prior to COVID-19, with the scope defined as the delivery of a digital solution for the contingency suite in this first instance. We were aiming to develop a full digital replacement for the tower should this technology and concept be sufficiently proven through the implementation of the contingency option.

Airways is currently considering three options to replace the current asset:

- A conventional tower (in new location)
- A hybrid solution, combining a smaller conventional tower augmented through digital technologies
- A fully remote digital tower

All avenues for the development and deployment of these options are currently underway. At the appropriate time, Airways will engage with industry on the different options.

Airspace optimisation

Qantas requested more information and detail on the proposed sectorisation changes.

This project is aimed at identifying and delivering efficiencies to our customer base through enhancing safety and providing more efficient air traffic management via route design and management procedures. One particular target area is where we may be able to further enhance efficiencies by reducing fuel burn and subsequent CO2 emissions, along with having a more flexible and dynamic use of the airspace and its management.

End-of-life property and navigational assets

Air New Zealand noted in its submission that it supports the rationalisation of en route assets, and the transition to GNSS as the primary means of navigation. They requested a roadmap setting out our plans to decommission end-of-life property and navigational assets. We set out this roadmap below:

Decommissioning NDBs:

- FY23 Waiuku and Surrey
- FY25 Paraparaumu and Whakatane

Decommissioning DME:

- FY23 Tory

Commission DME:

- FY23 Kaikoura

Commission DVOR/DME:

- FY23-24 Kaitaia, Tauranga, Hokitika

5.2 Investment by location

The major capital investments by service and location are summarised in figure 10 below:

Figure 10: Capital investment by service and location

Service and Location (\$m)	Financial Year			Total
	FY23	FY24	FY25	
Major investment (per figure 8)	21.0	31.7	30.5	83.1
Auckland	2.1	3.2	0.2	5.6
Christchurch, Wellington, Queenstown	2.9	7.9	8.1	18.9
Regional aerodromes	3.1	2.5	7.9	13.4
En-route	4.9	4.7	6.2	15.8
National operations	25.4	12.8	12.8	51.0
Other (Kapiti, Milford & unattended)	0.5	0.0	0.0	0.5
Total	\$59.7	\$62.9	\$65.7	\$188.3

Submitters requested a further breakdown of the \$51m for national operations in the above table. We have categorised the total capital plan by the locations in figure 11 below.

Figure 11: Capital Investment FY23 to FY25

Capital Programme (\$m)	Financial Year			Total	Est. Commission Date
	FY23	FY24	FY25		
Major investments	21.0	31.7	30.5	83.1	
Auckland tower replacement	7.0	10.0	10.0	27.0	Dec-2026
Regional digital tower	-	1.0	3.0	4.0	Dec-2026
Primary / secondary radar replacement	8.5	14.5	11.0	34.0	Various
ATC transition (IL4'S + tower upgrades)	3.9	4.7	3.2	11.8	Various
Drone Management	1.5	1.5	3.3	6.3	Jun 25 and May 27
Auckland	2.1	3.2	0.2	5.6	
MLAT Lifecycle	-	3.1	-	3.1	May-2024
AAOC Site Complex - life extension	1.0	-	-	1.0	Jun-2023
Minor capital works, less than \$0.75m	1.1	0.2	0.2	1.5	Various
Christchurch, Wellington and Queenstown	2.9	7.9	8.1	18.9	
QN & South Area MLAT Lifecycle	-	-	6.8	6.8	May-2025
ILS Replacements (WN)	-	4.3	-	4.3	May-2024
MLAT Network Lifecycle	0.5	0.5	0.5	1.5	Various
Stop Bars & TWY Reconfigure	0.9	0.5	-	1.4	Jun-2024
1kV Infrastructure -Switchgear, transformers and power cable replacement	0.5	0.8	-	1.3	May-2023
Generators for new Radar Sites	0.4	0.8	-	1.1	Oct-2024
Minor capital works, less than \$0.75m	0.6	1.0	0.8	2.4	Various
Regional Aerodromes	3.1	2.5	7.9	13.4	
ILS Replacements (DN)	-	-	4.3	4.3	Jun-2025
Regional Tower UPS Replacements	-	-	1.7	1.7	Apr-2025
Reils Replacement at NV, PM, GS,	0.4	0.7	0.5	1.6	Various
Runway Edge Lights replacement (NV, NS, AP)	0.3	0.4	0.4	1.1	Various
Windsock Replacements	0.8	-	-	0.8	Jun-2023
Minor capital works, less than \$0.75m	1.7	1.4	1.0	4.0	Various

Enroute	4.9	4.7	6.2	15.8	
New DVOR/ DME Construction at Kaitaia, Hokitika and Tauranga.	2.4	2.4	-	4.9	May-2024
5 DVOR/DME Sites (LX,WS,TU,AP,WR) GBNA MON	-	-	4.2	4.2	Removed from plan
DB upgrade of 58 Nav sites around NZ	0.3	0.4	0.5	1.2	Various
Radio Links (Microwave) Lifecycle	0.3	0.6	-	0.9	May-2024
Field Test Equipment Lifecycle	0.3	0.3	0.3	0.8	Various
Minor capital works, less than \$0.75m	1.6	1.0	1.3	3.9	Various
National Operations	25.4	12.8	12.8	51.0	
AIM Replacement HW/SW	5.0	-	-	5.0	Jun-2023
National ATM System Enhancements Lifecycle	1.5	1.5	1.6	4.6	Various
MPLS Network Lifecycle	2.0	1.1	-	3.1	Various
Networks and Security	-	0.6	1.6	2.2	Various
Christchurch Campus Refresh (Buildings)	2.0	-	-	2.0	Jun-2023
IP MUX Lifecycle	-	-	2.0	2.0	May-2025
IT & SM Asset Update	1.1	0.4	0.4	1.9	Various
IT & SM Desktop Refresh	0.6	0.6	0.7	1.8	Various
ATM System Implementation	1.5	0.2	-	1.7	Feb-2023
Enterprise Network Lifecycle (Corporate)	-	1.7	-	1.7	May-2024
NOC Network Lifecycle	1.1	0.5	-	1.6	Various
SkylineX – Oceanic Hardware Refresh	0.5	0.7	-	1.2	Jun-2024
Maintenance Vehicle Replacement Lifecycle	0.3	0.3	0.5	1.1	Various
Electronic briefing system for operational staff (OIDS)	1.0	-	-	1.0	Jun-2023
Network Lifecycle (Operations)	0.5	0.5	-	1.0	Various
Consolidated Access Network	0.9	-	-	0.9	May-2023
SDWAN - Implementation	0.3	0.3	0.3	0.8	Various
PAM Lifecycle	0.1	0.2	0.5	0.7	Various
Edge Network Lifecycle	-	-	0.6	0.6	May-2026
Campus Network Lifecycle	-	-	0.6	0.6	May-2026
Zero Trust. Deploy Clearpass and replace non-802.1x switches	0.2	0.2	0.3	0.6	Various
DCIM Solution Implementation	0.6	-	-	0.6	May-2023

EBS Security Monitoring Lifecycle	0.3	-	0.3	0.5	Various
EBS Server Upgrades	0.3	-	0.3	0.5	Various
Digital NOTAM Implementation	-	0.5	-	0.5	Apr-2024
Remote Access to network devices	0.3	0.3	-	0.5	Dec-2024
Skyview System Refresh (ATAC)	-	0.5	-	0.5	May-2024
Minor capital works, less than \$0.5m	5.6	2.9	3.4	12.0	Various
Other (Kapiti, Milford & Unattended)	0.4	0.0	0.0	0.5	
Milford Tower Operations	0.3	0.0	0.0	0.3	Jun-2023
Unattended Aerodromes	0.2	-	-	0.2	May-2023
TOTAL	59.7	62.9	65.7	188.3	

National operations

Many of these works are lifecycle replacements required to ensure that we keep up-to-date in terms of our network and system security, maintaining supportable hardware and software platforms, and providing the latest relevant application software. These projects support our efforts to maintain the required levels of system resilience and operational service. Key projects include:

Aeronautical Information Management (AIM) system

Replacement of the AIM required on aircraft flight decks and air traffic control. The AIM system provides the following functionality:

Static Data Operations. All New Zealand static aeronautical data (e.g. Aerodromes, Routes, waypoints, FIRs) is maintained in the AIM system. This data is used for:

- Generating the NZ AIP
- Generating charts
- Procedure design
- NOTAM Management (see below)
- Generation of Pre-flight Briefings (see below)

Note: New Zealand Static data is provided to the European Aeronautical Database (EAD) and in return we get Static Data for the rest of the world supplied as a reduced cost. This data is required to enable storage of NOTAM for the rest of the world so that pre-flight briefings can be provided for international flights.

NOTAM Management.

- Generation, storage, and distribution of New Zealand A, B and P Series NOTAM
- Reception, storage and distribution of 'Rest of the World' NOTAM

MET Management. The AIM system is used for the storage and distribution of the following types of meteorological reports including METAR, TAF, SIGMET & ATIS reports.

Pre-flight briefings. The AIM system is used to generate/distribute a number of types of pre-flight briefings, e.g. Aerodrome, Area, Route and Narrow Route. These can also include MET and ATIS reports.

National ATM System Enhancements Lifecycle

The Skyline-X and Oceanic ATM systems are continually being enhanced to incorporate changes requested by operations in the form of RFC's (Request For Change). These changes go through a change management process to ensure they meet the threshold of value, efficiency and safety. They are requested usually to enhance safety, efficiency or changing business requirements. There are also some changes mandated by the regulator.

MPLS Network Lifecycle

Airways deployed a Multi Protocol Label Switched (MPLS) network in 2013-14 and we have incrementally enhanced it since then. This type of network is used globally by mission critical entities to deliver the most robust resilience for demanding applications like Air Traffic management. Most ANSPs use MPLS as a core network technology for that reason. Like any system we use, the equipment goes to end-of-life eventually. This project seeks to enhance the lifecycle of that network to ensure that it will continue to reliably deliver all of our core aviation systems traffic into the future.

MPLS delivers all our current operational services, and it needs to continue to be secure and functional as that traffic increases both in volume and in the mixture of services. For example, digital towers demand very high volumes at low latency. This project addresses these by modernising this existing network.

Networks and Security

This work is part of a suite of initiatives aimed at improving Airways' network performance and cyber security. This particular aspect is concerned with life-cycling and/or replacing more than 30 of our older firewalls that protect and segregate parts of our operational network. These are nearing end-of-life and will not be supported by the vendor after that occurs. The work involves some redesign to make these function efficiently with our new core network, and to enable them to be centrally managed in a more effective way. This includes the way alarms are handled.

In order to maintain security and be able to respond to faults, we need to have fully supported equipment. These need to be centrally managed so that we can respond as promptly as possible to issues and alerts.

Appendix 1 – Economic Value Added (EVA) model

Economic value added model

	Forecast FY22	Budget FY23	Budget FY24	Budget FY25
Manual Inputs				
<i>Capitalised interest - closing asset balance</i>	8,858	9,286	8,482	7,678
<i>Capitalised interest - annual depreciation</i>	546	804	804	804
<i>Historic impairments</i>	234	234	234	234
Total Capital Employed:				
Total Current Assets (excl. FX reval)	21,951	29,162	30,226	30,843
PPE	222,957	256,134	288,134	321,227
Less WIP	(10,490)	(29,293)	(36,196)	(54,073)
Capitalised lease assets	65,188	61,701	65,421	61,142
Other NC Assets (excl. derivatives)	1,998	1,998	1,998	1,998
Employee Entitlements (excl. leave liability)	(3,829)	(4,943)	(6,089)	(7,266)
Tax Asset	12,102	2,850	(7,614)	(7,763)
Other Current Liabilities (excl. derivatives)	(447)	(447)	(447)	(447)
Trade and Other Payables	(6,037)	(6,730)	(6,881)	(6,889)
Backout capitalised interest	(8,858)	(9,286)	(8,482)	(7,678)
Writeback of historic impairments	234	234	234	234
	294,768	301,381	320,303	331,327
WACC	6.55%	7.01%	7.01%	7.01%
Capex (based on commissioning dates)	88,436	41,678	57,354	50,354
NOPAT	(34,905)	(14,742)	19,298	20,903
Add back interest (net of tax)	2,356	3,649	2,999	2,707
Add back depn on capitalised interest (after tax)	393	579	579	579
Less capital charge Capex (6 months)		(1,436)	(1,976)	(1,735)
Less capital charge Opening balance	(20,357)	(20,663)	(21,127)	(22,453)
Total Capital Charge	(20,357)	(22,099)	(23,103)	(24,188)
EVA	(52,513)	(32,614)	(228)	0

Appendix 2 – Transfer of WIP to asset base (example for key projects)

Total to transfer to fixed assets:			FY23	FY24	FY25	FY26	FY27
			\$ 41,678,220	\$ 57,354,167	\$ 50,353,642	\$ 62,154,500	\$ 122,170,376
	Commissioning date	Project commissioned in	FY23	FY24	FY25	FY26	FY27
Auckland Tower Replacement	30/12/2026	FY27	-	-	-	-	41,253,539
Regional Tower services	31/12/2026	FY27	-	-	-	-	16,011,229
Primary & Secondary Radar replacement CH	30/01/2024	FY24		15,358,774	604,289		
Primary & Secondary Radar replacement WN	30/09/2025	FY26				14,595,789	659,722
Primary & Secondary Radar replacement AA	30/11/2024	FY25			14,754,485	103,264	
Drone Management	31/05/2027	FY27	-	-	-	-	6,224,307
Drone Detection	30/06/2025	FY25	-	-	4,822,821	-	-

Appendix 3 – Worked example for change in WIP treatment

Auckland Tower Replacement Project

Commission date 30/12/2026

WIP Account	FY22	FY23	FY24	FY25	FY26	FY27	Total
Spend by year	600	7,000	10,000	10,000	6,500	600	34,700

WACC Return

FY22	621	664	711	761	814	842	
FY23		7,241	7,749	8,292	8,873	9,179	
FY24			10,345	11,070	11,846	12,254	
FY25				10,345	11,070	11,451	
FY26					6,724	6,956	
FY27						600	

WIP Account	621	7,905	18,804	30,467	39,327	41,282	
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WACC	7.01%
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Current Calculation

	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
Opening NBV	-	-	-	-	-	-	39,741	36,659	33,577	30,496	27,414	24,333	21,251	18,169	15,088	12,006	8,924	5,843	2,761
Capex						41,282													
Depn					-	1,541	3,082	3,082	3,082	3,082	3,082	3,082	3,082	3,082	3,082	3,082	3,082	3,082	2,761
Closing NBV	-	-	-	-	-	39,741	36,659	33,577	30,496	27,414	24,333	21,251	18,169	15,088	12,006	8,924	5,843	2,761	-
WACC					7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%
WACC Return					-	1,422	2,786	2,570	2,354	2,138	1,922	1,706	1,490	1,274	1,058	842	626	410	194
Total Cashflow					-	2,963	5,867	5,651	5,435	5,219	5,003	4,787	4,571	4,355	4,139	3,923	3,707	3,491	2,955
Discount rate					7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%
Discount factor					0.74	0.69	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.40	0.37	0.35	0.33	0.31	0.29
NPV					-	2,041	3,777	3,400	3,056	2,742	2,456	2,196	1,960	1,745	1,550	1,373	1,212	1,067	844
Sum of NPV	29,419																		

Previous Calculation

	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
Opening NBV	-	600	7,600	17,600	27,600	34,100	33,405	30,815	28,224	25,634	23,044	20,453	17,863	15,273	12,682	10,092	7,502	4,911	2,321
Capex	600	7,000	10,000	10,000	6,500	600													
Depn						1,295	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,590	2,321
Closing NBV	600	7,600	17,600	27,600	34,100	33,405	30,815	28,224	25,634	23,044	20,453	17,863	15,273	12,682	10,092	7,502	4,911	2,321	-
WACC	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%
WACC Return	21	283	877	1,578	2,159	2,411	2,342	2,160	1,979	1,797	1,615	1,434	1,252	1,071	889	707	526	344	163
Total Cashflow	21	283	877	1,578	2,159	3,706	4,932	4,750	4,569	4,387	4,206	4,024	3,843	3,661	3,479	3,298	3,116	2,935	2,484
Discount rate	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%	7.01%
Discount factor	0.97	0.90	0.84	0.79	0.74	0.69	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.40	0.37	0.35	0.33	0.31	0.29
NPV	20	256	741	1,245	1,591	2,553	3,175	2,858	2,569	2,305	2,065	1,846	1,647	1,467	1,303	1,154	1,019	897	709
Sum of NPV	29,419																		

NPV Variance	-
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