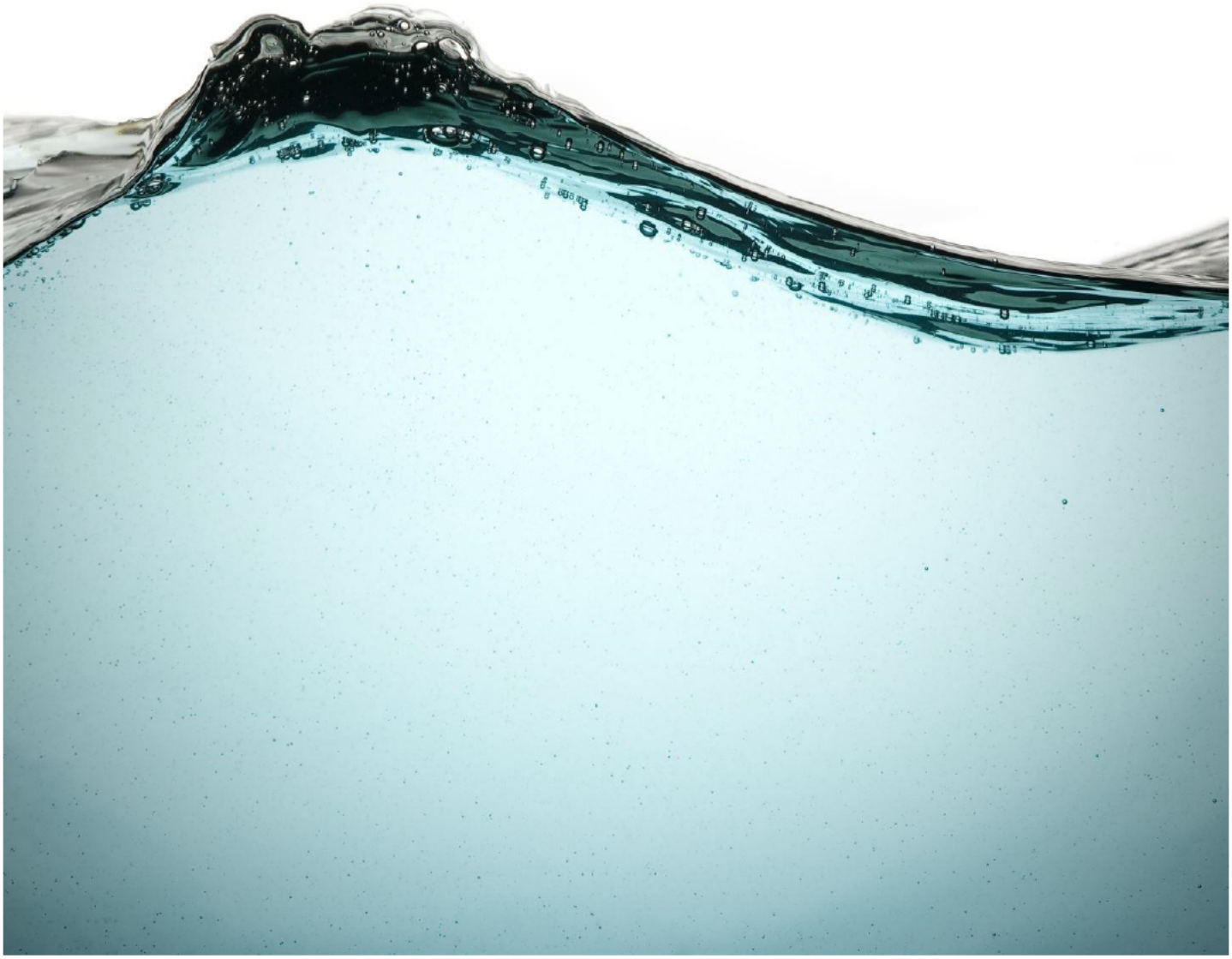

Expenditure Review of WaterNSW

Review of WaterNSW's forecast capital and operating expenditure for 2025-30 for Greater Sydney

A Final Report prepared for the Independent Pricing and Regulatory Tribunal

21 July 2025

RICARDO AITHER

Acknowledgment of Country

Aither (a Ricardo company) acknowledges First Nations people as the First Peoples of Australia and the Traditional Custodians of its lands and waters. We pay respect to the deep connection First Nations people hold with Country and celebrate the continuing effect of cultural knowledge and practices on Country and communities across Australia.

We pay our respect to Elders past and present, whose knowledge and leadership has protected Country and allowed First Nations spirituality, culture and kinship to endure through the ages.

We recognise the injustices and hardship faced by First Nations communities and reflect on opportunities for all Australians to play a part in reconciliation and the development of mutual understanding and respect across cultures.

Contents

Summary

Aither (a Ricardo company) was engaged by the Independent Pricing and Regulatory Tribunal (IPART) to review WaterNSW's capital and operating expenditure for Greater Sydney as part of its 2025-2030 price review. Our approach to this review, and the findings, are summarised below.

Approach

Capital expenditure

We reviewed the business' planned capital expenditure for 2025-26 to 2029-30, assessing the proposed capital program on the basis of selection of capital projects and programs that represent the largest capital expenditure items put forward by WaterNSW for the determination period.

Our recommendations reflect the maturity and effectiveness of the water business' key business systems and processes, and how well they demonstrate prudency and efficiency of the proposed expenditure

We also assessed the deliverability of the proposed capital program with regard to capacity to deliver capital, as well as the infrastructure sector's ability to deliver the program.

We provided a range of efficient expenditure, rather than a point estimate, for a selection of capital projects and programs - as well as guidance to IPART on the factors that would inform how it should reach a decision within that range while considering risk, long term costs and performance.

Operating expenditure

To support IPART's price review to determine efficient operating expenditure in each year of the next determination period, we assessed the adequacy, appropriateness and efficiency of the business's operating expenditure from 1 July 2025 to 30 June 2030.

We assessed the efficient level of proposed operating expenditure for the period 1 July 2025 to 30 June 2030 using the 3Cs framework. This includes the 'base-trend-step' approach of WaterNSW from which we reviewed all components, assessing whether assumptions are reasonable, and costs are efficient.

Our recommendations consider how a reasonably efficient business in a competitive market might respond to the challenges of evolving market forces over time.

Findings and recommendations

Our findings and recommendations are based on the best available information that was available during our review. In some cases there was insufficient detail with information provided which required some high-level assumptions which may lend itself to a degree of inaccuracy.

Capital expenditure

Our overall findings in relation to the proposed capital expenditure are that, of the proposed $1,314.7 million of proposed expenditure that the selected projects make up:

- A number of projects were insufficiently developed to justify the proposed expenditure.
- Dam safety risks are evident as a driver of projects but the best option to address them was not clear, and
- The approach to renewals prioritisation appeared to lack justification.

This review has been particularly challenging given the nature of the risks involved - especially those relating to dam safety. However, it is important to reinforce that WaterNSW remains responsible for meeting its legal and regulatory obligations, including those related to public and asset safety, regardless of the outcome of this review.

The onus is on WaterNSW to manage its capital program prudently and efficiently throughout the regulatory period. Where funding has not been approved due to insufficient planning, development, or justification available at the time of the submission and review, this does not preclude WaterNSW from undertaking necessary works. It simply means that the associated costs will not be funded through prices during this period.

If WaterNSW identifies that certain capital works must proceed during the period - and can demonstrate that the decisions were made prudently and efficiently - it may seek the funding through the ex-post capital review at the next determination. This mechanism exists precisely to allow businesses to respond to emerging needs while preserving incentives for sound planning and expenditure governance.

Ultimately, this highlights the critical importance of long-term capital planning. To ensure alignment between regulatory allowances and capital needs, WaterNSW must invest in more rigorous option development, justification, and timing of its proposals - particularly for major risk- or safety-driven investments. This planning must begin early enough to support a well-developed capital program for the upcoming regulatory period and at least one period beyond.

The result of the findings contained in this report is a recommendation of a range of capital expenditure for the selected projects in the forthcoming period that has a lower bound of $230.2 million (an 82.5 per cent reduction) and an upper bound of $676.2 million (a 48.6 per cent reduction). A year-by-year breakdown of the recommended expenditure over the period is provided here, albeit estimated based on the cost information provided by WaterNSW during the course of this review. This recommendation is subject to IPART's consideration of each individual project reviewed, each of which carries risks and benefits for the level of expenditure determined to be appropriate, as discussed later in the review document.

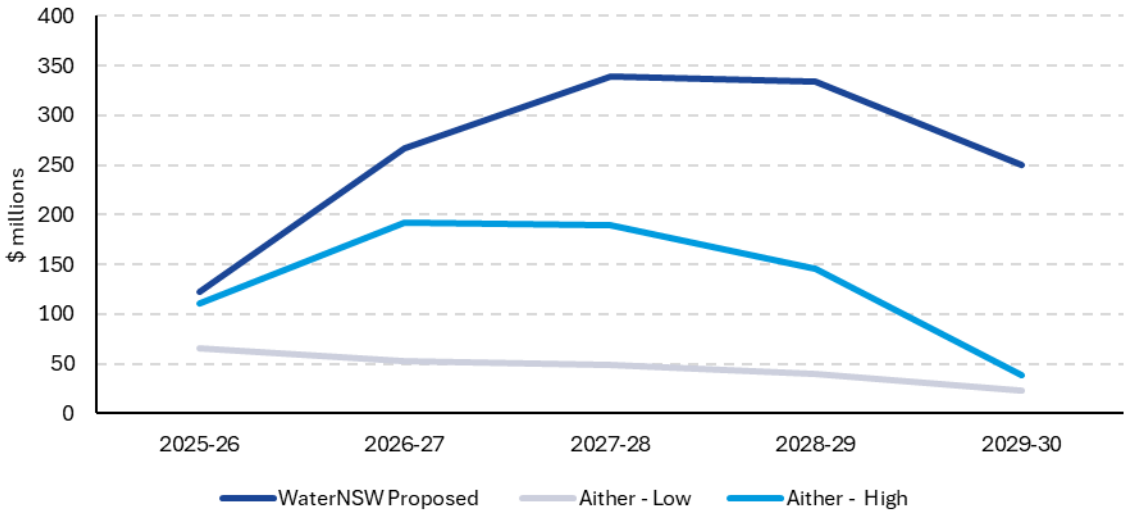

Figure 1 Recommended capital expenditure for the upcoming regulatory period for reviewed projects

Our findings and recommendations are specific to those projects selected for review (of which the proposed capex totals $1,314.7 million) and are not designed to be applicable to the balance of capital expenditure proposed by WaterNSW (which totals $1,485.8 million). The balance includes digital capital expenditure - for which we recommend adopting the relevant recommendations of AtkinsRéalis in their review of WaterNSW digital operating and capital expenditure across the Greater Sydney, Rural Valleys and WAMC determinations. For the remaining ~$121.2 million we make no specific recommendation, having not undertaken detailed review of that expenditure. However, given no systemic issues were identified during the review of the selected projects, we believe IPART can, with reasonable confidence, allow 100 per cent of that remaining capital expenditure proposed by WaterNSW.

Operating expenditure

Our recommended operating expenditure for the regulatory period is a reduction in total operating expenditure for the regulatory period of 15 per cent for the upper bound range and 23 per cent for the lower bound range. It can be seen from Figure 2, our recommended operating expenditure for the period (both upper and lower) more closely aligns with the 2023-24 actual operating expenditure for Greater Sydney than WaterNSW's proposed operating expenditure.

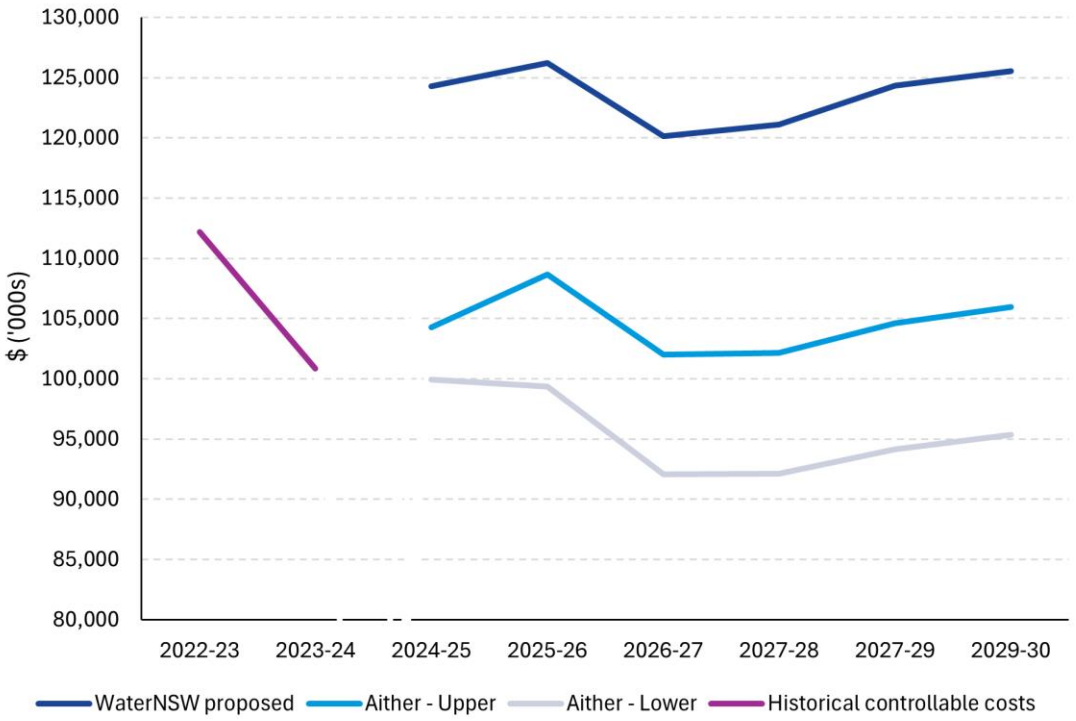

Figure 2 Recommended ranges and WaterNSW proposal for controllable operating expenditure

The key drivers for the differences between our recommendations and WaterNSW's proposed operating expenditure are:

- A recommendation to adopt 2023-24 as the base year for operating expenditure compared to 2022-23.

  We considered that there was insufficient justification from WaterNSW to adopt the 2022-23 operating expenditure as the base year compared to the IPART guidance which would result in 2023-24 as the base year. Given that the controllable operating expenditure for 2022-23 was materially higher than 2023-24, this has a material impact on the recommended operating expenditure for the regulatory period. The choice of 2023-24 as the base year also resulted in lower adjustments for cost escalation than that proposed by WaterNSW.

- A recommendation to not accept (lower-bound) or accept a lower cost estimate (higher-bound) for the new operating model

  Our review found that the documentation for WaterNSW's new operating model was lacking in detail and did not sufficiently justify the costs associated with the new model. As a result, the lower-bound range recommendation was that no costs should be allowed for the new operating model.

- A recommendation to reduce the increase in digital-related operating expenditure

  Based on analysis undertaken by AtkinsRéalis, we have recommended an upper-bound range that reflects a reduction in software licensing and people-related digital costs. WaterNSW proposed an adjustment to the base and a trend factor for digital costs, however we have recommended that they be treated as one overall step change.

- Under the lower-bound range, the proposed step changes for crane safety and electrical safety were not recommended

  Based on the IPART requirements for step changes, we considered that there was insufficient information to justify the increase in operating expenditure for these two programs. This was due to the fact that the obligations referred to were not new obligations being imposed on WaterNSW. For the upper-bound range, we acknowledge that there may be some risk to WaterNSW assets (or staff) from not undertaking these programs and therefore IPART would need to make a decision on where any allowance for the programs would fit within that range.

1. Introduction

The Independent Pricing and Regulatory Tribunal (IPART) engaged Aither to undertake an independent review of WaterNSW's proposed operating and capital expenditure to deliver bulk water services in the Greater Sydney area for the pricing period from 1 July 2025 to 30 June 2030[1].

The independent review will support IPART in determining the efficient costs of delivering WaterNSW's monopoly services for Greater Sydney and ensuring customers are not charged for inefficient or unnecessary expenditure.

The review includes:

1. A detailed review of proposed operating expenditure (1 July 2025 to 30 June 2030)
2. A detailed review of proposed capital expenditure (1 July 2025 to 30 June 2030).

This review aligns with IPART's regulatory goals under the 3Cs framework (Customers, Costs, and Credibility), ensuring WaterNSW Greater Sydney delivers services efficiently while meeting customer and community expectations.

1.1. Background

The NSW Independent Pricing and Regulatory Tribunal (IPART)

IPART is responsible for regulating and setting prices, reviewing policies, and overseeing the performance of monopoly services in NSW. IPART's role includes:

- Price regulation: IPART sets and reviews the prices of services and utilities to ensure they are fair and reasonable. This includes essential services like water, electricity, and gas.
- Economic regulation: It regulates various sectors to promote competition, efficiency, and transparency. This involves overseeing the performance of public and private enterprises and ensuring that they meet certain standards.
- Policy review: IPART reviews and assesses government policies and proposals, providing independent recommendations to improve efficiency and service delivery.
- Consumer protection: It ensures that consumers are protected by making sure prices are fair and service providers adhere to set standards.
- Performance monitoring: IPART monitors and evaluates the performance of utilities and other regulated entities to ensure they deliver value for money and meet regulatory requirements.
- By undertaking these responsibilities, IPART aims to ensure that public services and utilities in NSW are delivered efficiently, transparently, and at a fair price for consumers.

Expenditure reviews

Expenditure reviews aim to evaluate the prudency and efficiency of the service provider's capital and operating expenditure, with a focus on ensuring that the costs incurred or forecast by the service provider are efficient. Such reviews are necessary to ensure that proposed prices are based on

[1] Other consultants were responsible for reviewing WaterNSW's proposed costs for WAMC and Rural Valleys service areas.

investments and operations that are necessary to deliver against planning, customer, regulatory and other requirements, as well as to ensure those investments are being delivered at least cost.

In the context of this review, expenditure may be considered efficient when it is the best and most cost-effective means to meet the customer or community need and may be considered prudent when it is aligned with the circumstances existing at the time, and the service providers' legislative and licence obligations and long-term strategic plan.

WaterNSW

WaterNSW is a state-owned corporation that owns and operates bulk water storage and delivery infrastructure across NSW, ensuring the delivery of reliable and sustainable water services to communities, industries, and the environment.[2]

Established in 2015 through the merger of the Sydney Catchment Authority and the State Water Corporation, WaterNSW provides essential services such as bulk water supply, water licensing, and catchment protection.

WaterNSW's roles and responsibilities include:

- Water resource management: WaterNSW oversees water storages, rivers, and catchments to ensure sustainable management of water resources, balancing urban, agricultural, and environmental needs.
- Infrastructure operation and maintenance: WaterNSW operates an extensive network of dams, pipelines, pumps and weirs to deliver bulk water supplies across NSW.
- Water allocation and licensing: WaterNSW issues water licences and manages water allocations to ensure fair access while complying with water-sharing plans and environmental regulations.
- Customer service: WaterNSW serves a diverse range of customers, including farmers, urban utilities, and businesses, ensuring water needs are met efficiently and equitably.
- Environmental protection: WaterNSW safeguards water catchments, addresses water quality issues, and supports environmental flow requirements.

WaterNSW operates across three key areas: **Greater Sydney**, where it provides bulk water supplies for urban utilities; Water Administration Ministerial Corporation (**WAMC**), which oversees statewide water licensing and allocations; and **Rural Valleys**, supporting regional towns, agriculture, industries and the environment.

Project scope

Aither was engaged to conduct an expenditure review of WaterNSW's bulk water services to **Greater Sydney**. The scope is to assess the capital and operating costs and efficiency of WaterNSW's bulk water supply and infrastructure operations for Greater Sydney. The findings from this review are submitted to IPART to support its regulatory oversight and price setting for Greater Sydney.

1.2. Review methodology

Under the new 3Cs framework, IPART requires expenditure reviews to assess efficient operating and capital expenditure by providing a range, rather than a point estimate, to account for the inherent uncertainty in price proposals. IPART will then take a position, on balance, across the regulatory decision. Aither was required to present this range and offer clear guidance on the factors that should

[2] *About us - WaterNSW* (WaterNSW, 2025)

inform IPART's decision within the range. This approach recognises that business proposals are multi-dimensional, involving a balance between cost, performance, and risk, which leads to uncertainty in project scope and costs.

The range is required to cover two scenarios: the low case (**lower range bound**), representing the minimum expenditure necessary for the business to maintain its essential operations (deferring any non-essential projects where possible), and the high case (**upper range bound**), reflecting the efficient expenditure needed for the business to grow and position itself for long-term success. This range-based approach was designed by IPART to provide flexibility while considering the varied and evolving needs of the business.

1.2.1. Developing the upper and lower range bounds

Given this is the first time that IPART has implemented this range-based approach to assess forecast expenditure, there is no precedent in how the ranges should be developed. Through discussions with IPART, the following was developed as guidance to inform the development of the ranges:

- Upper range bound:

  Represents the efficient expenditure that may be required to deliver the in-scope activities at the proposed service levels under the existing regulatory, policy and legislative framework. The starting point for the upper range bound, where appropriate, would be the forecast expenditure from the pricing proposal with adjustments made for unregulated activities, uncertain projects or costs associated with participating in government policy development. The intent of these adjustments is to ensure that the focus is on in-scope activities directly related to the regulated service.

  The upper range bound is to also include efficiency adjustments where appropriate to account for duplication, operational inefficiencies and excessive service provision and ensure that assumptions are realistic and aligned with market conditions.

- Lower range bound:

  This reflects the estimated minimum expenditure required to deliver essential services while seeking to balance affordability with service quality. This may include the consideration of deferring non-essential activities or using alternative assumptions where appropriate.

It should be noted that it was not always possible to develop ranges. For example, in some cases, we have proposed a single recommendation as there was insufficient justification for a range for a particular capital project or operating expenditure cost item.

1.3. Information sources

A full list of the information relied upon in preparing this report, is set out in Appendix B.

2. Assessment of capital expenditure

2.1. Overview

2.1.1. Summary of past and proposed capital expenditure

WaterNSW proposes a total forecast capital expenditure of $1,485.8 million (real, FY25) over the determination period for Greater Sydney, representing a 155% increase on the average annual capital expenditure of the current period[3].

In the current period, cost increases and labour shortages over the period, and additional unplanned expenditure for flood recovery efforts after the March 2022 floods were offset by underspends due to significant cancelled and deferred projects, resulting in an overall underspend of $89 million compared with IPART's 2020 determination for Greater Sydney. This includes the deferred 2024-25 year for which IPART did not make a determination, under the assumption that 2024-25 expenditure equals 202324, consistent with the WNSW proposal.

Some deferred projects, such as the Warragamba E-flows initiative, are proposed for the upcoming regulatory period. The Warragamba Dam Wall Raising project was cancelled in the current period. A new, and revised Warragamba Resilience Project is proposed in the upcoming regulatory period. These two capital projects alone account for almost two thirds of the proposed capital expenditure for 2025-30.

Renewals constitute the bulk of the remaining capital expenditure put forward by WaterNSW, with an extensive program proposed across diverse asset classes including pipelines, pumps and facilities.

2.1.2. Capital Expenditure Assessment Framework

The sample proposed capital projects selected for detailed review include the major capital projects with the largest capital expenditure proposed for the period, as well as a cross section of others that include dam safety works and the renewals program. The sample projects selected for review are:

1. Warragamba Dam Resilience Project ($609 million)
2. Warragamba Dam E-flows ($302 million)
3. Warragamba Pipeline Renewals ($97.8 million)
4. Cataract Dam Safety and Upgrade ($35.7 million))
5. The balance of the water infrastructure renewals program not reviewed as part of a specific project above ($270.4 million[4]).

[3] The total forecast capex over the current 5-year period cannot be compared directly with the previous 4-year period, thus comparison is based on the average annual expenditure between the two periods. This has also been WaterNSW's approach.

[4] Value based on based on FINAL - Master Candidate List GS Renewals.xls provided by WaterNSW. Note that this does not align with the value designated in the submission from WaterNSW.

The sample projects were reviewed in relation to prudency and efficiency, with consideration given to how well IPART's 3Cs framework[5] has been considered, and whether the recommendations of the 2023 FTI review of WaterNSW systems and processes have been applied.

The key findings and recommendations for WaterNSW's capital expenditure are included in section 2.12.1.32.1.4. A summary of the capital project assessment is in section2.5, while the method for the detailed assessment for each project is included in Appendix A.

Our findings and recommendations are specific to those projects selected for review and are not designed to be applicable to other capital expenditure proposed by WaterNSW.

2.1.3. Findings

Box 1 Key findings of the capital expenditure review

- The Final Business Case (FBC) for the Warragamba Dam Resilience Project is not complete. The project is therefore too uncertain, in terms of whether it will proceed and the timing and cost of the preferred option, to justify expenditure beyond that required to deliver the FBC in this price period.
- The Warragamba E-flows Construction project is well developed and has clearly articulated drivers, benefits and costings. Overall, the prudency, efficiency and alignment of the project to IPART's 3Cs have been shown in the documents provided by WaterNSW, and although there are opportunities to improve some aspects of the project, it generally appears sound. The project has already been delayed and deferred, resulting in substantial increases in project cost estimates. While it may be further deferred, it appears prudent for it to proceed and be included in this price period.
- There is a clear need for the Warragamba Pipeline Renewals that is demonstrated by the criticality of the infrastructure, the age of the infrastructure, reported failures and condition assessments. Broadly speaking the prudency, efficiency and alignment of the project to IPART's 3Cs have been shown in the documents provided by WaterNSW, though there is room for some improvement and refinement.
- There are clearly dam safety risks present at Cataract Dam that should be addressed through the Cataract Dam Safety Upgrade Project. However, the level of risk, and impact of the identified solution/s remain in question and must be resolved.
- Of the 147 projects proposed for the Water Infrastructure Renewals Program (excl. Warragamba Pipeline Renewals), there are clearly a large number that need to be completed. However, the prioritisation approach taken by WaterNSW to determine what is included (based on a benefits score of 0.2) appears arbitrary and lacks justification of prudency or efficiency.

[5] IPART's "3 C's" framework—Customer, Cost, and Competition—guides its regulatory approach. Customer ensures fair pricing and service quality, Cost ensures prices reflect efficient service delivery, and Competition promotes market efficiency and innovation.

2.1.4. Recommendations

The recommended range of capital expenditure for the projects reviewed is summarised in Table 1 below, with recommendations by project in Box 2.

Table 1 Recommended capital expenditure range 2025-30 ($million, $2024/25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Proposed	123.1	267.2	339.4	334.5	250.8	1314.7
Recommended Low	66.1	52.5	49.3	39.6	22.7	230.2
Recommended High	111.0	191.6	189.0	146.2	38.3	676.2

This recommendation is subject to IPART's consideration of each individual project reviewed, each of which carries risks and benefits for the level of expenditure determined to be appropriate, as discussed later in the chapter.

Box 2 Recommendations of the capital expenditure review

The recommended range of efficient expenditure for:

- The Warragamba Dam Resilience project (proposed initially at $609 million, but revised down to $406 million) is $6 million only, in accordance with the proposed cost to complete the FBC. If a preferred project is supported by the NSW Government and investment is required to commence in the forthcoming price period, WaterNSW can recover prudent and efficient costs of the project in this price period through a "reopener" or "pass through" provision. In delivering the FBC, we recommend that WaterNSW incorporates recommendations from Infrastructure New South Wales' (INSW) Gate 1 Review of the Strategic Business case.
- The Warragamba E-flows Construction project (proposed initially at $301.76 million) is from $0, where the project is deferred in full to the following determination period, to $301.76 million where the project is undertaken as proposed by WaterNSW in this price period.
- The Warragamba Pipeline Renewals program (proposed initially at $97.8 million) is from $60.35 million, whereby all coating works are deferred, to $96.11 million, in which case the project is undertaken as proposed except for Tranche 5 coating works which are deferred.
- The Cataract Dam Safety Upgrade Project (proposed initially at $35.74 million) is $7.15 million only, to undertake one of the two initially proposed upgrade works and undertake further investigation as to the best option to solve the dam safety issues being faced (which include emerging issues not assessed in the project documentation). There is no high expenditure figure that can be recommended with the current level of understanding of the problems being faced.
- The Water Infrastructure Renewals Program (excl. Warragamba Pipeline Renewals) (proposed initially at $270.4 million) is from $156.7 million, which includes deferring those projects within the program that have a maximum individual benefit score of Medium or Low, to $265.2 million which includes deferring those projects that have a maximum individual benefit score of Low.

When considering the findings and recommendations, IPART should note that reducing capital expenditure in Greater Sydney will increase the operating expenditure allocated to bulk water bills due to a shift in the allocation of corporate overhead costs away from capital expenditure. This expected

outcome is in accordance with the normal operation of the Cost Allocation Method (CAM) attached to WaterNSW's regulatory proposal. These impacts would be expected to be felt both in Greater Sydney, and in the rural valleys. There may also be consequential implications for the allocation of corporate overhead to the WAMC activities. Our recommendations on capital expenditure do not explicitly consider the extent of, nor the value of those impacts across WaterNSW's business.

2.2. Past expenditure

For the current determination period, 2020-21 to 2024-25, actual and forecast expenditure for WaterNSW for Greater Sydney was $89 million less (16%) than IPART's allowance of $572.3 million. Some cost increases resulted from cost increases above general inflation and labour shortages over the period, and additional unplanned expenditure for flood recovery efforts after the March 2022 floods increased expenditure. The underspends were significantly greater than the cost increases, and are primarily attributed to:

- Strategic deferrals and cancellations, such as the cancelled Warragamba Dam Raising Project (which included the Warragamba E-flow project, now deferred to the upcoming period).
- Delays resulting from natural disasters (bushfires and flood), pandemic restrictions and complexity of some strategic options assessment.
- Changes in scope reduced actual costs for some renewal and replacement activities.

2.3. Forecast capital expenditure program

WaterNSW proposes a total forecast capital expenditure of $1,485.8 million over the determination period for Greater Sydney (Table 2). This constitutes a 155% annual average increase when compared with the previous period. The increase is largely driven by Warragamba Dam Resilience project and Warragamba Dam E-flows project which make up over $900 million of the proposed expenditure. Excluding those projects, the average annual capex is still 21% higher than the previous period.

WaterNSW are proposing a significant renewals program for the forthcoming period, comprising $402 million of capital works and including the Warragamba Pipelines and Corridor restoration, Prospect renewals, Shoalhaven renewals and Blue Mountains renewals.

WaterNSW are also proposing to defer some expenditure to the 2030-35 determination period, informed by a prioritisation process that considers service criticality, project benefits and costs.

Table 2 Forecast capital expenditure 2025-26 to 2029-30 (million, $2024/25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Forecast capital expenditure ($million)	$164.3	$300.9	$370.8	$367.9	$281.9	$1,485.8

2.4. Deliverability

WaterNSW have made strategic improvements to their business processes, including to program/project governance and procurement processes and program/project delivery and scheduling since the last IPART determination.

These approaches, including bundling of procurement and project scheduling and the use of delivery partners, may partially offset some capital expenditure delivery risks, such as shortages in labour and materials. It is unable to be determined whether these business improvements will fully offset these potential delivery risks, given the broader industry context in NSW of increased capital works (e.g. by Sydney Water) during the determination period.

2.5. Capital project review

The sample projects selected for review represent the largest projects or programs put forward by WaterNSW for Greater Sydney, and make up $1,314.70 million of WaterNSW's total capex for Greater Sydney. The summary review, findings and recommendations for each are included below.

As agreed with IPART, recommendations are presented as a range of expenditure from low to high, with scenario details included for each end of the range that includes risks and benefits. IPART may also determine a point within the range to represent the right balance of capital expenditure for a given project, rather than the low or high scenario presented.

Figures can be assumed to include corporate overheads unless stated.

2.5.1. WG270028 - Warragamba Dam Resilience Stage A ($million, $2024/25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Initial Proposed CAPEX	$12.5	$63.0	$140.0	$184.4	$209.2	$609
Recommended Low	$6.00	$0.00	$0.00	$0.00	$0.00	$6.00
Recommended High	$6.00	$0.00	$0.00	$0.00	$0.00	$6.00

Summary

The Warragamba Dam Resilience project has been developed following the cancellation of the Warragamba Dam Raising Project in 2023 by the NSW Government, which was expected to address downstream flood risks but carried high costs (greater than ~$1 billion) and unacceptable upstream cultural and heritage impacts.

The project is currently in early stages of development, with a Strategic Business Case and Class 5 estimates for a range of shortlisted options. Investigations and studies have been undertaken to consider options for both non-infrastructure and infrastructure measures to address the service need.

The five infrastructure options being progressed for further assessment are understood to include construction of a concrete buttress on the downstream face and/or installing post tensioned anchors along the top of the dam, lowering the full supply level or raising the non-overspill crest. All options

assessed have a BCR of less than 1 and option estimates all exceed $940 million (nominal)6, with expenditure to extend beyond the 2025-30 determination period.

WaterNSW, in their initial submission proposed $609 million for this project in the 2025-30 period, but during the course of this review revised that to $406 million due to new climate modelling requirements stemming from new Australian Rainfall and Runoff Guidelines (amended in November 2024) that will delay the project delivery.

The broader Warragamba Dam Resilience program is proposed to be phased over the two determination periods (2026-30 and 2031-35), with the updated timeline (including climate modelling requirements) detailed in Figure 3.

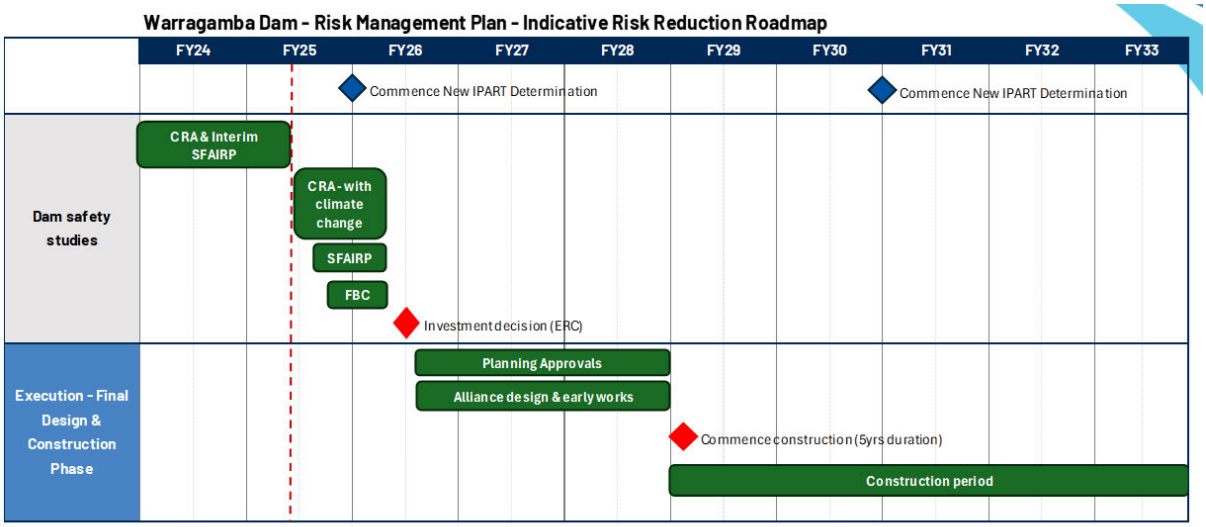

Figure 3 Warragamba Dam Climate Resilience project timeline[7].

The primary documented driver for Warragamba Dam Resilience project is dam safety. A detailed risk assessment of Warragamba Dam provided justification for consideration of strengthening aspects of the dam to withstand rare, extreme rainfall events, which currently see dam safety risk plotting above the safety threshold of the NSW dam regulator's societal risk assessment.

A secondary, but significant factor considered by WaterNSW in the development of this project is maintaining water supply levels in Warragamba Dam to continue to supply 80% of Greater Sydney's population.

The assessment of options and justification of the resulting option short list have been the subject of some criticism by Infrastructure NSW (INSW) in the Gate 1 Review of the Strategic Business case. Issues identified by INSW included:

- The overall rating for value for money and affordability is weak, an appropriate level of costing, assessment of funding risk and overall affordability has only partially been established.
- Governance risks around network and place integration have only partially been met and a clear pathway to realising benefits is not understood and supported by governance.
- A robust and consistent risk assessment had not been completed for each option. The findings identified a lack of mitigation measures for stated risks, and key risks not included such as 'options inconsistent with other Government agencies' objectives'.

[6] *WD Resilience Project - Options estimates - Summary for Gate 1* (WaterNSW, 2024)

[7] RFI-39 Response – Attachment 01 – Revised Forecast Expenditure Summary (WaterNSW, 2025).

We find additionally that risks associated with undertaking high risk construction activities as part of the project are assessed as higher (both inherent and residual) than failure of the dam wall[8], something Dams Safety NSW highlights as relevant to consider[9] that has not been adequately addressed.

Findings

The Final Business Case (FBC) for the Warragamba Dam Resilience Project is not complete. The project is therefore too uncertain, in terms of whether it will proceed and the timing and cost of the preferred option, to justify expenditure beyond that required to deliver the FBC in this price period.

Box 3 Recommendations Warragamba Dam Resilience Project

Proposed by WNSW[10] $609 million

Recommended range $6 million

Low-expenditure scenario

Final Business Case $6 million

1. The project should be further developed to a FBC, including addressing the matters identified in INSW's Gate 1 Review.
2. If a preferred project is supported by the NSW Government and investment is required to commence in the forthcoming price period, WaterNSW can recover prudent and efficient costs of the project in this price period through a "reopener" or "pass through" provision.
3. In delivering the FBC, we recommend that WaterNSW incorporates recommendations from Infrastructure New South Wales' (INSW) Gate 1 Review of the Strategic Business case.

This scenario will allow WaterNSW to meet Dam Safety NSW requirements, while better demonstrating the prudency and efficiency of the selected option, with sufficient consideration given to customers, costs and credibility in accordance with IPART's 3Cs framework.

[8] As detailed in *Strategic Business Case Appendix D - Preliminary Risk Register* (WaterNSW, 2024)

[10] It is acknowledged that $609 million originates from WaterNSW's original pricing submission, and that during the course of this review WaterNSW revised that figure down to $406 million.

2.5.2. WG330000 - Warragamba E-flows Construction ($million, $2024/25)[11]

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Proposed CAPEX	$11.8	$104.1	$106.7	$79.1	-	$301.76
Recommended Low	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Recommended High	$11.80	$104.10	$106.70	$79.10	$0.00	$301.76

Summary

The Warragamba E-flows project seeks to address environmental and recreational amenity impacts caused by restricted flow (downstream from Warragamba Dam) by reintroducing flow variability, with an aim of mimicking natural conditions. It builds on a significant body of work dating back to 2004 that has been undertaken to understand the options, management strategies and potential impacts to the health of the waterway downstream of Warragamba Dam. The most recent investigations consider a number of different flow regimes, with the most recent recommendation at 3,000 ML/d, using the 90/10 scenario scaled at 5%[12].

The proposal is to modify the existing Warragamba Dam to include:

- A multi-level offtake tower on the upstream face of the dam
- Modifying the existing large diameter penstock to draw water through the dam and discharge downstream of the Hydro Electric Power Station (HEPS)
- Modifying the existing HEPS to allow new pipe and valve configuration.

The proposed design of the preferred option, RHS E-flows & Hydro, utilises currently disused infrastructure, and considers potential for future hydropower production at the site.

The primary documented driver is water supply needs, and the primary customer outcome is stated as sustainable land and water management. The preferred option demonstrates the highest BCR of all the options at 1.6[13]. A matter of concern is the choice modelling the project relies upon to estimate non-market environmental benefits and costs among Sydney residents for the BCR - which was undertaken in 2013. This may not reflect the needs of current customers which could reasonably have been expected to have changed in the 12-year intervening period. Recent and forecast increases in population in Western Sydney would likely drive demand for the recreational amenity expected to result from the project, and thus increase benefits. A more recent willingness to pay study undertaken in 2023-24 supports this, based on the 2024 updated Final Business Case.

There is understood to be an ongoing operational and maintenance cost associated with the new infrastructure, which appears modest at $314,800 p/a[14]. It was not clear from the documentation

[11] These figures are taken from WaterNSW's pricing proposal documents. It is acknowledged that other documents, e.g. E-Flows FBC_Rev 4 .Cab sub 240711.pdf, contain slightly different figures.

[12] See Warragamba E-flows Final Business Case (p. 19, WaterNSW, 2023)

[13] The most recent BCR for the preferred option, using updated WTP values, is in the Warragamba E-flows Final Business Case – Updated June 2024 as 1.7 (p. 40).

[14] Warragamba E-flows Final Business Case – Updated June 2024 (p. 31, WaterNSW, 2024)

provided by WaterNSW whether other options considered would have incurred different ongoing operational expenses, or if this was a factor in determining the preferred option.

The project is expected to deliver water from the dam to the downstream area below the dam that will result in approx. 120GL/a released to e-flows, with a corresponding 10GL reduction in Sydney's water supply system yield. This is considered minor, addressed by the Greater Sydney Water Strategy and offset by the potential downstream flood impact reduction resulting from the increased airspace.

As the project has been developed over such an extensive period of time, we can see the estimated costs at various points in time over that period. It is evident that costs have escalated sharply from 2016 to the present, though this is reasonable in light of labour and material cost increases from over recent years. The methodology used to revise 2019 estimates to 2023 dollars is logical, reasonably detailed and well represented

The project is expected to deliver both community and environmental benefits. These are mapped in a benefits realisation plan which will be implemented by the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) once the project proceeds. There are some opportunities for improvement in relation to how benefits will be communicated, and the role of DCCEEW as the benefits owner from the project, as detailed in INSW's Gate 2 review of the project. WaterNSW have accepted INSW's recommendations in full.

Findings

The project is well developed and has clearly articulated drivers, benefits and costings. Overall, the prudency, efficiency and alignment of the project to IPART's 3Cs have been shown in the documents provided, and although there are opportunities to improve some aspects of the project, it generally appears sound. This includes:

1. The project is driven by sound environmental objectives and is supported by broader government policy and public sentiment.
2. The project documentation has undergone review by INSW at Gate 1 and 2 stages, with the recommendations accepted and implemented by WaterNSW.
3. Costing associated with construction, including scheduling impacts, appears reasonable and of an appropriate level of detail.
4. A performance monitoring program has been developed to ensure the realisation of benefits.
5. It is reasonable to assume that further delays to undertaking the project may result in further escalation of costs (as has occurred in recent years), without additional benefit, though this is not explicitly described or quantified in the documentation.
6. The project is considered one of many possible strategies for reaching objectives included in the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2023*[15] under the *Water Management Act 2000*. It is not a requirement for compliance with the Act. It could be deferred on this basis.

[15] Clause 10. (1)(l)

Box 4 Recommendations Warragamba E-flows Project

Proposed by WNSW	$301.76 million
Recommended range	$0 – $301.76 million

Low-expenditure scenario $0

- Deferring all construction until the next determination period.

This scenario carries a risk of further escalation of costs in the 2030-35 determination period, while the benefits of deferring (e.g. reduced bill impacts to end use customers) would be extremely minimal in the 2025-30 period. There would be an associated reduction in recurrent operating costs in the 2025-30 period of ~$315,000 under this scenario.

High-expenditure scenario $301.76 million

- Undertake the proposed works as planned by WaterNSW.

As this project is prudent and largely inevitable to meet dam environmental management best practice this scenario would allow for benefits and outcomes of much investigation and project development to be realised most efficiently by delivering environmental benefits in the near term for the likely lowest overall expenditure.

2.5.3. Warragamba Pipeline Renewals ($million, $2024/25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Proposed CAPEX	$30.28	$18.25	$18.36	$19.20	$11.71	$97.80
Recommended Low	$22.47	$10.44	$10.55	$10.55	$6.33	$60.35
Recommended High	$30.28	$18.25	$18.36	$18.25	$10.97	$96.11

Summary

The Warragamba Pipeline Renewals project is a comprehensive initiative aimed at upgrading and rehabilitating the Warragamba Pipelines, which are crucial for delivering raw water from Warragamba Dam to Sydney's treatment plants, supplying up to 80% of Sydney's residents. The pipeline faces issues such as sediment buildup, drainage system failures, and deteriorating mechanical components, which WaterNSW have identified could lead to larger failures without timely intervention.

The project commenced with enabling works in FY19 where six distinct tranches of work were set out. Table 3 presents the proposed expenditure by tranche for this price period. The current period, FY26 to FY30, works involve a total estimated cost of approximately $92.7 million and include $11.4 million to finalise the last ~10% of Tranche 2 (high priority mechanical, civil and coating works) that commenced in the last regulatory period. As detailed in Table 4 below, the tranches are scheduled to run through until FY35.

Given the work completed to date, the criticality of the asset and the heightened prioritisation of the works, it is recommended that at a minimum, the Tranche 2 works (high priority mechanical, civil and coating works) should be completed in full.

Table 3 Warragamba Pipeline Renewals expenditure by Tranche

($million)[16]	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Tranche 2 – WP1 & 2 (Civil/Mech)	$11.4					$11.4
Tranche 4 - Civil	$6.5	$6.5	$6.5	$6.5	$3.9	$29.9
Tranche 4 - Coatings	$7.4	$7.4	$7.4	$7.3	$4.4	$33.9
Tranche 4 – Mechanical	$3.4	$3.4	$3.5	$3.5	$2.1	$15.9
Tranche 5 - Coatings				$0.9	$0.7	$1.6
TOTAL CAPEX	$28.7	$17.3	$17.4	$18.2	$11.1	$92.7[17]

Table 4 Warragamba Pipeline Renewals schedule by Tranche

Work package	Description	Status
Enabling works	Civil works establishing access for future Tranches	Completed 2020
Tranche 1	Critical mechanical, civil and coating works	Completed 2024
Tranche 2	High priority mechanical, civil and coating works	50% Complete (100% by Oct 25)
Tranche 3	Holistic condition assessments	80% Complete (100% by Feb 25)
Tranche 4	Risk-prioritised mechanical, civil and coating works	Planned FY26-30
Tranche 5	Risk-prioritised mechanical, civil and coating works	Planned FY29-35
Tranche 6	Risk-prioritised mechanical, civil and coating works	Planned FY31-35

The FY31-35 works amount to $105.5 million and involve the commencement and completion of Tranche 6 (risk-prioritised mechanical, civil and coating works) along with the finalisation of Tranche 5 which commences in the current regulatory period.

The scope for this FY26-30 focuses on several key areas including mechanical upgrades, coatings for internal and external pipeline surfaces, civil works to stabilise the infrastructure, and structural repairs. Specific activities include:

- Modernisation of mechanical systems (valves and controls).
- Internal and external coating repairs.
- Critical civil works for drainage and stabilisation of the pipeline.

16 Excluding Corporate Overheads

17 FY26-FY30 total inclusive of Corporate Overheads is $97.8 million

It is evident from conditions assessment outcomes provided in the Options and Concept Design Report[18] as well as the prioritisation data from the Greater Sydney Final Prioritisation Sheet, [19] that remaining Tranche 2 works as well as the civil and mechanical works for Tranche 4 are critical works with poor conditions of assets noted and extreme benefits to service delivery noted. The external coating works prescribed in Tranche 4 are also noted to have extreme benefits with recent assessment indicating that the coatings have reached the end of their useful life.

Findings

There is a clear need for the project that is demonstrated by the criticality of the infrastructure, the age of the infrastructure, reported failures and condition assessments. Broadly speaking the prudency, efficiency and alignment of the project to IPART's 3Cs have been shown in the documents provided by WaterNSW although there is room for some improvement and refinement, including:

1. The Options & Concept Design report outlines that a long list of options and shortlisting of options was not conducted, and states the options presented are to demonstrate the necessity of the works rather than being a comprehensive evaluation[20]. Given the nature of the work to renew existing assets, it is not expected that this approach will have a material impact on the eventual outcome however it would still be preferable for genuine suite of options to be thoroughly assessed.
2. Evidence of customer engagement and capture of customer feedback is not present in the documentation that was reviewed.
3. Clearer evidence of how the risk of failures described apply across the different parts of the pipeline would be beneficial. Note that examples of problems are shown with photographs of a single instance per issue however a register or log of these issues across the system is not provided beyond the estimates which detail the number of the specific segments of work but not their locations.
4. The low level of detail in the estimates shown in Appendix A of the Options & Concept Design is concerning, particularly for the Tranche 4 Coatings and Tranche 5 Coatings which amount to a total $35.5 million (excl corporate overheads). Each of these estimates are built up from three direct lines which even given the linear nature of the works, this level of detail is not sufficient given the lack of drawings and documentation outlining the extent of the work, as noted in point 3 above. Accordingly the cost for the Tranche 5 Coatings is removed from the upper bound of the recommended range. The Tranche 4 Coating costs remain in the upper bound of the recommended range given their higher criticality and the fact that more condition assessments have been completed however they have been removed from the lower bound of the recommended range.

[18] WNSW-W898-B-GWG-WM0WP0-RPT-0058 - Options & Concept Design Report – Warragamba Pipeline Corridor Restoration tranches – 6/9/2024

[19] FY26-30 Greater Sydney Final Prioritisation inclusive of overheads (version 1).xlsb – 24/7/2024

[20] WNSW-W898-B-GWG-WM0WP0-RPT-0058 - page 43

Box 5 Recommendations Warragamba Pipeline Renewals (inc. Corporate Overheads)

Proposed by WNSW $97.8 million

Recommended range $60.35 million – $96.1 million

Low-expenditure scenario $60.35 million

- Deferring all coating works to allow for targeted costings and related documentation to be produced.

This scenario carries a risk of interruption of supply from pipe failures should further deterioration of assets occur due to the delay in the external coating work. There is also a risk of further escalation of costs in the 2030-35 determination period, while the benefits of deferring (e.g. reduced bill impacts to end use customers) would be extremely minimal in the 2025-30 period.

High-expenditure scenario $96.1 million

- Undertake the proposed works as planned by WaterNSW without Tranche 5 coating works

As this project is prudent and largely inevitable as the pipeline continues to age, this scenario would allow for benefits and outcomes to be realised in the near term though the efficiency of the expenditure may not be maximised. The risk from the low-expenditure scenario around interruption of supply remains but is greatly reduced given the lower criticality of the Tranche 5 coatings versus the Tranche 4 coatings.

2.5.4. UN270011 - Cataract Dam Safety and Upgrade ($million, $2024/25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Proposed CAPEX	$5.5	$14.0	$11.4	$2.5	$2.5	$35.74
Recommended Low	$1.10	$2.80	$2.28	$0.50	$0.50	$7.15
Recommended High	$1.10	$2.80	$2.28	$0.50	$0.50	$7.15

Summary

The Cataract Dam Safety Upgrade project is a response to the dam safety risks identified at Cataract Dam that plot above the safety threshold, as prescribed by Dam Safety NSW. These risks were identified through a series of risk reviews, including the Upper Nepean Risk Review Project and subsequent assessment of potential failure modes driving those risks.

The project has developed and assessed a number of options to address the key failure modes, with the objective to bring the dam safety risk to below the safety threshold. Important to note is that while the *Dam Safety Act 2015* and *Dam Safety Regulations 2019* do not require dam owners to reduce risk to below the safety threshold, but must demonstrate that dam safety risks have been appropriately assessed and reduced so far as is reasonably practicable (SFAIRP)[21].

The options selected to be progressed are:

- SMM1 Spillway training wall mass concrete buttress (which contributes 28% to total risk), and
- SMM2 Anchoring of left abutment dam wall (which contributes 39% to total risk)[22].

SMM2 is proposed to be implemented first, which will bring the dam safety risk marginally below the safety threshold. SMM1 is planned to follow, with the expected result being the dam safety risk plotting and order of magnitude below the safety threshold[23]. It is not clear from the documentation what the impact on risk would be from implementing SMM1 alone. A cost breakdown of works associated with SMM1 and SMM2 was requested from WaterNSW, who provided an estimate that 80% of project costs could be attributed to SMM1. WaterNSW consider delivering the two works concurrently will provide efficiencies (e.g. drawdown of water level for construction, flood risk management)[24].

Information was requested from WaterNSW on the potential impacts on cost and risk of deferring SMM1 to the following determination period (post 2030), on the basis that implementing SMM2 alone would satisfy WaterNSW's risk appetite approach by reducing the risk to below the safety threshold (albeit marginally). In a response, WaterNSW referred to active failures, including of two anchors in the spillway training wall in September 2024, which means risks associated with this failure mode are now likely to be higher than that documented. WNSW identify that it would be negligent as a dam owner

[21] *Guidance Note The requirement to reduce dam safety risks so far as is reasonably practicable – 'SFAIRP*, (Dams Safety NSW, 2024)

[22] *D2023 73854 Cataract Dam Risk Report (Revised Final) (60643958_CAT-RIS-RPT-001_0) (August 2023),*(WaterNSW, 2023)

[23] *Cataract DSU - Concept Design Report*, (AECOM, 2023)

[24] *RA-36 WaterNSW Response*, (WaterNSW, 2024)

to defer SMM1 without any other controls, and would therefore constitute non-compliance with the *Dam Safety Act 2015* and *Regulations*. However, WNSW identify a contingency plan for failure of spillway training wall to be implemented as an interim measure until SMM1 is completed[25]. This contingency plan could be expected to constitute 'other controls' and be implemented for the duration of the forthcoming determination period should SMM1 be deferred, thereby avoiding non-compliance with Dam Safety Act 2015 and Regulations.

Findings

There are clearly dam safety risks present at Cataract Dam that should be addressed. The level of risk, and impact of the identified solution/s remain in question, including:

1. WaterNSW have provided sufficient evidence that SMM2 can manage the dam safety risks identified through the Upper Nepean Risk Review project to an acceptable level (provided interim risk mitigation measures are undertaken, including a contingency plan for a failure of the spillway wall).
2. The suite of project documentation that was provided for review does not sufficiently make a case for implementation of SMM1.
3. Recent active failures in the spillway training wall that have not been considered in the broader project documentation are likely to have a critical impact on the risk assessment and resulting mitigation solutions, and may justify SMM1 or other measures. Because the risk is not known, it is not considered reasonable to make a recommendation to undertake SMM1, even under a high expenditure scenario.
4. It would be considered prudent for WNSW to undertake an expedited updated assessment of dam safety risk and SFAIRP in light of the recent failures. This may identify the need for a permanent solution such as SMM1, or some other solution. Costs associated with investigations and interim measures are expected to be absorbed by WaterNSW as business as usual.
5. Interim risk management actions would need to be undertaken as a result of SMM1 not going ahead, and may be significant (such as reduced storage levels) which may impair the Upper Nepean Water Supply System to Sydney.
6. WaterNSW may undertake long term dam safety risk mitigation actions as a result of the updated assessment and SFAIRP, even where no expenditure has been allowed by IPART, in accordance with their responsibilities as dam owners.
7. WaterNSW provided advice during the course of this review that approximately 80% of proposed costs could be attributed to SMM1, and the recommendations following are made on that basis across the forward years of the determination period[26].

[25] *WNSW-W898-I-GS-UN-WD0002-RPT-0004_UN270011.13 - Cataract Dam Safety and Upgrade – PSJ* (WaterNSW, 2024)

[26] *RA-36 - WaterNSW Response.docx* (WaterNSW, 2024)

Box 6 Recommendations Cataract Dam Safety Upgrade Project

Proposed by WNSW $35.74 million

Recommended range[27] $7.15 million

Low-expenditure scenario $7.15 million

1. Undertake SMM2 in the 2025-30 determination period.
2. Continue to implement interim risk mitigation measures and contingency plan for failure of the spillway training wall.
3. Undertake an expedited updated assessment of dam safety risk and SFAIRP in light of the recent failures and develop any additional mitigation measures as required.

This scenario would allow WaterNSW to address the dominant failure mode contributing to identified risks in accordance with the risk reviews and various investigations already undertaken, while also assessing emerging risks to tailor an efficient permanent mitigation solution to, while managing risk in the interim.

A permanent solution identified from the expedited review may require capital expenditure not accounted for under this scenario, though the estimated quantum of that cannot be known until the review is completed.

IPART may consider a cost pass through or similar provision for WaterNSW, should investment beyond that allowed be required for dam safety compliance, within the forthcoming period.

[27] A single point of expenditure is recommended for this project, which accounts for the project works that are considered prudent and efficient. More dam safety works may be required in future, once prudency and efficiency is demonstrated through the investigations included in the low expenditure scenario recommendations.

2.5.5. Water Infrastructure Renewals Program (excluding Warragamba Pipeline Renewal) ($million, $2024/25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Proposed CAPEX[28]	$63.0	$67.8	$62.9	$49.3	$27.4	$270.4
Recommended Low	$36.51	$39.29	$36.45	$28.57	$15.88	$156.70
Recommended High	$61.79	$66.50	$61.69	$48.35	$26.87	$265.20

Summary

The Renewals Program as outlined in the WaterNSW documents focuses on the systematic renewal or replacement of ageing infrastructure to ensure reliable water delivery and compliance with regulatory requirements. WaterNSW has planned a significant investment in this program, allocating approximately $270 million specifically for water infrastructure renewals, a marked increase from the previous period. Following request via an RFI, WaterNSW provided a Master Candidate List[29] which categorises the 147 projects that make up the water renewals program by valley, asset class and sum of cost per year. This list was used in conjunction with the Prioritisation excel sheet to assess each project in terms of Benefit and Value scores.

Due to the large number of projects in the Water Renewals Program it was not feasible to complete an assessment of every project. However, as part of the submission presentations, WaterNSW provided specific information on the following projects:

- Warragamba Deep Water Pumping Station
- Upper Canal Monitor and Respond
- Wingecaribee Peat Barrier Renewals
- Cascade Supply Reliability
- Greater Sydney Rockfall Stabilisation
- Broughton Pass Chlorine Renewals.

No major red flags were noted in these assessments. As with other completed options assessments, the urgency of the work was not fully demonstrated, however on the whole, the expenditure was deemed to be prudent and efficient.

WaterNSW's submission describes how the program's prioritisation is based on benefit-to-cost ratios, community engagement input, and alignment with strategic priorities. This is somewhat borne out in the documentation provided with the Operations Capital Project Prioritisation Procedure [30] and the FY26-30 Greater Sydney Final Prioritisation Sheet[31] outlining the seven benefit criteria that the projects are assessed against as well as the benefit scale and the relative weighting of the different criteria.

[28] Excluding Corporate Overheads

[29] FINAL- Master Candidate List GS Renewals.xslx – 24/7/2024

[30] CD2024/317 Operations Capital Project Prioritisation Procedure - Final, Rev C, 2 September 2024

[31] FY26-30 Greater Sydney Final Prioritisation inclusive of overheads (version 1).xlsb – 24/7/2024

These are detailed below. Note that benefit classifications which determine whether the criteria score none, very low, low, moderate, high or extreme are detailed at length under *Benefit Classification* tab of *FY26-30 Greater Sydney Final Prioritisation inclusive of overheads (version 1).xlsb*.

Table 5 – Criteria Weighting

Criteria	Weighting
Sustainable future	14.29%
Customer & communities	14.29%
Operational Performance - Service Delivery	14.29%
Operational Performance - Safety	14.29%
Operational performance - Compliance	14.29%
People development	14.29%
Stakeholder partnerships	14.29%

Table 6 – Criteria Scores

Score	Indicative Annualised Value	Definition
None	0	None i.e. no improvement
very low	5,000	very low
low	25,000	low
moderate	500,000	moderate
high	5,000,000	high
extreme	20,000,000	extreme

As shown in Table 5, the benefit criteria have been assessed to have equal weighting with one another. Reasoning for the selected weightings is not provided however it is suggested that WaterNSW review this going forward as some variation in weighting is expected. Typically, safety would be given greater weight.

The FY26-30 Greater Sydney Final Prioritisation Sheet provides Project Value and Benefit Scores however the basis of their calculation was not clearly set on the sheet or in the Operations Capital Project Prioritisation Procedure. WaterNSW described the process in an RFI response stating that the Benefit Score is produced by taking the log10 of the sum of the seven individual weighted annualised benefits scores for each project – for example Wingecaribee Peat Barrier Renewals Project was assessed as follows against the seven benefit criteria.

Table 7 Wingecaribee Peat Barrier Removals project benefits, as determined by WNSW

Wingecaribee Peat Barrier Renewals Project	Score	Indicative Annualised Value	Weighting	Weighted Annualised Value
Sustainable future	none	0	14.29%	0
Customer & communities	none	0	14.29%	0
Operational Performance - Service Delivery	high	5,000,000	14.29%	714,500
Operational Performance - Safety	none	0	14.29%	0
Operational performance - Compliance	none	0	14.29%	0
People development	none	0	14.29%	0
Stakeholder partnerships	none	0	14.29%	0
SUM of weighted annualised benefit scores				714,500
Benefit Score - *log10(SUM of weighted annualised benefit scores)*				5.85
Project Value Score - *SUM of weighted annualised benefit scores / (Cost[32]*7%[33])*				0.81

Note that one clear weakness of the scoring system is that the values of the resultant scores are prima facie arbitrary. It is clear that a higher benefit score provides greater benefit than a lower score and a higher value score, which incorporates project costs, provides a greater benefit to cost ratio than a lower value score but there is no clear or measurable benefit that can be surmised from either score due to the log scale. It is recommended that that scoring systems be reviewed by WaterNSW and irrespective of the outcome, the process should be formally documented.

Review of the FY26-30 Greater Sydney Final Prioritisation Sheet indicates that Projects with a project value score of greater than 0.20 are included in the Water Renewal Program however, there is no basis for this cut off provided in the documentation reviewed. Further assessment of the 147 projects in the FY26-30 Greater Sydney Final Prioritisation Sheet was completed to assess each project in terms of Benefit and Value scores. Of the 147 included projects included in the Renewal Program, 22 projects with a total cost of $5.19 million had no benefit higher than a Low and 78 projects with a total cost of $108.5 million had no benefit higher than a Medium. Also of concern was the fact that 46 of the 147 projects were not systematically assessed but rather had their benefit scores locked at extreme to "Scoring to force candidate to top of list"[34]. WaterNSW were not asked to provide specific comment on this matter during the course of this review.

32 Wingecaribee Peat Barrier Renewals Project cost: $12,657,509

33 Assumed interest rate of 7% use in Project Value Score by WaterNSW

34 24-07-2024 Projects Tab (Column T) - FY26-30 Greater Sydney Final Prioritisation inclusive of overheads (version 1).xlsb – 24/7/2024

Findings

1. Of the 147 projects proposed there are clearly a large number that need to be completed as a part of the Water Renewals Program. However, WaterNSW have not adequately described the level of strategic priority that gets a project included in the program. The approach of including projects with a project value score of greater than 0.2 is prima facie arbitrary.
2. In the absence of a justifiable basis for inclusion of projects in the program based on the *Project Benefit Score* and the *Project Value Score*, we found that the benefit scores for each criteria of the projects should be considered. As outlined in the *Benefit Classification* tab of *FY26-30 Greater Sydney Final Prioritisation inclusive of overheads (version 1).xlsb* and summarised in Table 6, projects are given a benefit score from none or very low to extreme against seven criteria based specific definition. The definitions for low and moderate scores across the criteria are reproduced in Table 8.
3. Based on the definitions in Table 8, we found it is prudent for projects with Medium or High benefits to be undertaken – but projects with only Low benefits are not sufficiently justified to proceed in this determination period. Further, projects with no more than Medium benefits may be deferred until the next determination period, but doing so carries some moderate risk.

Table 8 WNSW definitions for low and moderate scores against strategic priorities

Strategic priorities 2022+	LOW	MODERATE
Sustainable future	Minor environmental benefits at a single site at WaterNSW.	Moderate environmental benefits at a number of sites across NSW. OR A significant environmental improvement at a single site.
Customer & communities	A notable but modest increase in customer and community trust in WaterNSW's transparent, effective and equitable management of Water resources in a single valley/ External Customer Group.	A notable but modest increase in customer and community trust in WaterNSW's transparent, effective and equitable management of Water resources. Benefits felt in multiple valleys/ External Customer Groups.
Operational Performance - Service Delivery	The project resolves a minor risk where an impact to service delivery is unlikely. OR The project will result in a Modest incremental increase in services levels/ operational efficiencies for a small group of external customers.	The project resolves a Moderate risk to delivery of an unacceptable outage to services. OR The project will result in a Modest incremental increase (approx. 1%) in services levels/ operational efficiencies for a large group of external customers.
Operational Performance - Safety	Addresses a low health and safety risk at a single site.	Project addresses a moderate health and safety risk at a single site, OR Project addresses minor risks across several sites.

Strategic priorities 2022+	LOW	MODERATE
Operational performance - Compliance	The project addresses a compliance risk that may result in minor infringement notices, minor actions identified through operating license audits.	The project addresses a compliance risk that may result in infringement notices/ fines, or a single operating license breach.
People development	Delivers modest improvements to team performance at the L3 Team Level.	Delivers Significant leading capability improvements at the L3 Team Level. OR Delivers modest improvement to team capability at the Business Unit Level.
Stakeholder partnerships	As a result of the project there is a modest improvement in partnership with a key stakeholder in a single region/ valley.	As a result of the project, WaterNSW significantly improves partnership with a broad range of stakeholders in a single region/ valley to achieve generally accepted outcomes.

Box 7 Water Infrastructure Renewals Program

Proposed by WNSW $270.4 million

Recommended range $156.7million – $265.2 million

Low-expenditure scenario $156.7 million

- Deferring all projects within the program with a maximum individual Benefit Score of Medium or less to the next regulatory period.

The scenario carries a low risk due to the clear inference that medium and low benefits across the seven criteria provides only a medium risk of an incident related safety, environmental harm or interference of supply.

There is a risk that the condition of assets deteriorates and the projects that provide only modest benefits in turn provide greater benefit however this risk is balanced through on-going monitoring across the various systems.

High-expenditure scenario $265.2 million

- Deferring all projects within the program with a maximum individual Benefit Score of Low or less to the next regulatory period.

The scenario carries a very low risk due to the clear inference that low benefits across the seven criteria provides a low risk of an incident related safety, environmental harm or interference of supply.

2.5.6. Digital capital expenditure recommendations

We have adopted recommendations on the digital program from AtkinsRéalis. We have adapted the recommendations to be applicable for Greater Sydney, resulting in the following recommendations for the range:

- *Upper bound:* a reduction of $4.31 million across the regulatory period
- *Lower bound:* a reduction of $17.90 million across the regulatory period.

Further details on the recommended changes from the review of the digital program can be found in the AtkinsRéalis review of the WaterNSW rural valleys determination.

3. Assessment of operating expenditure

3.1. Overview

This section discusses WaterNSW's Greater Sydney forecast operating expenditure, and more specifically, our recommendations as to whether the forecast operating expenditure should be considered prudent and efficient.

3.1.1. Findings and recommendations

The key drivers for the differences between our recommendations and WaterNSW's proposed operating expenditure are:

- A recommendation to adopt 2023-24 as the base year for operating expenditure compared to 2022-23

  We considered that there was insufficient justification from WaterNSW to adopt the 2022-23 operating expenditure as the base year compared to the IPART guidance which would result in 2023-24 as the base year. Given that the controllable operating expenditure for 2022-23 was materially higher than 2023-24, this has a material impact on the recommended operating expenditure for the regulatory period. The choice of 2023-24 as the base year also resulted in lower adjustments for cost escalation than that proposed by WaterNSW.

- A recommendation to not accept (lower-bound) or accept a lower cost estimate (higher-bound) for the new operating model

  Our review found that the documentation for WaterNSW's new operating model was lacking in detail and did not sufficiently justify the costs associated with the new model. As a result, the lower-bound range recommendation was that no costs should be allowed for the new operating model.

- A recommendation to reduce the increase in digital-related operating expenditure

  Based on analysis undertaken by AtkinsRéalis, we have recommended an upper-bound range that reflects a reduction in software licensing and people-related digital costs. WaterNSW proposed an adjustment to the base and a trend factor for digital costs, however we have recommended that they be treated as one overall step change.

- Under the lower-bound range, the proposed step changes for crane safety and electrical safety were not recommended

  Based on the IPART requirements for step changes, we considered that there was insufficient information to justify the increase in operating expenditure for these two programs. This was due to the fact that the obligations referred to were not new obligations being imposed on WaterNSW. For the upper-bound range, we acknowledge that there may be some risk to WaterNSW assets (or staff) from not undertaking these programs and therefore IPART need to decide on where any allowance for the programs would fit within that range.

3.2. Overview of WaterNSW's forecasting approach

WaterNSW developed its forecast operating expenditure for the 2025-30 regulatory period using the base-trend-step approach. Application of this methodology is required by the Referral Notice and is consistent with general trends in economic regulation, including in the water sector.

The base-step-trend approach serves as a robust and transparent approach for forecasting WaterNSW's prudent and efficient operating expenditure in the Greater Sydney area. WaterNSW implemented the base-step-trend forecast consistent with the standard methodology. This involved the following key steps.

1. Determine a prudent and efficient base year of operating expenditure
2. WaterNSW adopted the 2022-23 year as the base year).
3. Apply trend factors that may account for demand or output growth, and input cost escalation
4. Determine if and how incentives need to be provided for efficiency improvements, and
5. Identify prudent and efficient step changes.

The following sections provide a summary of WaterNSW's approach to each of these forecasting elements.

3.2.1. Baseline operating expenditure

As outlined above, WaterNSW adopted the 2022-23 year as its baseline operating expenditure. WaterNSW states that this decision was made due to the 2023-24 operating expenditure being completed too late for inclusion in the pricing proposal. For regulatory purposes it is important to ensure that the operating expenditure for the baseline year reflects a 'typical' year and does not include any non-recurrent expenditure that would not otherwise be incurred going forward.

Adjustments to the baseline operating expenditure

Adjustments are made for non-recurrent expenditure and/or any normally recurring items of expenditure that were not incurred in the baseline year. Table 9 presents the adjustments that have been made by WaterNSW to form the adjusted 2024-25 baseline operating expenditure.

Table 9 WaterNSW proposed adjusted 2024-25 baseline operating expenditure for Greater Sydney ($2024-25)

	Value ($m)
Base controllable costs – 2022-23	112.2
Cost Escalation Factors and Provisions	*10.5*
Employee Labour Costs	3.5
Superannuation Obligations	0.3
Long Service Leave and Annual Leave	0.7
Insurance Premiums	0.4
Land Tax	0.8

	Value ($m)
Digital Related Costs	4.8
Operating Model Related Cost Changes	*12.0*
Efficiency Improvements – Cost Transformation Program	*(1.1)*
Overhead Allocation Adjustment	*(6.8)*
Ongoing Compliance Obligation Costs	*0.6*
Strategic (Flood) Modelling	0.6
Non-Recurrent Expenses	*(3.0)*
Flood Related Costs	(4.1)
Regulatory Submission Costs	1.1
Total Adjusted Base – 2024-25	124.3

Note: There was an inconsistency in the initial base operating expenditure between the AIR/SIR template and the Pricing Submission document whereby the document may have included non-controllable costs. We have adopted the information on controllable operating expenditure contained within the AIR/SIR template.

WaterNSW submits that the adjusted baseline for 2024-25 period of $124.3 million should be accepted as prudent and efficient baseline year expenditure. This operating expenditure baseline forms the basis for identifying steps changes across the operating expenditure categories. The remainder of this section details the drivers of the total base year adjustments for Greater Sydney.

Cost Escalation Factors and Provisions

The following adjustments relate to inflationary related impacts that have occurred between 2022-23 and 2024-25:

- *Employee and Contract Labour Costs* - WaterNSW adjusted 2022-23 labour costs to align with the updated WaterNSW Enterprise Agreement (EA). EA employees received a 4.93 per cent wage increase in both 2023-24 and 2024-25, while non-EA employees received a 4% annual increase.
- *Superannuation Obligations* – relates to increases in the superannuation obligations between 2022-23 and 2024-25. The guaranteed superannuation levy rose from 10.5 to 11 per cent in 2023-24 and to 11.5 per cent in 2024-25, also impacting employee labour costs.
- *Long Service Leave and Annual Leave* - Leave provisions were revaluated in line with wage growth and accrued entitlements. The base adjustment was necessary to ensure that WaterNSW's leave provisions accurately reflect salaries and wages at FY25 costs for both the EA and Individual Employee Agreement cohorts including statutory increases to the superannuation guarantee and comply with accounting standards.
- *Insurance Premiums* - Rising global risks, including extreme weather events, climate change, and cyber threats, have led to increased insurance premiums worldwide. This trend is impacting WaterNSW's insurance costs.
- *Land Tax* - WaterNSW's land values have increased substantially in the past two years, leading to a 22 per cent rise in land tax obligations for 2022-23. Additionally, Revenue NSW plans to value

additional land holdings not previously assessed by the Valuer General, potentially further increasing WaterNSW's land tax liability.

- *Digital operating expenditure* – This has increased due to several factors:
  - Software Licensing and Support: Rising costs due to increased user numbers, product price hikes, regional pricing adjustments, and new regulatory requirements.
  - Telecommunications and Networks: Costs have increased due to the 3G network shutdown, increased bandwidth needs, CCTV installations, telemetry site expansions, customer help desk licensing, flood recovery efforts, and telecommunications contract renewals.
  - Cloud Consumption and Data: Continued migration to cloud-based solutions, as per NSW Government directives, has led to increased cloud and data costs.

Operating Model Related Cost Changes

WaterNSW implemented a revised operating model in 2022 to streamline decision-making, consolidate functions, and clarify accountabilities. The proposed changes in the operating model costs for WaterNSW reflect adjustments across the entire operational landscape (i.e. an organisational-wide focus), encompassing Greater Sydney, WAMC and the Rural Valleys. Given this, the focus of the discussion on the driver for the new operating model from WaterNSW is not specific to Greater Sydney. A key outcome from the new operating model involved reducing the number of executive and senior management portfolios from ten to seven, with new roles designed to have broader responsibilities.

From a whole-of-business perspective, the most significant cost driver is the addition of new headcount, which contributes to a $10 million increase. Vacancy and normalisation adjustments add a further $5 million, while capability uplift accounts for a $1.0 million increase. Increased allocation to core projects leads to an additional $3.4 million, and investments in digital and ICT platforms and systems contribute another $3.5 million. Lastly, other base adjustments amount to $1.8 million.

Efficiency Improvements – Cost Transformation Program

WaterNSW has proposed an efficiency adjustment to reflect efficiencies through streamlining of its organisational structure, reducing property leasing costs and cutting contract labour. WaterNSW projected efficiency savings to be delivered through a reduction in contractor and consultant use, and contingent labour costs. Procurement savings and revised scheduling to reduce overtime were also projected to deliver efficiency savings.

Overhead Allocation Adjustment

WaterNSW states that a greater proportion of corporate costs are being allocated to capital projects due to a higher capital expenditure leading to a reduction in regulated operating costs. WaterNSW implemented this adjustment to overhead costs to ensure that the allocated costs to the regulated operating expenditure reflect the actual resources utilised by each service stream and reflects where customers are benefitting.

Ongoing Compliance Obligation Cost

WaterNSW incurs costs to ensure it complies with its regulatory obligations. These regulatory obligations ensure WaterNSW operates safely, efficiency and sustainably, while protecting public health, the environment, and consumer interests. WaterNSW proposes for the Greater Sydney determination a base year adjustment for strategic flood modelling. This will support:

- Long-term strategic planning, mitigation strategies development and prioritisation.

- Flood and storage operations in NSW.
- Managing asset risks from climate change.

Non-Recurrent Expenses

WaterNSW's Greater Sydney business segment has non-recurrent expenses relating to flood related costs and preparing the regulatory pricing submission.

- WaterNSW's operations and customers were impacted by severe storms and flooding events in 2022-23. These floods prevented access to sites resulting in the deferral of asset maintenance and renewal programs, and land management and metering upgrades to 2023-24. The maintenance expenditure resulting from physical damage caused by the flooding events or deferred maintenance programs were excluded from the Base year.
- WaterNSW has made an increase adjustment to the baseline operating expenditure of $1.1 million. This is in addition to the $357k of regulatory submission costs within WaterNSW's 2022-23 base year operating expenditure. This reflects a forecast level of expenditure on regulatory submission costs of $1.48 million per annum. WaterNSW has then made step changes for each year of the regulatory period (both increases and decreases) to align with its annual budgeted forecast for regulatory submission costs.

3.2.2. Trend operating expenditure

The AIR/SIR template allows for the application of an overarching efficiency factor, growth factor and cost escalation factor to determine the trend aspect of the operating expenditure, however WaterNSW has put forward individual line items with a cost breakdown – essentially treating each item as a step change. WaterNSW has proposed a total trend component for operating expenditure of $9.8 million for Greater Sydney over the determination period (Table 10). The main drivers of increases in trend operating expenditure come from applying efficiency savings and increases in labour costs and land tax valuation costs.

Table 10 Greater Sydney OPEX Forecast Trend ($m, $2024-25)

Trend change	2025-26	2026-27	2027-28	2028-29	2029-30	Total
Labour	0.5	1.0	1.5	2.0	2.6	7.7
Insurance	0.5	0.8	1.0	1.2	1.3	4.8
Land tax valuation	0.6	1.2	1.9	2.6	3.4	9.6
Efficiency savings	(1.1)	(2.1)	(3.2)	(4.4)	(4.5)	(15.3)
Digital	0.5	0.5	0.8	1.2	0.0	2.9
Total Trend Change	**1.0**	**1.5**	**2.0**	**2.6**	**2.7**	**9.8**

Labour

Approximately 60 per cent of WaterNSW's operating expenditure is labour. WaterNSW propose that wage cost increases are expected to outstrip inflation over the next few years which will place pressure on labour costs and service delivery. WaterNSW has therefore forecasted a 1 per cent per annum 'real' change in the future price of labour.

WaterNSW engaged Deloitte Access Economics (Deloitte) to forecast key macroeconomic variables relevant to WaterNSW's future operating and capital expenditure, outlined in the attachment, 'Macroeconomic analysis for pricing submission'. Deloitte examined the evolution of the NSW economy over recent years to forecast macroeconomic variables including inflation, the labour market, wages and utilities industry wages. The forecasting of these variables informed WaterNSW's labour trend adjustments to operating expenditure.

Deloitte's report projected that expected wage growth, based on the wage price index (WPI), would cool in the second half of 2024, reflecting trends in the labour market. CPI was forecast to slow in 2024, 2025 and 2026. Deloitte outlined that while wage growth has peaked, it was still expected to continue to outpace consumer price inflation in each upcoming quarter. In the NSW utilities industry, wages are anticipated to grow by 2.9 per cent in 2024 and 3.3 per cent in 2025, remaining below the national WPI level.

Land tax

Land tax is calculated on the total value of taxable land above the land tax threshold and is determined on the average land value from the current year and the two past years as determined by the NSW Valuer General. WaterNSW's land tax costs are anticipated to increase due to the continuation of increases in the market value of land as well as greater proportion of WaterNSW land holdings to be valued by the Valuer General.

Insurance

Global insurance rates are increasing due to escalating climate-related risks and cyber threats. WaterNSW states that while the Treasury Managed Fund offers cost-effective coverage, the increasing frequency and severity of claims, coupled with rising global insurance costs, have contributed to a significant increase in WaterNSW's insurance premiums. The recent introduction of a deductible $10,000 per occurrence for Property claims from July 1 2024, has partially mitigated this impact.

Efficiency Improvement Rate

WaterNSW's key areas of focus for both short- and long-term costs efficiencies across the business are:

- Technology
- Labour including contractors
- Procurement
- Operational Efficiencies
- Capability
- Property.

The efficiency improvement rate for Greater Sydney leads to $15.3 million trend component over the determination period. The efficiency factor finishes at the end of 2028-29 as WaterNSW states that it has not identified efficiency programs beyond this point.

Digital costs

WaterNSW states that its adoption of cloud computing, while aligning with industry trends and offering scalability and agility, has led to increased operating costs. Cloud operating costs are increasing at a rate above inflation with additional data, new functions for customers, improved security and vendor price rises. WaterNSW states that through ongoing cost reduction efforts and

efficiency improvements, it has managed to mitigate these increases, resulting in a less significant overall impact on digital-related costs over the FY26-30 period.

3.2.3. Step change operating expenditure

WaterNSW has proposed step changes to account for recurrent controllable operating costs of providing services not covered by the adjusted base year or trend variables. We note that there were inconsistencies in the step change adjustments between the AIR/SIR information template and the WaterNSW pricing submission. Given these inconsistencies we have relied on the expenditure forecasts in the AIR/SIR as the source of truth as this template is what IPART relies upon for its determination.

WaterNSW has proposed a total step change reduction in operating expenditure of $13.6 million for Greater Sydney over the determination period. Table 11 presents the operating expenditure step changes that have been identified by WaterNSW through the base-trend-step process. While there are some increases, the most significant change is a reduction in the overhead allocation adjustment that is applied to Greater Sydney, resulting in the overall reduction in operating expenditure. It should be noted that the WaterNSW pricing submission included increases in step change costs associated with Water Licence Fees, however these are non-controllable costs and we have therefore treated it as such.

Table 11 Greater Sydney operating expenditure step changes ($m, $2024-25)

OPEX steps	2025-26	2026-27	2027-28	2028-29	2029-30	Total
New Operating Licence Conditions	0.0	0.0	0.0	0.0	0.0	0.0
Compliance Uplift with Existing Regulatory Requirements	1.7	1.4	0.8	0.9	0.5	5.3
New Regulatory Requirements	0.4	0.3	0.3	0.3	0.3	1.7
Regulatory Submission Costs	(1.0)	(0.9)	0.0	0.5	(0.5)	(2.0)
CSO / Grant Expiry	(1.1)	(1.1)	(1.1)	(1.1)	(1.1)	(5.4)
Overhead Allocation Adjustment	(1.2)	(4.5)	(4.3)	(2.4)	(0.2)	(12.7)
Other Step Changes	2.2	(0.8)	(0.9)	(0.7)	(0.4)	(0.5)
Total Steps	**1.0**	**(5.5)**	**(5.1)**	**(2.5)**	**(1.4)**	**(13.6)**

Note: WaterNSW captured changes in Water Licence Fees as a step change in the Pricing Submission document however these are non-controllable and not treated as a step change within the base-trend-step approach. The Pricing Submission did not identify 'Other Step Changes' that were identified within the AIR/SIR template.

The following provides a further summary of each of the proposed step changes.

Compliance Uplift with Existing Regulatory Requirements

WaterNSW requires step changes in operating expenditure to ensure compliance with existing requirements. There are currently regulatory compliance gaps in land management, crane safety, and electrical safety (Table 12). These initiatives are essential to protect workers, the public, and the environment.

Table 12 Greater Sydney Compliance uplift expenditure step changes ($2024-25)

OPEX steps	2025-26	2026-27	2027-28	2028-29	2029-30
Crane Safety Improvement	663,930	540,850	519,770	519,770	519,770
Electrical Safety Program	1,000,000	1,200,000	600,000	350,000	250,000
Regulatory Costs	10,789	10,341	10,343	10,814	11,166
Catchment Audit	(11,828)	(311,828)	(311,828)	(11,828)	(311,828)
Total	**1,662,891**	**1,439,363**	**818,285**	**868,756**	**469,108**

- *Crane Safety Improvement* - WaterNSW has proposed additional expenditure for an enhanced maintenance program to ensure its fleet of cranes, hoists, and winches complies with Australian Standards. This includes completing the 10-yearly major inspections and assessments for many critical assets used in the safe maintenance of core water delivery systems. With over 280 such assets in operation, the activity aims to align maintenance strategies with industry best practices and legal requirements, reducing safety risks. Key activities include routine inspections, mobile crane registrations, 10-yearly assessments, and minor maintenance.
- *Electrical Safety Program* – WaterNSW states that the Electrical Safety Improvement (ESI) program focuses on identifying, quantifying, and managing major electrical safety risks across WaterNSW powered sites. This is an expansion of the program from the 2021 determination for rural valleys, aimed at meeting legislative requirements, including the Work Health and Safety Act 2011 and Regulation 2017. Failure to address these risks could result in harm to workers and plant, and non-compliance with safety regulations and ISO 55001. Key activities include creating single line diagrams, conducting safety audits (such as arc flash assessments), and performing detailed engineering studies on earthing and lightning protection. The forecast is based on learnings from prior work.
- *Catchment Audit* – WaterNSW is no longer required to undertake some catchment audit activities which results in a negative step change in operating expenditure.

New Regulatory Requirements

WaterNSW has proposed a step change in operating costs to comply with new regulations (Table 13). Under Part 9 of its Operating Licence, WaterNSW must account for climate change when calculating yield when they advise the Minister. This requires developing accurate data on climate change impacts, including effects on flood and drought severity and long-term water security. WaterNSW states that to achieve this capability it will need 1.6 FTE annually for five years and access to updated climate data. This research will support climate adaptation planning to ensure long-term water security for the Greater Sydney Basin.

Table 13 Proposed new regulatory requirements step change ($2024-25)

OPEX steps	2025-26	2026-27	2027-28	2028-29	2029-30
New regulatory requirements	439,993	314,586	317,773	320,969	324,230

Regulatory Submission Costs

WaterNSW has proposed a negative step change for regulatory submission costs which are a reduction in costs across the regulatory period to balance the increase in costs through the adjustment to the baseline operating expenditure. The value of the step change is based on the adjustment to the base which increased the operating expenditure for regulatory submission costs across the regulatory period. The reductions for each year are based on deriving the forecast expenditure for each year from WaterNSW's budget through the combination of the increase in the base operating expenditure and the reduction in the step change (Table 14).

Table 14 Proposed regulatory submission costs step change ($2024-25)

OPEX steps	2025-26	2026-27	2027-28	2028-29	2029-30
Regulatory submission costs	(967,066)	(940,419)	-	459,582	(518,485)

Community Service Order (CSO) or Grant Expiry

WaterNSW identified that it could receive a Community Service Order payment from the NSW Government relating to land management that will reduce the operating expenditure required to be recovered from Greater Sydney customers. We note that this CSO is still subject to NSW Government approval.

Table 15 Proposed Community Service Order (CSO) or Grant Expiry step change ($2024-25)

OPEX steps	2025-26	2026-27	2027-28	2028-29	2029-30
CSO / Grant expiry	(1,082,647)	(1,083,376)	(1,085,890)	(1,088,410)	(1,090,985)

Overhead Allocation Adjustment

This step change in overhead allocations is in addition to the adjustment to the base and reflects a revised allocation of corporate overhead costs to capital projects, impacting the regulated portion of operating costs. It is driven by WaterNSW's overall cost allocation framework that assigns costs to activities and determinations across the whole business.

Table 16 Proposed overhead allocation adjustment step change ($2024-25)

OPEX steps	2025-26	2026-27	2027-28	2028-29	2029-30
Overhead allocation adjustment	(1,218,263)	(4,537,356)	(4,299,560)	(2,426,378)	(229,868)

Other Step Change

The 'other step change' proposed by WaterNSW is an overall reduction in operating expenditure over the upcoming regulatory period. No further information was provided by WaterNSW in regard to this step change.

Table 17 Proposed other step change ($2024-25)

OPEX steps	2025-26	2026-27	2027-28	2028-29	2029-30
Other step changes	2,150,114	(753,262)	(862,862)	(664,769)	(382,136)

3.2.4. WaterNSW approach to base-trend-step forecasting

In reviewing the forecast operating expenditure proposed by WaterNSW, we note that this is the first time that it has forecast operating expenditure under IPART's new regulatory framework. We would therefore expect that processes would improve over time through further understanding and practical application.

The new IPART regulatory framework requires WaterNSW to adopt a base-trend-step approach to forecasting operating expenditure. This has been designed to enable a clear focus of the analysis on the three different elements of the forecast expenditure, the base, trends and step changes. It appears from the analysis of WaterNSW's approach to forecasting operating expenditure has been to undertake a standard 5-year budget forecast and then subtract the base year to determine what the annual changes would be and then sought to align the outputs with the base-trend-step model.

This approach has made it difficult to undertake a thorough assessment under the base-trend-step approach and we have therefore had to make some adjustments within our analysis to better align with the framework's approach.

3.3. Assessment of baseline operating expenditure

IPART Requirements for Baseline Recurrent Controllable Operating Expenditure:

IPART has outlined specific requirements for determining baseline recurrent controllable OPEX in WaterNSW's pricing proposal. The baseline OPEX must reflect the business's efficient recurrent controllable operating expenditure from the second last year of the current determination period, which should also be the most recent year with a full 12 months of available data.

The baseline OPEX should then be adjusted to ensure it accurately represents efficient and ongoing expenditure by:

Removing non-controllable expenditure items - These items should be forecast separately, as noted in IPART's guidelines.

Excluding one-off or non-recurring expenditure items - Any atypical costs incurred in the base year should be removed. Similarly, if there are normally occurring items that were not incurred in the base year, they should be added to reflect standard operations.

Removing additional cost savings or efficiency improvements - Any expected or committed savings in the final year of the current determination period should be excluded. This includes ongoing efficiency improvement expectations set by IPART for the current determination period.

IPART also requires the pricing proposal to demonstrate the efficiency of the adjusted baseline OPEX. This can be done using methods such as benchmarking analysis. Furthermore, the proposal should provide clear justification for all adjustments made to the baseline OPEX and explain any deviations from the base-year OPEX allowance that was previously determined by IPART.

Source: "IPART Water regulation Handbook July 2023" pg. 43

3.3.1. Selection of the base year

In adopting a baseline year for forecasting operating expenditure for the regulatory period under the base-trend-step approach, WaterNSW adopted the 2022-23 financial year as its last year of actual operating expenditure. WaterNSW submitted its pricing proposal on 30 September 2024. Given the guidance from IPART that the baseline should be the most recent year with a full 12 months of available data (2023-24), this is inconsistent with the IPART guidance. WaterNSW stated that it adopted the earlier year (2022-23) as it considered the timing for when the 2023-24 information to be available to be too late to incorporate within its pricing proposal.

We understand that this is the first time of the base-trend-step approach for WaterNSW and IPART and therefore improvements in process will be made over time. For comparison, the ESC has applied a base-step-trend for forecasting its operating expenditure across multiple regulatory reviews. For the 2023 Price Review, businesses were required to submit pricing proposals by 30 September 2022 (same timing requirement as IPART) and all 14 businesses that submitted applied the 2021-22 financial year as the base year for forecasting operating expenditure. This demonstrates that it is reasonable to expect a business to use the previous 12 months as the base year for operating expenditure.

The focus for the base year selection is on the controllable operating expenditure for WaterNSW as the uncontrollable can fluctuate and, by definition, is outside the control of WaterNSW. Figure 4 shows actual and forecast controllable operating expenditure for the Greater Sydney division of WaterNSW. It can be seen from this that there is a material difference in the controllable costs for 2022-23 and 2023-24.

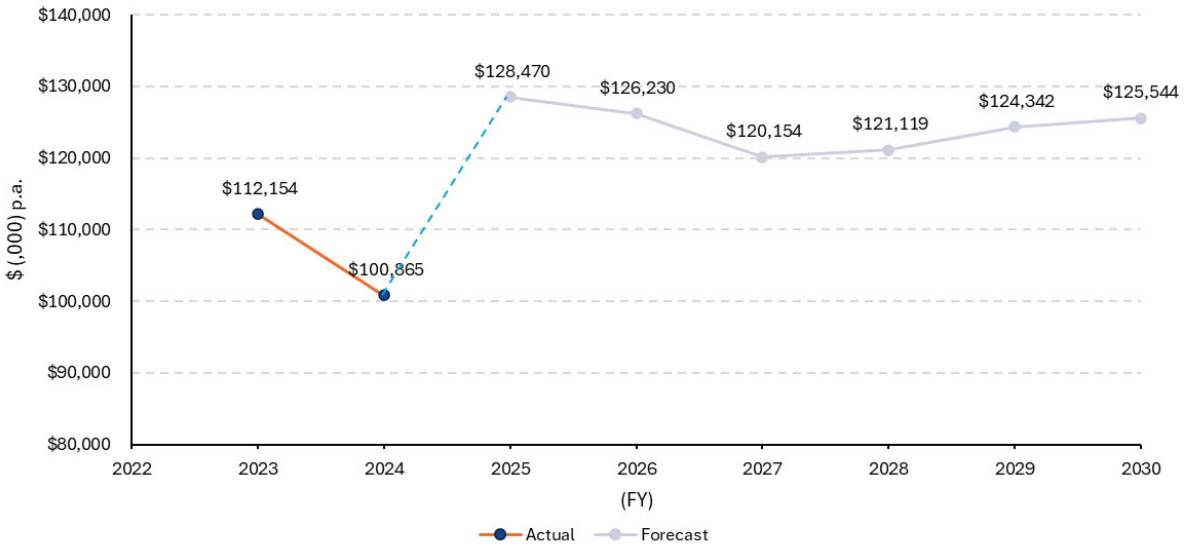

Figure 4 Actual and forecast controllable operating expenditure for Greater Sydney ($,000) (AIR/SIR)

In adopting the base-trend-step approach for forecasting of operating expenditure, the choice of the base year has a material impact on the allowance for operating expenditure in the upcoming regulatory period. Ignoring any adjustments to the base, the selection of 2022-23 as the base rather than 2023-24 results in over $50 million in additional operating expenditure over the regulatory period. This is a material difference and represents just short of an additional year of operating expenditure for WaterNSW.

It should be noted that the previous IPART regulatory determination did not explicitly separate operating expenditure between controllable and non-controllable, therefore it is not possible to do a backward-looking comparison of controllable operating expenditure against the IPART allowance for the current price period. Figure 5 provides a comparison of the total actual operating expenditure for Greater Sydney against the IPART approved allowance for the Greater Sydney determination. It can be seen from this that there is a material difference in 2022-23, however 2023-24 operating expenditure is similar to the IPART allowance.

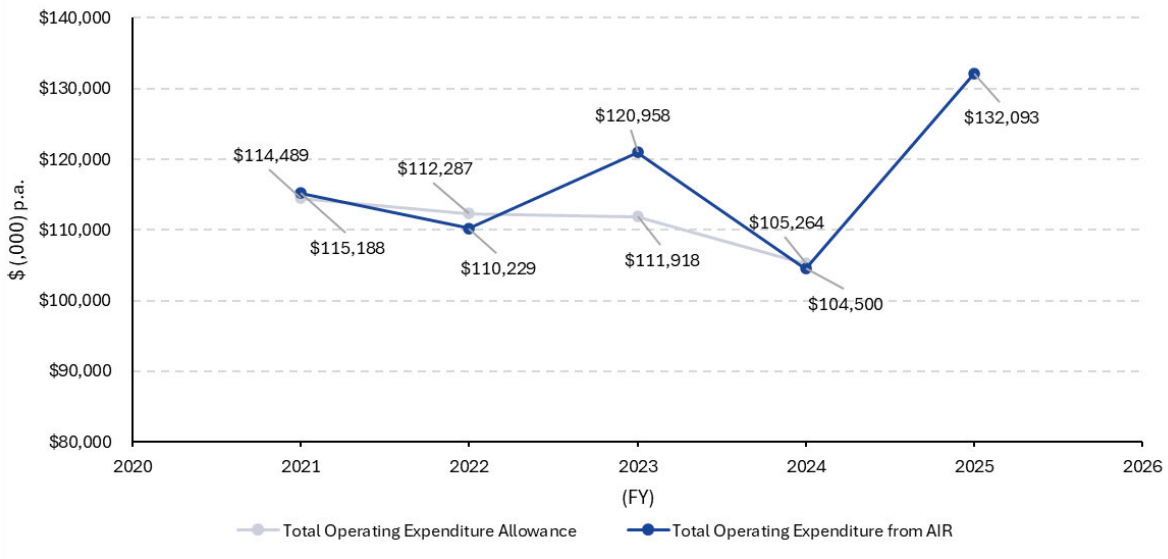

Figure 5 Total operating expenditure for Greater Sydney ($,000)

In explaining the overspend compared to the IPART allowance for 2022-23, WaterNSW states that it related to a significant flood event and related costs (such as overheads, contractors and salaries and wages) that disrupted operations and incurred additional costs (some of which were recovered through insurance).

To understand whether the choice of 2022-23 as the base year is appropriate, we also sought additional information from WaterNSW on the current levels of actual operating expenditure for the current year – 2024-25. WaterNSW has currently underspent on the 2024-25 proposed budget by $10.6 million across the first quarter of the financial year.[35] This underspend has been driven by a variety of factors such as lower costs, new initiatives being implemented and improvement works. WaterNSW states that while there is an underspend currently, it is of the view that the current delayed spend will be 'caught up' in the remainder of the financial year.

We acknowledge that the incurring of operating expenditure is not always linear throughout a financial year and that there can tend to be an uplift towards the end of the financial year. However, the explanations provided by WaterNSW regarding the current underspend appear to relate to reductions in costs from initiatives undertaken by WaterNSW and not based on delayed projects that are expected to 'ramp up' later in the year. This material underspend for the start of 2024-25 results in a further loss of confidence that the base year proposed by WaterNSW (2022-23) is appropriate.

The IPART guidance requires the regulated water utilities (Including WaterNSW) to use the most recent year of actual expenditure as the base for forecasting operating expenditure for the regulatory period. Given that WaterNSW has adopted a different approach, we need to consider whether there is sufficient justification from WaterNSW to adopt an approach that is inconsistent with the Handbook.

Based on our analysis of the base year operating expenditure, we have concerns regarding the efficiency of the proposed use of 2022-23 operating expenditure as the base year. This is driven by a combination of factors such as:

- the considerable increase in costs compared to other years of the current regulatory period (especially 2023-24)
- higher level of expenditure than the IPART determination allowance

[35] This is for the whole of WaterNSW, not just the Greater Sydney determination.

- the current level of underspend on the budget for 2024-25.

Given this, we do not have confidence that 2022-23 operating expenditure reflects an appropriate base year of operating expenditure for the upcoming regulatory period and therefore there is insufficient justification to deviate from the guidance. We consider that 2023-24 is likely a better reflection of the base operating expenditure for the upcoming regulatory period and is consistent with the IPART guidance of using the last year of actual operating expenditure for the base operating expenditure. While we note that there are timing issues for WaterNSW in relation to the use of 2023-24 operating expenditure, sufficient analysis of the base year and subsequent step changes could be undertaken prior to the financial audit being finalised (as occurs with other regulated businesses). While not a definitive factor, it should also be noted that the 2023-24 is relatively consistent with the IPART approved allowance for 2023-24 from the previous review.

Given this, we recommend that 2023-24 is adopted as the baseline operating expenditure. However, this creates a subsequent problem for the review as each of the subsequent base adjustments, trend costs and step changes put forward by WaterNSW are based on the use of 2022-23 as the base year.

3.3.2. Adjustments to the base year operating expenditure

The recommendation above to adopt the 2023-24 operating expenditure as the baseline for the upcoming regulatory period creates a complication when considering any adjustments to be made to the base operating expenditure. The adjustments to the base operating expenditure put forward by WaterNSW specifically relate to the 2022-23 operating expenditure that it has adopted as the base year. This means that any changes to the base year will create a disconnect with the initial adjustments put forward by WaterNSW. We understand that this is not ideal from an analysis perspective, however, given our findings on the base year for operating expenditure, it is unavoidable. Given this, some of our recommendations are based on the best available information which may lend itself to a degree of inaccuracy.

The following provides our assessment of the adjustments that were put forward by WaterNSW.

Cost Escalation Factors and Provisions

Where the base-trend-step approach is applied to operating expenditure, it is common practice for the base year to be adjusted to the opening year of the regulatory period through the use of existing efficiency and growth/cost escalation factors that were set in the previous determination. Given that this is the first time that the base-trend-step approach has been applied for WaterNSW, these factors had not been previously determined in the same way.

Without these previous factors, WaterNSW has sought to update the baseline (the proposed 2022-23 base year) to 2024-25 through the inclusion of explicit escalation factors and other provisions. These adjustments were based on a difference of two years – 2022-23 to 2024-25 – however our recommendation of adopting 2023-24 as the baseline operating expenditure means that there is only one year difference.

Information provided by WaterNSW provided a breakdown of the increase in labour costs for this adjustment. These adjustments were in nominal terms to account for the actual 2022-23 base operating expenditure being in nominal and forecast 2024-25 expenditure being in $2024-25. Table 18 provides a breakdown of the proposed labour cost escalation for the adjustment to the base operating expenditure. This adjustment is based on actual wage increases for WaterNSW employees.

Table 18 Greater Sydney labour expenditure baseline cost escalation adjustment

	2022-23	2023-24	2024-25
Labour costs	33,350,950	36,031,427	51,492,525
Wage Increases			
EA Wage Increases		*5.43%*	*5.43%*
IEA Wage Increases		*4.00%*	*4.00%*
Cost Increases			
Labour cost escalation		1,701,265	1,837,999
Total labour cost escalation			**3,539,264**

Based on our recommendation to adopt 2023-24 as the baseline year for operating expenditure, we recommend that the adjustment for labour increases reflects the adjustment from 2023-24 - $1,837,999.

Superannuation, long-service leave and annual leave provisions

WaterNSW provided information on how it calculated changes in the provisions for superannuation, long-service leave and annual leave from 2022-23 to 2024-25. With the information outlined the calculation, it was not possible to understand the breakdown of the cost impact across the two years.

With the recommendation of adopting 2023-24 as the base year, this would result in only one-year of an adjustment rather than two. In the absence of more detailed information, we recommend that the proposed adjustment in these provisions be halved to reflect this.

Table 19 Greater Sydney superannuation, long-service leave and annual leave cost escalation adjustment

	Proposed	Recommended
Superannuation	301,181	150,591
Long-service leave and annual leave	740,620	370,310

Insurance

The adjustment to the base for insurance costs was based on the difference in cost from 2022-23 to 2024-25. From data provided by WaterNSW we can see the insurance costs across both 2022-23 and 2023-24 (see Table 20). Given the recommendation to adopt 2023-24 as the base year for operating expenditure, we propose that the insurance costs for 2023-24 is the base to derive any adjustments for determining the base for forecast operating expenditure. This works out to be a recommended adjustment of $162,608 which equates to an increase of less than 5 per cent which appears reasonable.

Table 20 Greater Sydney insurance adjustment to the baseline operating expenditure

	2022-23	2023-24	2024-25
Insurances - Property	2,581,841	2,895,587	2,936,944
Insurances - Public Liability	508,872	404,461	525,712
Total	**3,090,713**	**3,300,048**	**3,462,656**

Land tax

As noted previously, the recommendation to adopt 2023-24 as the base year impacts the subsequent adjustments proposed by WaterNSW. In reviewing the detailed dataset from WaterNSW, the land tax incurred for 2023-24 was $5.66 million which was less than the $6.08 million in 2022-23. It is not clear why there was a reduction in 2023-24.

Applying the 8.4 per cent increase (which includes inflation, see section 3.4.43.4.4) which was recommended by JLL to the 2023-24 land tax cost equates to an adjustment of $475,469 (total expenditure of $6.134 million). We recommend that this value is the adjustment for land tax to the base operating expenditure.

Digital

WaterNSW proposed a material adjustment to the base operating expenditure of $4.8 million for digital platforms and systems which it states are designed to enhance overall system performance and user experience. Based on analysis undertaken by AtkinsRéalis, we consider it best to assess the whole digital program as a specific step change rather than the proposed approach which had an adjustment to the base and trend factor. This change was primarily driven by an inability to sufficiently assess the different drivers of the expenditure under the proposed approach.

New Operating Model

As outlined in section 3.23.2.1, WaterNSW introduced a new Operating Model based on bringing together complementary areas of the business to streamline decision-making, consolidate functions and provider clearer accountabilities. WaterNSW states that it established a transformation office function in 2022 as part of the new operating model with a key focus to identify and track cost reduction opportunities. WaterNSW notes that for the next determination period, this function will continue to focus on driving cost efficiencies across the business. The costs associated with the new operating model included costs such as new staff, capability uplift, digital costs, vacancy and FTE normalisation.

From the information provided, it was difficult to determine the cost details for the new operating model and the incremental nature of the costs to 2022-23 given the statements that part of the internal restructuring occurred during 2022. Further to this, it is not possible to understand the incremental nature of the costs from 2023-24, given that there would also be implementation costs associated with the new operating model within 2023-24.

A key driver of the new operating model is the achievement of efficiencies across the business, however, it is unclear from the information provided by WaterNSW that the benefits to customers of the new Operating Model outweigh the costs associated with implementing the new Operating Model.

The Operating Model cost adjustment to the base for Greater Sydney is an increase of $11.973 million. This equates to an additional $59.865 million across the regulatory period in operating expenditure. We understand that one of the benefits associated with the new Operating Model would be the enhanced ability for WaterNSW to achieve its efficiency targets for the upcoming regulatory period, however there is a material difference (over $44 million) between the additional cost of the new Operating Model and the efficiency improvements that have been put forward by WaterNSW for Greater Sydney.[36]

For any material change in operating model such as this, we would expect that a detailed business case would be developed, similar to capital projects, that demonstrates the justification for the investment in the new operating model and how the benefits will outweigh the costs of undertaking such internal investment. We did not receive any documentation that demonstrated this type of an approach.

The added difficulty with the recommend shift in the base year from 2022-23 to 2023-24 is that it is not clear what the incremental impact would be from the proposed adjustment if it were 2023-24 rather than 2022-23. We would expect that there would be some difference as WaterNSW has been implementing the new Operating Model and would likely have incurred some costs in 2023-24, however it is difficult to understand what this difference might be.

As an example, a Corporate Affairs portfolio was formed as part of the Operating Model in 2022-23, bringing together a number of teams that had formerly operated in different areas of the business. The new function will, among other things, lead engagement with customers, community and stakeholders. The new team has increased in headcount from 24 in 2022-23 to 33 in 2023-24 and 36 in 2025-25. This highlights that there was an increase in headcount for this portfolio in the recommended new base year of 2023-24 (and therefore would be an increase in cost) and therefore the original adjustment proposed by WaterNSW based on 2022-23 is no longer appropriate.

We understand and accept that new operating models are implemented by businesses and are sometimes required to achieve desired efficiencies. However, we have concerns regarding the lack of detail provided by WaterNSW to justify the material increase in cost to the baseline operating expenditure. From the information provided, it is difficult to justify the increase in operating expenditure for this adjustment, however it is also difficult to derive an alternative estimate with a degree of certainty. Further to this, the recommendation to change the base year to 2023-24 adds additional complexity to understanding any justifiable increase in costs associated with the new operating model.

Ultimately, it could be determined that the implementation of the new Operating Model has not been justified and therefore no adjustment should be made to the base operating expenditure (however it should be noted that this may impact WaterNSW's ability to achieve the forecasted efficiencies). Alternatively, an allowance for additional costs for implementing a new Operating Model to achieve the desired efficiencies may be required, however it is difficult to derive an appropriate adjustment value given the concerns we have regarding the information provided by WaterNSW.

In making a recommendation to this adjustment to the baseline operating expenditure, we have considered the adjustment as a whole and have not sought to make adjustments to the individual elements that make up the costs associated with the new operating model.

[36] This high-level comparison only considers the costs and efficiencies related to the forecast regulatory period, it should be noted that there are costs and efficiencies proposed by WaterNSW in transitioning from the base year to the forecast period.

For the lower-bound of the range, we consider that the justification of the costs for the new operating model is insufficient and therefore no adjustment to the base operating expenditure should be implemented. For the upper-bound of the range, we understand that there may be some valid costs associated with implementing a new operating model and the potential cost savings to customers it may generate. The issue for our analysis is that from the information provided, it is not possible to accurately estimate an alternative cost estimate to adjust the 2023-24 base operating expenditure. While this is somewhat arbitrary, we consider aligning the upper-bound of the range relatively equal to the efficiency savings within the forecast regulatory period could be a reasonable approach as it would ensure that customers are no worse-off within the regulatory period from the costs associated with the new operating model.

This alignment with the efficiencies is not straight-forward however as there is a circular reference in how it is calculated and the fact that there is a range for the efficiency factor. Given this we have adopted an approach to approximate the mid-point of the range of efficiencies, noting that it will not be completely accurate due to the adjustment of the base impacting on the efficiency values.

Table 21 outlines the efficiency savings across the upcoming regulatory period for each year and broken down between the baseline adjustment and the trend factor. As the baseline adjustment for the new operating model is only to apply in the base year, but will be carried forward in each year of the regulatory period (across 6 years), the estimated high-point of the range for the new operating model base adjustment has been derived as the initial, one-off adjustment required to cover the efficiencies across the regulatory period. This approach results in a recommended adjustment to the base operating expenditure of $3.740 million for the new operating model. As discussed, this adjustment is rather arbitrary and has been developed in a way to provide a range for IPART that would result in the new operating model not costing more than the efficiencies being recommended for WaterNSW.

Table 21 Recommended upper-bound range for new operating model adjustment to the base ('000s)

	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Baseline efficiency adjustment	1,008	1,008	1,008	1,008	1,008	1,008
Estimated mid-point of efficiencies from trend factor		1,098	2,192	3,282	4,369	5,453
Efficiencies	1,008	2,106	3,200	4,290	5,377	6,461
Total efficiencies						**22,441**
Initial baseline adjustment	3,740					
Annual cost for new operating model	3,740	3,740	3,740	3,740	3,740	3,740
Total cost for new operating model						**22.441**

Efficiency improvements

The proposed efficiency improvement adjustment from WaterNSW was $1,134,835. This was based on an efficiency from 2022-23 to 2024-25 (a two-year period) and equates to just under a 1 per cent efficiency on the 2022-23 base across the two years.

As outlined in section 3.2.43.2.4, the standard approach for updating the base year for operating expenditure under the base-trend-step approach is to apply the previous growth/cost escalation and efficiency factors. While the base-trend-step approach was not in place in the previous IPART review for Greater Sydney, we note that IPART applied an ongoing efficiency factor of 1.0 per cent for the current regulatory period.

Based on our recommendation to adopt 2023-24 as the base year and therefore only one year between the base year and 2024-25, we recommend that the previous IPART decision of 1 per cent efficiency factor is applied to the 2023-24 base operating expenditure to derive the adjusted base operating expenditure for determining the forecast operating expenditure. This approach results in an efficiency adjustment of $1,008,650.

Overhead allocation adjustment

With the recommended change of the base year from 2022-23 to 2023-24, we have reviewed the overhead allocations for each of these years. In 2022-23, there was 34 per cent of the overhead pool that was allocated to Greater Sydney operating expenditure. In 2023-24, this reduced to 25 per cent. The forecast for 2024-25 was relatively consistent with the 2023-24 allocation (26 per cent).

Given this, we recommend an alternative overhead allocation adjustment to the base operating expenditure to reflect this difference. This results in a negative adjustment to the base operating expenditure of $2.094 million rather than the proposed $6.915 million.

Stormwater modelling

WaterNSW has proposed an adjustment for an increase in costs ($0.6 million) for stormwater modelling that had not previously been undertaken. WaterNSW states that the increase in costs relates to a variety of modelling that would support:

- Long-term strategic planning, mitigation strategies development and prioritisation
- Flood and storage operations in NSW, and
- Managing asset risks from climate change.

It has been classified by WaterNSW as an ongoing compliance obligation, however it is not clear from the information provided that the obligation is new. Further to this, it is unknown if there are any costs from this modelling that were incurred during the recommended base year of 2023-24.

Given this uncertainty, we have proposed a range whereby the low point of the range is no adjustment (due to costs potentially already being captured within 2023-24) and the full amount of $591k. The decision for IPART on where the adjustment should be within this range may be dependent on further information from WaterNSW or additional understanding of the context of the activities from IPART.

Flood costs

No flood costs were incurred in 2023-24 and therefore no adjustment is recommended to the base operating expenditure of 2023-24.

Regulatory submission costs

It is recommended to amend the treatment of regulatory submission costs in the base from what WaterNSW proposed. It is recommended that the regulatory submission costs within the baseline operating expenditure are removed and then any forecast regulatory submission costs are 'added back in' through a step change. Therefore, rather than apply a 'positive' adjustment to the base for regulatory submission costs, we recommend removing the regulatory submission costs from the 2023-24 base year.

Based on information provided by WaterNSW, the actual regulatory submission costs for 2023-24 for Greater Sydney were $825,400. Given this, we recommend an adjustment of $825,400 to remove the regulatory submission costs from the base operating expenditure.

3.3.3. Recommended range for baseline operating expenditure

Based on the discussion above, we have developed a recommended range for the baseline operating expenditure using 2023-24 as the base year. As outlined above, we consider there was insufficient justification to adopt 2022-23 as the base year and have therefore adopted an approach that is consistent with the IPART guidance.

The recommended lower-bound range for the adjusted baseline operating expenditure results in a slight decrease in operating expenditure from the 2023-24 actual operating expenditure for Greater Sydney. Alternatively, the upper-bound range results in a slight increase. The key driver of this difference is the treatment of the proposed costs associated with the new operating model. The lower-bound range recommends that no costs would be included, while the upper-bound range allows for an increase in costs equivalent to the forecast efficiency savings.

The recommended adjusted baseline operating expenditure is below that proposed by WaterNSW – ranging from 16 to 20 per cent reduction. This has a material impact on the overall recommended operating expenditure for the regulatory period. It should also be noted that we have not considered the proposed increase in digital costs within this adjustment, but rather as a separate step change.

IPART's decision on the adjusted baseline within the range presented below will be dependent on a variety of factors, including risks (to customers and/or WaterNSW) and additional information that may be available to IPART.

Table 22 Recommended range for baseline operating expenditure ($m)

	Lower-bound	Upper-bound
Base controllable costs – 2023-24	**100.9**	**100.9**
Cost Escalation Factors and Provisions	*3.0*	*3.0*
Employee Labour Costs	1.8	1.8
Superannuation Obligations	0.2	0.2
Long Service Leave and Annual Leave	0.4	0.4
Insurance Premiums	0.2	0.2
Land Tax	0.5	0.5
Digital Related Costs	0.0	0.0

	Lower-bound	Upper-bound
Operating Model Related Cost Changes	*0.0*	*3.7*
Efficiency Improvements – Cost Transformation Program	*(1.0)*	*(1.0)*
Overhead Allocation Adjustment	*(2.1)*	*(2.1)*
Ongoing Compliance Obligation Costs	*0.0*	0.6
Strategic (Flood) Modelling	0.0	0.6
Non-Recurrent Expenses	*(0.8)*	*(0.8)*
Flood Related Costs	0.0	0.0
Regulatory Submission Costs	(0.8)	(0.8)
Total Adjusted Base – 2024-25	**99.9**	**104.3**

Going forward, we would recommend that any overarching efficiency and/or cost escalation adjustments (trend factors) that are determined by IPART for this regulatory period are applied to the derivation of the base year for the subsequent regulatory period. This concentrates any adjustments to the base level of operating expenditure to be driven by non-recurrent expenditure within the base.

3.4. Assessment of trend operating expenditure

IPART Requirements for Trends in Recurrent Controllable Operating Expenditure:

IPART requires WaterNSW to propose a trend component as part of their pricing proposals. This trend component is applied to the baseline expenditure to project a reasonable baseline for the upcoming determination period. It must reflect the following key elements:

Proposed Efficiency Factor - Businesses must include a proposed efficiency factor to account for controllable OPEX productivity improvements over time.

Output Growth - The trend should incorporate a meaningful measure of output growth, such as an increase in customer connections or the volume of services delivered.

Real Changes in Input Prices: The trend should reflect expected real changes in input prices for rolled-forward baseline costs. This applies particularly when the combined effect of input price changes is expected to differ significantly from forecast changes in the Consumer Price Index (CPI).

- As IPART models prices in real terms, businesses may propose a trend factor relative to general price levels.
- If a business seeks a higher input price adjustment for this reason, it must demonstrate that the increase is not offset by decreases in input prices for other cost items.
- These input price impacts should not include cost items for which the business has proposed separate forecasts or step changes.

Source "IPART Water regulation Handbook July 2023" pg. 43

3.4.1. WaterNSW approach to applying the trend component

Consistent with the Handbook requirements (see box above), the AIR/SIR template allows for trends to be applied for operating expenditure across growth in output, real changes in input prices and an efficiency factor. WaterNSW has not utilised this element of the template, instead incorporating trend-related operating expenditure through explicit line items within the step change element of the AIR/SIR. The calculation of the trend components appears to be based on a mixture of a bottom-up calculation and the differential in budgets from the base year to the forecast year. This differential approach is consistent with our earlier discussion on WaterNSW's approach to implementing the base-trend-step approach to forecasting operating expenditure for the regulatory period.

To better understand the impact of the proposed trend component on the forecast operating expenditure, we derived our own trend factor based on the forecasts provided by WaterNSW. This approach sought to understand the net impact of the various trend elements proposed by WaterNSW and derive a single trend factor that would be applied to the base operating expenditure.[37]

As part of the analysis of the trend component, we undertook a review of recent Essential Services Commission (Victoria) and Essential Services Commission of South Australia (ESCOSA) regulatory decisions to understand how trend components were forecasted and the values of the different trends (see box below). These insights have helped to inform our review of WaterNSW's forecast expenditure by highlighting different approaches to trend factors and expenditure projections.

[37] We adopted this 'net' approach rather than breaking down the elements between efficiency and cost growth based on simplicity for the analysis – the purposes was to understand the net impact of the proposed changes.

Trend component from recent regulatory decisions

As part of the 2023 regulatory review for the FY24-28 period, 14 water businesses in Victoria submitted their proposals to the ESC. Among them, 8 aimed for a standard rating, with 7 providing trend factors (excluding Southern Rural Water).

These trend factors played a crucial role in shaping projected operating expenditure over the regulatory period. Net trend figures accounted for both "Customer Growth" and "Opex Growth," which contributed to increases in trend costs, reflecting the need for additional resources to support service expansion and operational demands. Meanwhile, "Cost Efficiency Improvement" served as a mitigating factor, driving trend reductions through efficiency initiatives and operational optimisations.

The average annual net trend among these businesses was 0.39 per cent, indicating a slight increase in operating expenditure of 0.39 per cent per year associated with trend factors. Central Highlands Water recorded the highest annual net trend average at 1.2 per cent over the regulatory period, while Wannon Water had the lowest at -0.3 per cent. In terms of single-year trends, Central Highlands Water also reported the highest at 1.2 per cent, whereas Wannon Water had the most significant single-year decrease at -0.3 per cent.

In contrast, among the remaining 6 businesses aiming to achieve an advanced rating, the average annual net trend was -0.41 per cent, indicating a decrease in operating expenditure of 0.41 per cent per annum associated with trend factors.

Source Aither analysis; source information from esc.vic.gov.au

Aligning WaterNSW trend component with the IPART guidance

As noted above, WaterNSW put forward an approach that was more aligned with previous approaches to forecasting operating expenditure. This resulted in some difficulty in undertaking the review based on IPART guidance. Given this, to better understand how WaterNSW's forecast operating expenditure aligns with the IPART Handbook guidance, we have restructured WaterNSW's forecast expenditure in line with the IPART requirements.

Table 23 presents the restructured trend factors, which include cost efficiency improvements (cost reductions) and combined cost growth trend factors (cost increases) over the regulatory period. This revised format enables a clearer comparison with IPART's expectations and offers insights into how WaterNSW's projected costs evolve under their forecasted conditions.

Table 23 Restructured forecast operating expenditure trends (aligned with IPART guidance)

Trend	2025-26	2026-27	2027-28	2028-29	2029-30
Cost efficiency improvement	(0.88%)	(0.80%)	(0.87%)	(0.96%)	(0.11%)
Combined cost growth trend factors	1.68%	1.16%	1.28%	1.47%	0.19%
Net trend	**0.80%**	**0.36%**	**0.41%**	**0.51%**	**0.08%**

The combined cost growth trend factors include labour, insurance, land tax, and digital costs. The net trend reflects the overall trend change in operating expenditure, accounting for both cost increases and efficiency improvements. In later years, the net trend slows as efficiency gains offset rising costs.

3.4.2. Labour

Labour is a considerable component of WaterNSW's operating expenditure. The proposed rate of change for WaterNSW's labour costs are 1 per cent per annum above CPI for each year of the 5-year determination period. WaterNSW stated that the basis for this forecast trend was a report prepared by Deloitte on macroeconomic factors facing WaterNSW.

In this report, Deloitte forecasted the annual Wage Price Index (WPI) for NSW in 2024 and 2025 at 3.9 per cent and 3.2 per cent, respectively. Deloitte forecasted the Australian CPI to be 3.0 per cent in 2024, and 2.6 per cent in 2025. The difference in the NSW WPI and the CPI in 2024 and 2025 is 0.9 per cent and 0.6 per cent, respectively. From this, there is not a clear link between WaterNSW's proposed labour costs rate of change of 1 per cent and the Deloitte forecasts.

Deloitte outlined that price levels are expected to continue to increase, even though the future rate of wage price growth in Australia is expected to keep moderating. Deloitte's Australian and NSW WPI graphs indicate WPI will remain relatively constant beyond 2025 out to 2028. These longer-term forecasts suggest the difference in WPI and CPI will remain similar to current levels. With these longer-term forecasts there is still not a clear link with WaterNSW's proposed labour costs rate of change of 1 per cent above CPI.

The Deloitte report concludes that wages would be expected to increase above CPI in the forecast regulatory period, however the report does not state that the increase would be as large as 1 per cent (as forecast by WaterNSW). Given this, we do not have confidence that the 1 per cent per annum real increase in labour costs is appropriate.

Our recommended lower-bound of the range is that there would be no real increase in labour expenditure for the period. This would essentially mean that WaterNSW would 'absorb' these costs within the overall operating expenditure allowance and apply further incentives on WaterNSW to achieve efficiencies that would offset any real increases in labour expenditure.

We note that the 1 per cent increase submitted by WaterNSW is higher than the analysis undertaken by Deloitte and our recommendation for the upper-bound of the range is based on the Deloitte analysis supplied by WaterNSW. We note that forecasts in wage price increases can be difficult, especially over a longer-term and that the analysis provided by Deloitte does not cover the length of the regulatory period, however we consider that the average of the real increases outlined by Deloitte is a reasonable estimate to apply for the upcoming regulatory period. Given this, our recommended upper-bound of the range is 0.75 per cent which is based on the average of the 0.9 and 0.6 per cent real increases recommended by Deloitte.

To understand the implication of this recommended adjustment to the labour escalation factor for the upper-bound range, we have used WaterNSW's internal spreadsheet to measure the impact of our recommendation. The outcome of this is presented in Table 24 below.

Table 24 Recommend trend values for labour ('000s)

	2025-26	2026-27	2027-28	2028-29	2029-30
Proposed labour trend expenditure (1.0%)	515	1,038	1,539	2,045	2,560

	2025-26	2026-27	2027-28	2028-29	2029-30
Recommended labour trend expenditure – upper-bound range (0.75%)	**386**	**778**	**1,154**	**1,533**	**1,920**

3.4.3. Insurance

WaterNSW proposed a forecast trend component related to insurance costs. To inform this forecast, WaterNSW sought an insurance contribution forecast from icare for WaterNSW's Treasury Managed Fund (TMF) contributions[38]. icare forecasted a Compound Annual Growth Rate (CAGR) of 7.98 per cent over the FY25-31 period for WaterNSW's annual TMF contributions. This forecasted TMF contribution is based on icare's pricing forecasts for each type of cover held by WaterNSW. Within icare's briefing, the pricing forecasts for all cover types (except miscellaneous cover) are nominal, as they consider general inflationary factors[39].

Based on this advice, WaterNSW states that it has forecasted a trend factor for insurance expenditure of 7.0 per cent per annum over the determination period. During the review, WaterNSW stated that the escalation factor applied was in real terms.

The insurance cost forecasts in Table 25 do not align with WaterNSW's proposed annual trend of 7.0 per cent with the annual percentage increases fluctuating significantly—from 14.3 per cent in 2026 to just 2.5 per cent in 2030. This variability, particularly the outlier 14.3 per cent increase, is not in line with the steady trend stated by WaterNSW in its submission and equates to an average increase of 6.6 per cent per annum.

Table 25 Greater Sydney property and public liability insurance

	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Insurances - Property	2,936,944	3,293,334	3,533,876	3,621,137	3,710,592	3,802,295
% increase property		*12.13%*	*7.30%*	*2.47%*	*2.47%*	*2.47%*
Insurances - Public Liability	525,712	663,549	750,944	849,848	936,906	959,758
% increase public liability		*26.22%*	*13.17%*	*13.17%*	*10.24%*	*2.44%*
Insurance Total	3,462,656	3,956,883	4,284,820	4,470,985	4,647,498	4,762,053
% increase total		14.27%	8.29%	4.34%	3.95%	2.46%

[38] icare is the administrator of the TMF which is a statutory self-insurance scheme that provides insurable risk coverage to WaterNSW.

[39] Total TMF contributions over FY25-31 are nominal. The report references inflationary factors in various components:

- TMF Workers Compensation: *"An inflationary 3% year-on-year increase has then been applied to the wage cost per FTE using the FY24/25 forecast wages and FTE as the baseline."*
- TMF Motor: *"General economic inflationary factors impacting vehicle replacement, vehicle parts, and repairer supply chains"*
- TMF Property and TMF Liability: *"general economic inflationary factors."*

Source: icare, WaterNSW Insurance Contribution Forecasts 2025/26 to 2030/31, Final Report, February 2024

Given the recommendation from icare of 7.98 per cent was in nominal terms, we have converted this estimate to real terms using an inflation forecast of 2.5 per cent. This conversion results in an escalation factor of 5.34 per cent. This estimate is lower than the average escalation rate that has been applied by WaterNSW. We have therefore applied this escalation rate to determine a recommended increase in insurance expenditure.

Table 26 Recommend trend values for insurance expenditure ('000s)

	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Base insurance expenditure	3,463					
Real trend escalation (%)		5.34	5.34	5.34	5.34	5.34
Recommended total insurance expenditure		3,648	3,842	4,048	4,264	4,491
Recommended value incremental to base		**185**	**380**	**585**	**801**	**1,029**

3.4.4. Land Tax Valuation

WaterNSW proposed an 8.4 per cent escalation rate for land tax costs across the upcoming regulatory period. This was based on a JLL land tax report that was produced for WaterNSW. During the review, WaterNSW noted that the JLL land tax report that the trend factor is based on was undertaken in nominal terms and therefore the 8.4 per cent from the report includes inflation. Given this, we recommend adjusting the escalation factor to ensure it is in real terms rather than nominal.

Deflating the 8.4 per cent using an inflation estimate of 2.5 per cent results in a real escalation rate of 5.7 per cent per annum. We recommend that this escalation factor is used for the land tax operating expenditure and that it is applied to the adjusted base for land tax expenditure as recommended in section 3.3.23.3.2). Table 27 shows the incremental costs based on this recommended trend factor.

Table 27 Recommend trend values for land tax ('000s)

	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Base land tax	6,134					
Real trend escalation (%)		5.73	5.73	5.73	5.73	5.73
Recommended land tax		6,485	6,857	7,249	7,665	8,104
Recommended value incremental from base		**351**	**723**	**1,115**	**1,531**	**1,969**

Note: 2024-25 is the recommended base expenditure for land tax based on recommendation in section 3.3.23.3.2.

3.4.5. Efficiency Savings

WaterNSW has chosen to not apply an efficiency factor in 2029-30 as it considers that it will have exhausted the efficiency opportunities from the identified programs, and it does not have any known

programs to generate further efficiencies beyond 2028-29. While this may be the case, the efficiency factor is a top-down adjustment, and it is not expected that WaterNSW will have known efficiency programs in place for the entirety of the regulatory period to meet the designated efficiency targets.

WaterNSW has proposed an efficiency factor of 1.0 per cent in its submission. In reviewing the operating expenditure information submitted by WaterNSW, the actual efficiency amount proposed is slightly less than the 1.0 per cent (see Table 23 above).

In considering efficiency factors in other jurisdictions, we reviewed the recent review undertaken by the ESC as it also applies the base-step-trend approach for operating expenditure forecasting. Of the 14 businesses, 8 aimed for a "standard" rating, with 7 submitting Cost Efficiency Improvement (CEI) trend factors. Across these 7 businesses, the average annual CEI was 1.2 per cent, with Westernport Water recording the highest average efficiency improvement at 1.5 per cent and East Gippsland Water the lowest at 0.8 per cent over the period.[40]

We consider that the WaterNSW proposed efficiency factor of 1 per cent is appropriate for the lower-bound range (this is based on applying a 1 per cent efficiency factor rather than the values proposed by WaterNSW). We recommend that the upper-bound of the range be based on the average of the Standard rated business submissions from the recent PREMO review of 1.2 per cent. The decision on where the efficiency factor should be within the range could also take into consideration other decisions on operating expenditure, i.e., a decision on the lower-bound range for labour may impact on the choice of the efficiency factor within the range.

3.4.6. Digital

WaterNSW's proposed a trend increase in expenditure related to digital is driven by changes in cloud computing and software licensing costs. Based on analysis undertaken by AtkinsRéalis, we consider it best to review the whole digital program as a specific step change rather than the proposed approach which had an adjustment to the base and trend factor. This change was primarily driven by an inability to sufficiently assess the different drivers of the expenditure under the proposed approach.

3.4.7. Recommended range for trends in operating expenditure

We have sought to make our recommendations in line with the IPART guidance for applying the base-trend-step approach to forecasting operating expenditure. Given this, we have developed two trend factors – efficiency adjustment factor and cost growth factor (Table 28). The efficiency adjustment factor is the same as that discussed in the analysis above, while the cost growth factor is a weighted trend factor that is designed to achieve the same outcome as the impacts discussed in the analysis above. This is required to be undertaken as the trend factors are applied to the base operating expenditure and not to individual cost categories.

In considering the outcome of the trend factors, the lower-bound range has a higher net efficiency which results in downward adjustments to the base over the regulatory period, while the upper bound range essentially results in the two trend factors cancelling each other out.

[40] We only focused on the businesses that submitted on a standard rating as this avoids the potential complication of the additional revenue that businesses can receive under the PREMO framework with a higher rating.

Table 28 Recommend trend factors

	2025-26	2026-27	2027-28	2028-29	2029-30
Lower-bound range					
Efficiency adjustment factor (%)	1.20	1.20	1.20	1.20	1.20
Cost growth trend factor (%)	0.5	0.6	0.6	0.6	0.7
Upper-bound range					
Efficiency adjustment factor (%)	1.0	1.0	1.0	1.0	1.0
Cost growth trend factor (%)	0.9	0.9	0.9	1.0	1.0

3.5. Assessment of step change operating expenditure

IPART Requirements for Step Changes in Recurrent Controllable Operating Expenditure:

IPART defines step changes as forward-looking adjustments to recurrent controllable operating costs required to provide services. These changes reflect circumstances that have arisen since the base year or are expected to arise during the upcoming determination period. Step changes may include the following scenarios:

Regulatory Obligations - Adjustments to recurrent controllable OPEX resulting from changes in regulatory requirements, such as operating licences, environmental protection licences, health standards, or statutory obligations. These changes qualify as step changes when they lead to an increase or decrease in OPEX.

Customer Outcomes - Step changes may also result from initiatives to meet customer outcomes that enhance customer value. For example, a business might propose additional OPEX to reduce its carbon footprint in alignment with a customer goal of achieving net zero emissions.

OPEX-CAPEX Substitution - Instances where substitution between OPEX and capital expenditure (capex) leads to a shift in recurrent controllable OPEX.

New Capex - Additional recurrent controllable OPEX stemming from the implementation of new capital projects.

To support any proposed step changes, businesses must provide clear and robust justification. Specifically, IPART expects:

Identification of Drivers - The proposal should clearly identify the drivers of each proposed step change.

Rationale for Insufficiency of Base plus Trend - The business must explain why the funding provided by the baseline expenditure and trend components is insufficient to accommodate the proposed changes.

Source Source: "IPART Water regulation Handbook July 2023" pg. 44

To assess each of the proposed step changes, we have established high-level assessment guidance to ensure that our assessment of WaterNSW's proposed step changes aligns with the guidance within IPART's Handbook. Our assessment of the proposed step changes is based on the three, high-level criteria in the table below.

Driver	How well does the proposed step change align with the drivers outlined in the IPART Handbook
Rationale for Insufficiency	Has WaterNSW sufficiently justified why the proposed cost is required as a step change and could not be funded through the base or trend components.
Confidence in the numbers	Level of confidence in the accuracy of the cost information provided by WaterNSW.

In assessing against these criteria, we have applied a high-level traffic light assessment to guide our recommendations:

- Green: High confidence that WaterNSW has satisfied the criteria.
- Amber: Medium confidence that WaterNSW has satisfied the criteria.
- Red: Low confidence that WaterNSW has satisfied the criteria.

As part of the WaterNSW operating expenditure review, we undertook a review of Victorian water businesses' recent pricing proposals to the ESC for contextual understanding (see box below). These insights helped inform the WaterNSW review by highlighting different approaches to step changes and regulatory considerations.

Step component from recent regulatory decisions

As part of the 2023 regulatory review for the FY24-28 period, 14 water businesses in Victoria submitted their proposals to the ESC. Among them, 8 aimed for a standard rating, 7 of which submitted step changes, with Southern Rural Water being the only one not to provide any.

On average, 8.7 step changes were submitted per business. These step changes on average corresponded to 4.2% of the adjusted baseline (2021-22) annually per business. The highest number of step changes came from East Gippsland Water and Gippsland Water, both with 15, while Westernport Water reported the lowest at 2. In terms of total step changes as a percentage of the original baseline, East Gippsland Water had the largest at 8.5%, while Lower Murray Water had the smallest at -0.01%.

In contrast, among the remaining 6 businesses aiming to achieve an advanced rating, the average of annualised step changes as a % of adjusted baseline was 7.2% (3.0% higher than standard rating businesses).

3.5.1. New Operating Licence Conditions

The value of this proposed step change is minor, and we consider it to be more appropriate for WaterNSW to manage within its base level of operating expenditure and does not warrant a step change. Table 29 outlines the rationale for this recommendation.

Table 29 Assessment of new operating licence conditions step change

	Driver	This step change is driven by a new requirement placed on WaterNSW.
	Rationale for Insufficiency	Given the low value of the proposed step change, we are not confident that this proposed step change is not able to be funded through the baseline and trend component for operating expenditure.
N/A	Confidence in the numbers	Given that it did not satisfy the initial criteria we did not assess the confidence in the numbers.
Assessment for range - Low		No recommended value for this proposed step change.
Assessment for range – High		

3.5.2. Compliance Uplift with Existing Regulatory Requirements

WaterNSW proposed three different drivers for this step change:

- Crane safety improvement
- Electrical safety program
- Catchment audit.

The following is our assessment of each driver.

Crane safety

The increase in costs is driven by the development of the WaterNSW Cranes and Lifting Equipment Asset Class Strategy that identified opportunities for improvement in the management of crane assets, including alignment of existing maintenance strategies to industry best practice. WaterNSW states that completion of this activity will ensure compliance with the Work Health and Safety Act 2011 and Work Health Safety Regulations 2017 and reduce safety risks associated with these assets.

We note that neither of the compliance regulations are new obligations on WaterNSW and that WaterNSW would be incurring costs associated with crane safety compliance in the current regulatory period.

Considering that the proposed increase in expenditure does not relate to a new obligation being placed on WaterNSW, this proposed step change does not satisfy IPART requirements for a step change. However, we note that there appears to be potential safety risks associated with these assets and therefore it may be prudent to increase the expenditure to reduce the safety risks. Given the recommendation to move the base year from 2022-23 to 2023-24, we are not able to determine a change in the incremental costs from the base year based on the information provided.

Our recommended lower-bound range for this program is to not approve the step change given that it does not satisfy the IPART requirements for a step change. Our recommended higher-bound range is to allow the step change value as proposed by WaterNSW. In doing this, we note that we have limited visibility of the impact of the 2023-24 base year and our ability to ensure that the costs associated with the proposed step change are indeed incremental.

Electrical safety program

This electrical safety improvement program step change is an expansion of the electrical safety program that was previously approved for the 2021 determination for rural valleys. WaterNSW states that the driver of this step change is to minimise the risk of injury and avoid any Work Health and Safety breaches.

There is currently some level of costs associated with the electrical safety improvement program across WaterNSW (in rural but not Greater Sydney) and WaterNSW has provided a breakdown of where the program would invest the increase in cost throughout Greater Sydney. Based on the IPART requirements for a step change, it is not clear that there is a new obligation that is driving the step change for Greater Sydney, nor has it been demonstrated explicitly that customers have driven this project.

We do not disagree with the need for continued investment in electrical safety across WaterNSW, however the link to the IPART step change requirements is not perfectly aligned.

For the lower-bound range we would take the view that the proposed step change in its current form does not satisfy the IPART requirements for a step change and therefore should not be allowed. For the upper-bound range we consider that there would be a risk to not investing in this program that

IPART may not be willing to accept, and that the upper-bound value would be equivalent to that proposed by WaterNSW. While WaterNSW provided a list of the type of activities to be undertaken and high-level allocation of costs to valleys within Greater Sydney, we have not seen a detailed breakdown of the cost estimate from WaterNSW.

Catchment audit

This is a negative step change that results in a reduction to the forecast operating expenditure. There is limited information provided by WaterNSW regarding this negative step change however, based on the dataset provided, the value of the reduction is appropriate. Table 30 outlines the rationale for these recommendations.

Table 30 Compliance uplift with existing regulatory requirements step change

	Driver	**Crane safety:** Based on compliance with existing regulations rather than new
		Electrical safety improvements: Expansion of the existing Electrical Safety Improvement (ESI) program but no clear link to IPART step change requirements.
		Catchment audit: This is a reduction in expenditure
	Rationale for Insufficiency	The values of the proposed step changes are reasonable to assume that it is outside the base and trend.
	Confidence in the numbers	While there is some detail of costs provided there was not a breakdown of the incremental costs associated with the step change and how the values were derived.
Assessment for range - Low		The lower-bound range would be no allowance for crane safety or the electrical safety program and incorporating the reduction in the catchment audit.
Assessment for range – High		The upper-bound range would be to allow the proposed amounts for all three drivers of the step change.

3.5.3. New Regulatory Requirements

The recent IPART review of the WaterNSW Operating Licence introduced a new requirement on yield modelling for WaterNSW. In that review, IPART recommended building on the existing framework for system yield and recommended that any recalculation of system yield should consider climate change as this more accurately depicts water availability with respect to long-term changes in rainfall.[41]

The increase in costs to comply with this new requirement has been estimated by WaterNSW based on 2 additional staff at 0.8 FTE and the cost to access additional data to undertake the modelling.

The Final Decision from the IPART review of the Operating Licence was not issued until May 2024 and therefore these additional costs would not have been incurred during 2023-24 (our recommended baseline year of operating expenditure).

41 IPART, WaterNSW operating licence review 2023-24 – Report to the Minister, May 2024, p.78.

Given the above we consider that this step change, and the proposed costs, are appropriate. Table 31 outlines the rationale for these recommendations.

Table 31 Assessment of new regulatory requirements step change

	Driver	A new Operating Licence condition has been placed on WaterNSW that directly relates to this step change.
	Rationale for Insufficiency	The costs represent a material increase that could justify a step change separate to base and trend adjustments.
	Confidence in the numbers	The confidence in the forecast expenditure is high.
Assessment for range - Low		We recommend accepting the proposed step change as proposed from WaterNSW – no low or high range estimate.
Assessment for range – High		

3.5.4. Regulatory Submission Costs

As regulatory submission costs are not an annual expenditure, there is generally an adjustment required to reflect this in regulatory submissions. Ideally, we would expect there to be a reduction in the base operating expenditure to remove any costs incurred in the baseline operating expenditure. There would then be a step change that transparently outlines what the forecast costs are involved in delivering the regulatory submission for Greater Sydney.

While we note that in reality, the approach undertaken by WaterNSW would result in the same forecast expenditure, it creates an additional layer of complexity and can make it difficult for any customer or external stakeholder to understand the forecast costs for the regulatory submissions.

Given this, we are recommending that the regulatory submission costs are removed from the base operating expenditure (see section 3.3.23.3.2) and then added back in through the step change. This provides greater transparency as to what value the step change in regulatory submission costs is recommended each year of the regulatory period. Table 32 provides a summary of annual regulatory submission costs that have been proposed by WaterNSW.

Table 32 Proposed regulatory submission costs step changes ('000s)

Regulatory submissions costs		2025-26	2026-27	2027-28	2028-29	2029-30
WaterNSW baseline (2022-23)	357					
Adjustment to the baseline	1,127					
WaterNSW proposed base		1,484	1,484	1,484	1,484	1,484
Value of step change		(967)	(940)	-	460	(518)
Total proposed expenditure		517	544	1,484	1,944	966

Part of the justification for the forecast regulatory submission costs is the costs that have been incurred in the current regulatory period. To provide a contextual assessment of these projected

totals, a review of previous regulatory submission costs is relevant. As shown in Figure 6, the 2024-25 forecasted regulatory submission cost of $3.5 million is a significant outlier compared to previous years of actual expenditure. Given that the pricing submission was due for submission to IPART on 30 September 2024, we would envisage that a significant proportion of costs associated with the regulatory submission would have been incurred during 2023-24 in preparing for the submission and subsequent review. The sudden and extreme jump in 2024-25 (noting the regulatory submission was delivered in 2023-24) raises concerns about the accuracy of the forecast.

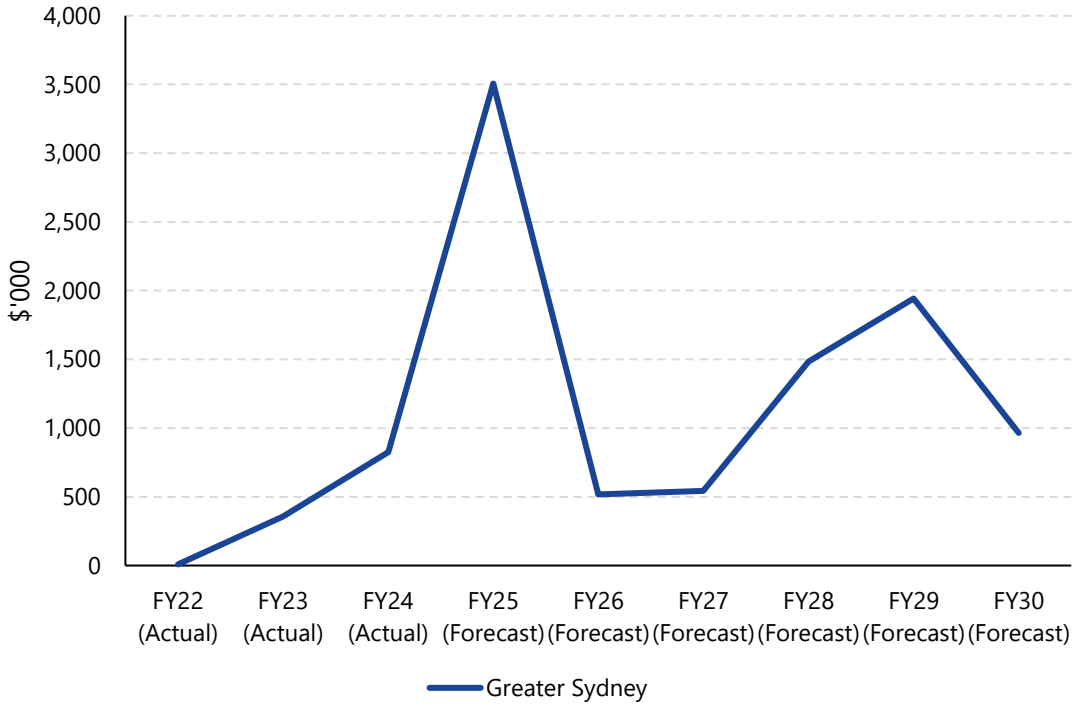

Figure 6 Regulatory submission costs in the current determination period for Greater Sydney

The average regulatory submission cost proposed by WaterNSW across the upcoming regulatory period is projected to be $1.091 million per year. In contrast, the average cost across the current regulatory period is higher at $1.174 million, largely due to the significant spike in 2024-25. If 2024-25 is excluded as an outlier, the average cost for the current period drops to just $397k, which is far below the projected future average. This further highlights the inconsistency of the 2024-25 forecast and suggests that a reassessment of the cost assumptions may be necessary.

Given the significant increase from actuals to forecast, we recommend a reduction in the forecast regulatory submission costs. With the lumpy nature of the regulatory submission costs, we do not propose to change the profile of the step change, but rather the values of the proposed step change. Our recommended adjustments reflect the fact that we are not confident that the proposed step change values are appropriate or efficient given the actual costs that have been incurred. In developing the upper and lower bounds of the range, we have recommended a 25 per cent reduction on the proposed step change for the upper bound and a 50 per cent reduction for the lower-bound (Table 33). The upper-bound range results in an average expenditure over the forecast period that is relative to the actual spend in 2023-24, while the annual average of the lower bound range is reflective of the average spend across 2022-23 and 2023-24. Table 34 outlines the rationale for this recommendation.

Table 33 Proposed reductions in regulatory submission costs step changes ('000s)

Regulatory submissions costs	2025-26	2026-27	2027-28	2028-29	2029-30
Total proposed expenditure	517	544	1,484	1,944	966
Upper bound (25% reduction)	388	408	1,113	1,458	725
Lower bound (50% reduction)	259	272	742	972	483

Table 34 Assessment of regulatory submission costs

	Driver	Costs associated with the delivery of regulatory submissions is an appropriate step change given the removal of these costs from the base
	Rationale for Insufficiency	This cost was removed from the base through an adjustment.
	Confidence in the numbers	We have concerns regarding the accuracy of the forecasts given the significant increase in 2024-25.
Assessment for range - Low		The lower-bound of the range is a 50 per cent reduction on the forecast step change proposed by WaterNSW.
Assessment for range – High		The upper-bound of the range is a 25 per cent reduction on the forecast step change proposed by WaterNSW.

3.5.5. CSO / Grant Expiry

WaterNSW has proposed a negative step change through the application of a CSO relating to land management. Assuming the CSO is received from the Government, this proposed step change will reduce the operating expenditure required to be recovered from Greater Sydney customers. Table 35 outlines the rationale for our recommendation to accept the negative step change.

Table 35 Assessment of CSO removal step change

	Driver	This is a change in government requirements and the expenditure is partly covered by the government.
N/A	Rationale for Insufficiency	The proposed step change is a reduction in operating expenditure and therefore no need to justify the rationale for insufficient allowance.
	Confidence in the numbers	A decision on the CSO has not yet been received by WaterNSW from the NSW Government.
Assessment for range - Low		We recommend to accept the negative step change related to receiving the CSO. IPART will need to consider how it treats this expenditure if the CSO is not received.
Assessment for range – High		

3.5.6. Overhead Allocation Adjustment

There is a significant downward step change adjustment for the Greater Sydney forecast operating expenditure for the regulatory period. WaterNSW states that this is primarily driven by the significant increase in capital expenditure and the cost allocation framework that is in place for WaterNSW across its entire business.

We understand that WaterNSW is a complex business that is required to allocate costs across multiple determinations and a number of geographic regions (e.g. valleys) and therefore requires a unique cost allocation approach. The cost allocation method that has been implemented by WaterNSW aligns with recommendations from the previous expenditure review undertaken by IPART.

It should be noted that the current proposal of a significant reduction in operating expenditure due to the allocation process is beneficial for customers in the forecast regulatory period as it would put downward pressure on prices. However, a longer-term view should also be considered as there are likely to be situations in the future where the opposite may be true and there may be an increase in the allocation of corporate overheads to operating expenditure.

Of the 14 businesses that submitted to the ESC as part of the 2023 Price Review, only one business (Lower Murray Water) proposed any changes related to overhead allocations – a reduction to the baseline operating expenditure of $0.9 million. For the rest of the 13 businesses, they have proposed to manage any fluctuations in the allocation of corporate overheads with the existing allocation of corporate overheads within the base operating expenditure – this is also consistent with previous regulatory submissions within the ESC's base-step-trend framework.

Ideally, the allocation of corporate overheads within the revenue requirement should not significantly fluctuate on an annual basis, as this would create material impacts to the operating expenditure allowance (which then impacts on the revenue required from customers each year). This is difficult to manage for the business and makes longer-term trend assessments difficult where variations are regularly driven by fluctuations in allocation of costs.

Figure 7 presents the total overhead pool across WaterNSW and the proportion of those overheads that has been allocated to Greater Sydney operating expenditure. It can be seen from this that 2022-23 resulted in a higher proportion of overheads being allocated to Greater Sydney operating expenditure (34 per cent), this then reduces to 25 per cent in 2023-24 and 26 per cent in 2024-25. The proportion then remains within the range of 20 to 24 per cent through the forecast regulatory period. We understand that this reduction is primarily driven by the increasing capital expenditure program and better allocation of resourcing to direct cost categories. This results in a reduction in overheads being allocated to Greater Sydney operating expenditure (leading to the negative step change proposed by WaterNSW).

The total overhead pool for WaterNSW sees a reduction in 2024-25 and then a gradual increase over the regulatory period, but remains below the 2023-24 level of overheads. While it is not clear from the information provided, we would expect that at least some of the proposed expenditure related to the new operating model would be classified as corporate overheads in the forecast regulatory period. Given our earlier recommendation regarding the costs associated with the new operating model, we would expect there to be flow-on impacts to the overall pool of overheads for WaterNSW.

While it is difficult to understand the exact nature of the overhead expenditure and the appropriateness of the allocations, we consider that the cost allocation method is consistent with previous IPART recommendations. Given the nature of the cost allocation model for WaterNSW and the multiple determinations that are currently underway, it is unlikely that there will be a perfect allocation of overheads across the business. In determining the base year and the recommended

adjustments, we did not alter the proposed 2024-25 value of overheads for WaterNSW. Given this, we consider that the proposed reductions in operating expenditure from this step change to remain appropriate.

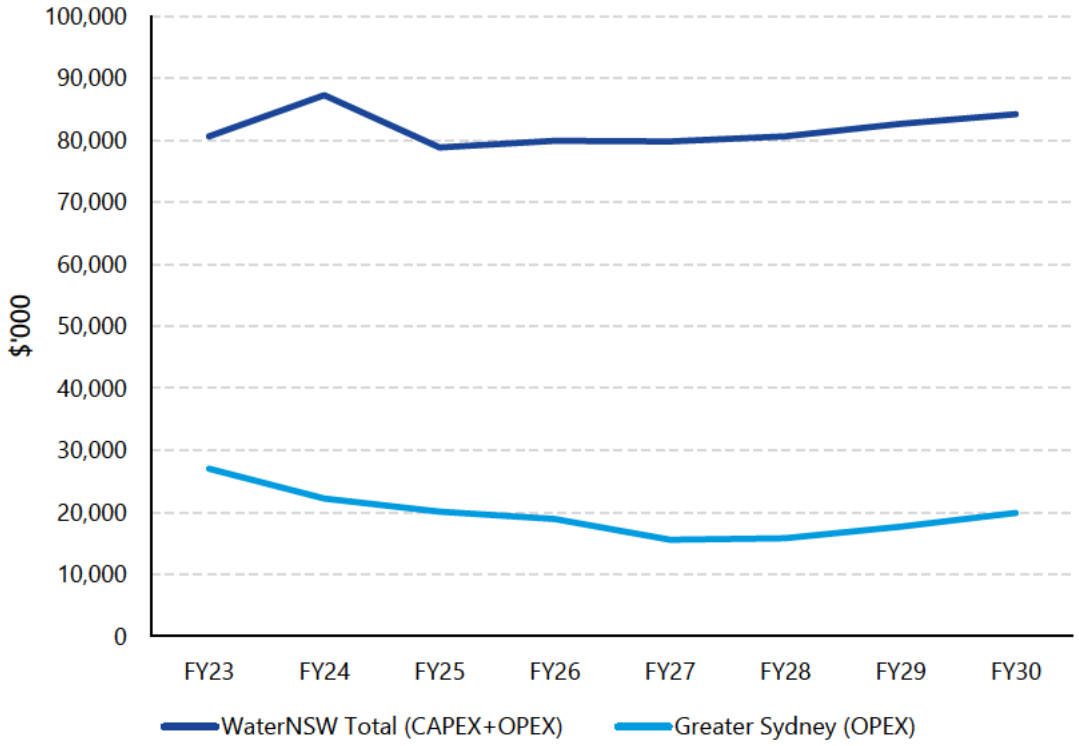

Figure 7 Proposed Corporate Overheads

Impact of changes to capital expenditure

As outlined above, WaterNSW's approach to allocating its corporate overheads can be materially impacted through changes in the mixture of capital and operating expenditure – a higher capital program will result in more overheads being allocated against capital expenditure. Through this review process, we are making recommendations on both operating and capital expenditure, however we note that these are not mutually exclusive as any recommended changes to the capital expenditure would impact on the allocation of corporate overheads between capital and operating expenditure within WaterNSW's cost allocation model.

We understand there is a high degree of complexity within the cost allocation model and it is not a straight-forward process to update and/or adjust. We also do not have access to WaterNSW's cost allocation model to understand the potential implications on the allocation of corporate overheads from recommended changes to the capital expenditure profile and this would be further complicated by recommendations being made by other consultants in their reviews of WaterNSW's other determinations. A summary of our assessment for the overhead step change is presented in Table 36.

Table 36 Assessment of overhead allocation step change

N/A	Driver	This is a proposed reduction in operating expenditure
N/A	Rationale for Insufficiency	The proposed step change is a reduction in operating expenditure and therefore no need to justify the rationale for insufficient allowance.

	Confidence in the numbers	While we are relatively confident that WaterNSW has applied its cost allocation method consistent with previous IPART guidance, we are not confident in the value of the proposed step change given the recommended change in the base operating expenditure to 2023-24.
Assessment for range - Low		We did not recommend any changes to the proposed negative step change
Assessment for range – High		

3.5.7. Other step changes

No definitive information has been provided by WaterNSW to outline the drivers behind this step change. We note that this is a negative step change that results in a reduction in the forecast operating expenditure.

In comparing the information provided by WaterNSW, there was an inconsistency between the AIR/SIR submission and the internal spreadsheets from WaterNSW. As shown in Table 37, it would appear to be a consistent value for the difference each year - $752k – which would indicate that a particular cost item may have been included in one source but not the other. This results in a material difference across the 5 years of over $4.2 million with the internal spreadsheets from WaterNSW showing a larger reduction in operating expenditure than the AIR/SIR submission. Given the lack of clarity regarding the step change and the inconsistency in the information provided, we recommend that the upper-bound of the range reflect the step change proposed in the AIR/SIR, while the lower-bound of the range reflect the internal spreadsheet from WaterNSW. A summary of our assessment for other step changes is presented in Table 38.

Table 37 Other step changes ('000s $2024-25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
AIR/SIR	2,150	(753)	(863)	(655)	(382)	(513)
BTS Determination	1,397	(1,505)	(1,615)	(1,417)	(1,134)	(4,276)
Variance	*752*	*752*	*752*	*752*	*752*	*3,763*

Table 38 Assessment of other step changes

N/A	Driver	This is a proposed reduction in operating expenditure
N/A	Rationale for Insufficiency	The proposed step change is a reduction in operating expenditure and therefore no need to justify the rationale for insufficient allowance.
	Confidence in the numbers	Based on the inconsistency in the numbers provided and the lack of information on the breakdown in the step change, we have low confidence in the numbers provided.
Assessment for range - Low		The recommended low range reflects the step change from WaterNSW internal spreadsheet

Assessment for range – High	The recommended high range reflects the step change proposed in the AIR/SIR.

3.5.8. Digital (previously in trend and base adjustment)

Given that the digital program is largely a whole of WaterNSW program, it was decided that AtkinsRéalis would undertake the review of the overarching digital program for WaterNSW. Through this process, it was deemed to be more appropriate to treat the proposed base adjustment and trend component of the digital costs put forward by WaterNSW as a step change as it was difficult to separate these elements and more reflects the nature of a step change.

WaterNSW's proposed digital operating cost increases in the future price path are driven by software licensing, people costs, telecommunications, and cloud computing. However, AtkinsRéalis' benchmarking found WaterNSW's proposed digital expenditure was significantly higher than other water utilities, without sufficient justification for the higher costs.

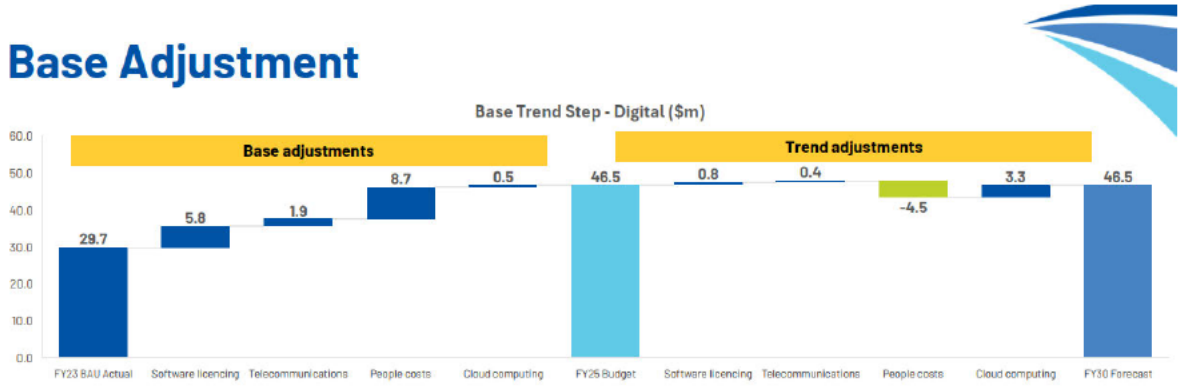

Figure 8 WaterNSW's proposed base and trend adjustments to digital expenditure[42]

WaterNSW proposes operating expenditure base adjustments from 2022-23 to 2024-25, including a $5.8 million increase in software licensing and an $8.7 million increase in people costs across all determinations (Figure 8). Trend adjustments included a $0.8 million increase for software licensing and a $4.5 million reduction in people costs (Figure 8).

AtkinsRéalis reviewed WaterNSW digital operating and capital expenditure across the Greater Sydney, Rural Valleys and WAMC determinations. Where adjustments were recommended, AtkinsRéalis determined the difference between WaterNSW's proposed changes and their recommendations then apportioned this difference in the step changes based on overhead allocations for each determination.

Through its review, AtkinsRéalis accepted WaterNSW's proposed operating expenditure adjustments for telecommunications and cloud computing. The recommendations from the review focused on software licensing and people costs. For a more detailed understanding of this review, refer to the AtkinsRéalis review of the rural valleys.

[42] Slide 7 in WNSW Presentation Pack 3 Future Period Opex Expenditure

Upper range scenario

Software licensing

WaterNSW anticipates significant increases in software licencing costs, proposing a $33m increase over the determination period due to major contract renegotiations (Figure 9).

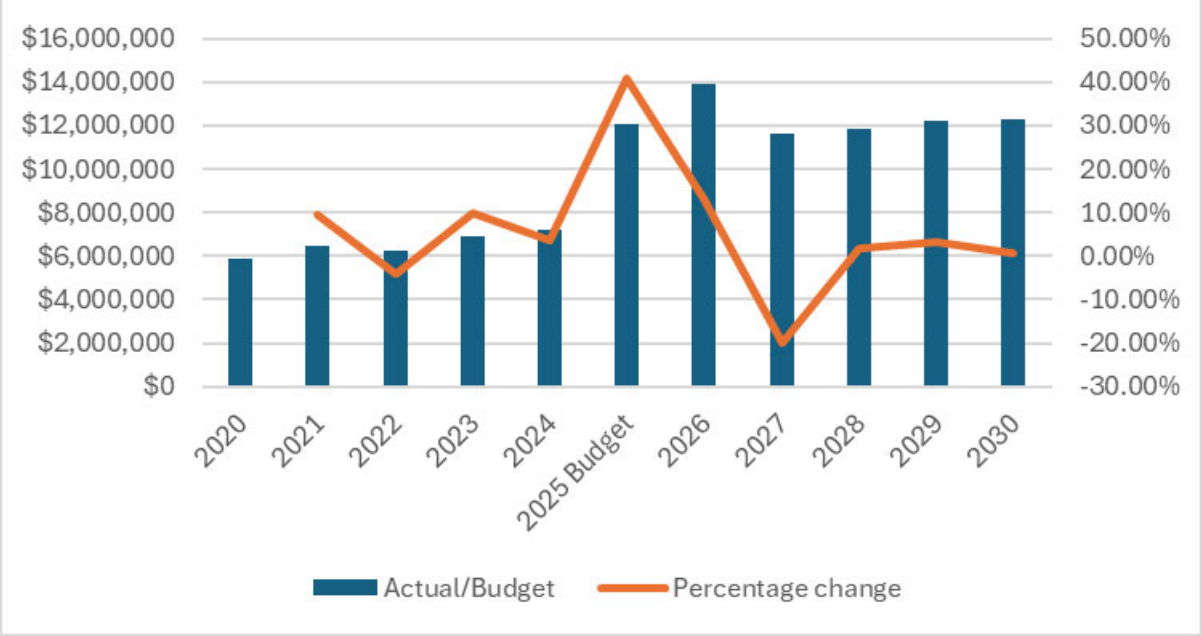

Figure 9 WaterNSW actual software licensing costs from FY20 to FY24. WaterNSW's proposed software licensing costs from FY25 to FY30.[43]

AtkinsRéalis acknowledged that rising software costs are an industry wide trend but argues WaterNSW assumes a worst-case scenario. Instead, AtkinsRéalis recommends a more reasonable increase aligned with observed industry trends. They first estimated the appropriate step change for WaterNSW as a whole and determined the difference between their proposed step change and WaterNSW's. This difference was then apportioned across the determinations based on overhead allocations in 2023-24. This resulted in a $12 million reduction from WaterNSW's total adjustments and a $5.1 million reduction for Greater Sydney across the regulatory period.

Digital people costs

WaterNSW proposed a base adjustment increase for digital people costs to support strategic objectives and develop critical capabilities that improve efficiency and service delivery over the determination period. However, AtkinsRéalis notes that significant capital and operating expenditure allowances already exist to support these capabilities and that WaterNSW's digital headcount remains stable over the determination period (see Figure 10).

[43] Graph from AtkinsRéalis Digital Review chapter, data from WaterNSW RFI W-4A.

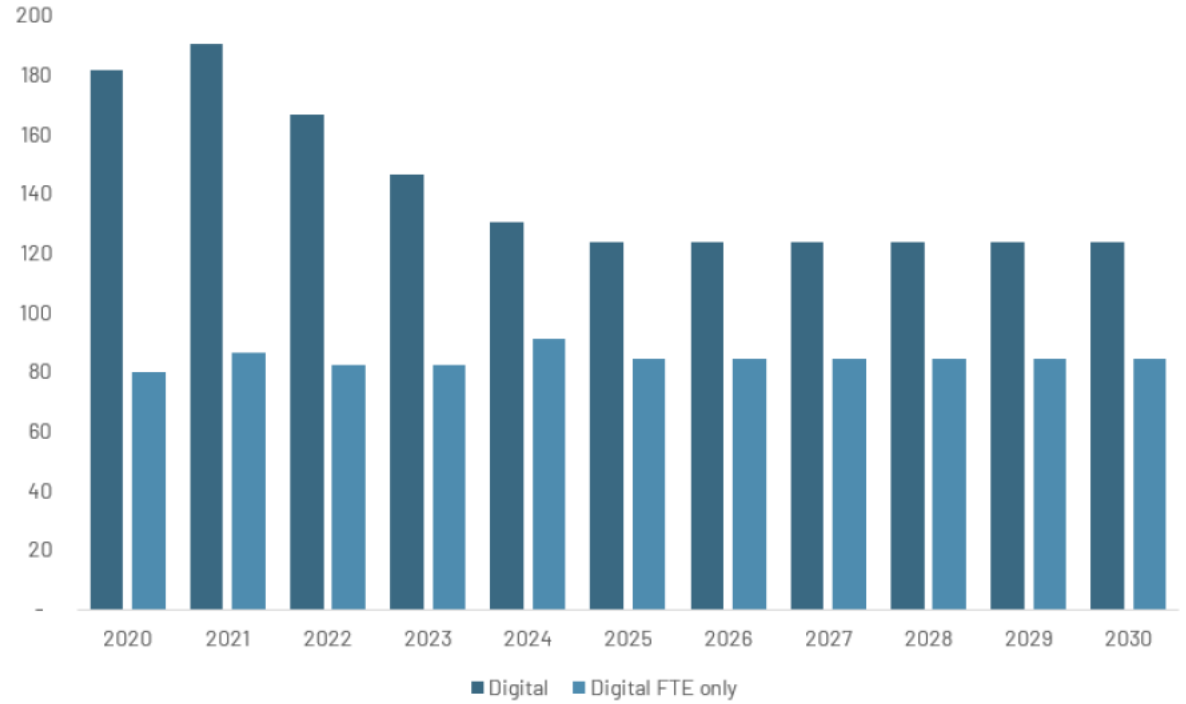

Figure 10 Digital headcount FTE and Contractors actuals and forecasts from 2020 to 2030[44]

WaterNSW also proposed a $4.5 million trend reduction in 2029-30, linked to internal staff shifting from operating expenditure to capital improvement work, replacing external contractors and capitalising these costs.

AtkinsRéalis state that WaterNSW's proposed increase in digital people costs is not sufficiently justified. As WaterNSW's stable digital headcount and recommended reduction in the digital capex investment will further lower the need for additional staff. Other increases in WaterNSW's headcount also not supported by this review, this will, in turn, reduce digital staffing requirements. AtkinsRéalis propose a more reasonable adjustment by reducing the WaterNSW's proposed digital people cost increases by $25m across WaterNSW. They estimated Greater Sydney's step change adjustment by apportioning the total reduction based on overhead allocations in 2023-24, recommending an $11.1 million reduction in Greater Sydney's proposed adjustment across the regulatory period.

AtkinsRéalis recommended software licensing and people cost adjustments as totals over the determination period. In aligning with the original proposal from WaterNSW, we have distributed these step changes evenly across each year to estimate the annual adjustment to WaterNSW's digital operating expenditure. Table 39 outlines the recommended digital cost step change per year.

Table 39 Proposed upper-bound digital costs step changes ($millions)

Digital costs	2025-26	2026-27	2027-28	2028-29	2029-30	Total
WaterNSW baseline adjustment	4.79	4.79	4.79	4.79	4.79	23.96

[44] Graph sourced from AtkinsRéalis' Digital Review chapter, data from WaterNSW RFI 4-C Digital FTE & Contractors 2020-30 Graphs and Tables

Digital costs	2025-26	2026-27	2027-28	2028-29	2029-30	Total
WaterNSW proposed trend	0.51	0.49	0.75	1.19	0.01	2.94
WaterNSW total proposed increase	*5.30*	*5.29*	*5.54*	*5.98*	*4.80*	*26.91*
Software licensing costs AtkinsRéalis' recommended reduction						(5.09)
People costs AtkinsRéalis' recommended reduction						(11.07)
Recommended total increase in digital expenditure						*10.75*
Recommended annual digital step change	**2.15**	**2.15**	**2.15**	**2.15**	**2.15**	**10.75**

Lower range scenario

WaterNSW's digital spend is 9.7 per cent of total expenditure for the current price path. The forecast for the next price path is 10.6 per cent under WaterNSW's proposal or 19.3 per cent based on AtkinsRéalis' adjusted total expenditure assumption. For the lower range scenario, AtkinsRéalis applied the 9.7 per cent rate from the 2021–2025 period. While this is significantly higher than WaterNSW's comparators, it would still represent a major reduction for WaterNSW. However, AtkinsRéalis does not recommend this level of expenditure, citing significant risks in reducing WaterNSW's digital spend to this extent.

Given that this recommendation was based on total digital operating expenditure rather than the proposed increases, we have taken a different approach to estimating the lower-bound step change. To estimate the recommended lower-bound step change, we have compared the total digital operating expenditure recommended for Greater Sydney by AtkinsRéalis and then compared this with the 2023-24 digital operating expenditure for Greater Sydney provided by WaterNSW in Attachment 11 of its pricing submission. This can be seen from Table 40 below.

For a more detailed understanding of this review, refer to the AtkinsRéalis review of the rural valleys.

Table 40 Proposed lower-bound digital costs step changes ($millions)

Digital costs	2025-26	2026-27	2027-28	2028-29	2029-30	Total
WaterNSW 2023-24 base digital costs	7.44	7.44	7.44	7.44	7.44	37.20
AtkinsRealis recommended digital operating expenditure	*7.74*	*7.74*	*7.74*	*7.74*	*7.74*	*38.69*
Recommended annual digital step change	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**1.49**

Table 41 Assessment of digital step change

	Driver	The step change is considered appropriate and covers both the proposed adjustment and trend factor.
	Rationale for Insufficiency	The recommended increase is reasonable to be considered as a step change.
	Confidence in the numbers	There were some concerns regarding the increase in digital program costs provided by WaterNSW.
Assessment for range - Low		The recommended adjustments are reflected in the recommended digital step change row of Table 40.
Assessment for range – High		The recommended adjustments are reflected in the recommended digital step change row of Table 39.

3.5.9. Recommended range for step changes in operating expenditure

Table 42 and Table 43 summarise the lower-bound and upper-bound ranges for each of the step changes proposed by WaterNSW. It can be seen from the tables that lower-bound ranges results in a reduction in the overall operating expenditure through the application of the step changes while the upper-bound range results in a smaller increase.

Table 42 Recommended lower bound for step changes in operating expenditure ('000s, $2024-25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
New operating licence conditions	0	0	0	0	0	**0**
Compliance uplift with existing regulatory requirements	(12)	(312)	(312)	(12)	(312)	**(959)**

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
New regulatory requirements	440	315	318	321	324	**1,718**
Regulatory submission costs	259	272	742	972	483	**2,728**
CSO / Grant expiry	(1,083)	(1,083)	(1,086)	(1,088)	(1,091)	**(5,431)**
Overhead allocation adjustment	(1,218)	(4,537)	(4,300)	(2,426)	(230)	**(12,711)**
Other step changes	1,397	(1,505)	(1,615)	(1,417)	(1,134)	**(4,274)**
Digital (previously in base adjustment and trend)	297	297	297	297	297	**1,485**
Total	**80**	**(6,554)**	**(5,955)**	**(3,354)**	**(1,662)**	**(17,445)**

Table 43 Recommended upper bound for step changes in operating expenditure ($2024-25)

	2025-26	2026-27	2027-28	2028-29	2029-30	Total
New operating licence conditions	0	0	0	0	0	**0**
Compliance uplift with existing regulatory requirements	1,663	1,439	818	869	469	**5,258**
New regulatory requirements	440	315	318	321	324	**1,718**
Regulatory submission costs	388	408	1,113	1,458	725	**4,092**
CSO / Grant expiry	(1,083)	(1,083)	(1,086)	(1,088)	(1,091)	**(5,431)**
Overhead allocation adjustment	(1,218)	(4,537)	(4,300)	(2,426)	(230)	**(12,711)**
Other step changes	2,150	(753)	(863)	(665)	(382)	**(513)**
Digital (previously in base adjustment and trend)	2,149	2,149	2,149	2,149	2,149	**10,747**
Total	**4,490**	**(2,063)**	**(1,850)**	**618**	**1,965**	**3,159**

3.6. Recommended range for operating expenditure

This is the first time that IPART has applied this new framework and there will undoubtedly be amendments to the details of the framework as the industry evolves and everyone begins to gain a better understanding of how the framework operates. The choice for IPART regarding what operating expenditure allowance it approves for WaterNSW will depend on a variety of factors.

Figure 11 presents the recommended upper and lower-bound ranges for controllable operating expenditure for the upcoming regulatory period. While this is a material reduction from the forecast expenditure proposed by WaterNSW, it better reflects the last year of actual controllable operating expenditure (2023-24).

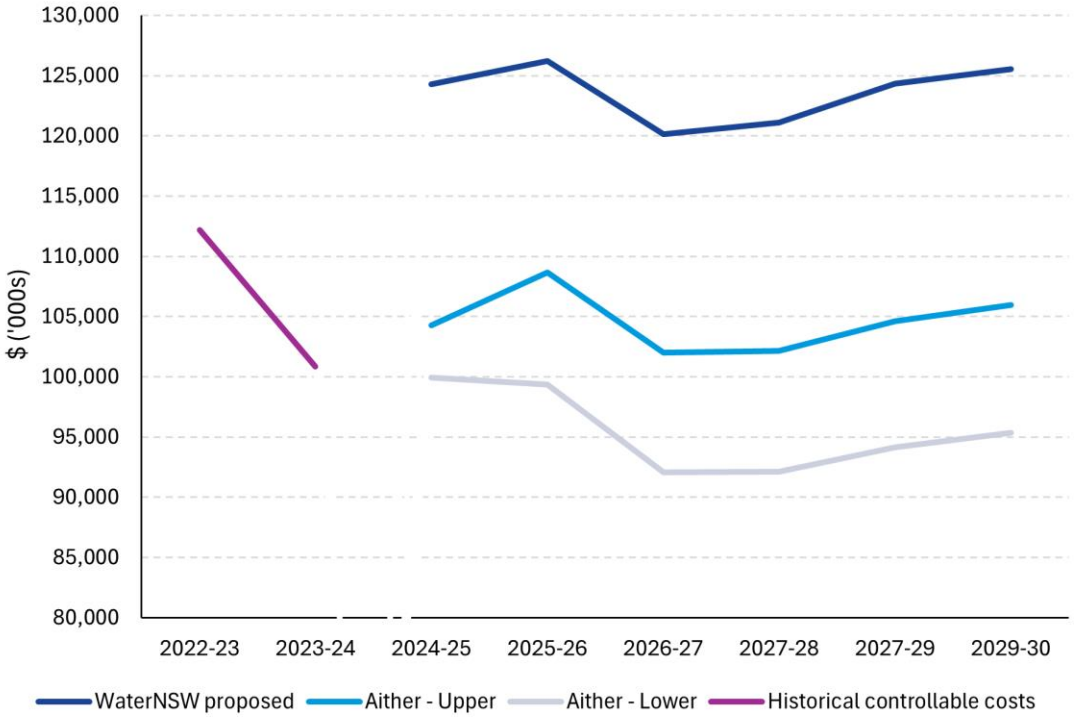

Figure 11 Recommended ranges and WaterNSW proposal for controllable operating expenditure

Figure 12 provides an overview of the recommendations for the upper and lower-bound ranges for Greater Sydney operating expenditure against the initial WaterNSW proposal.

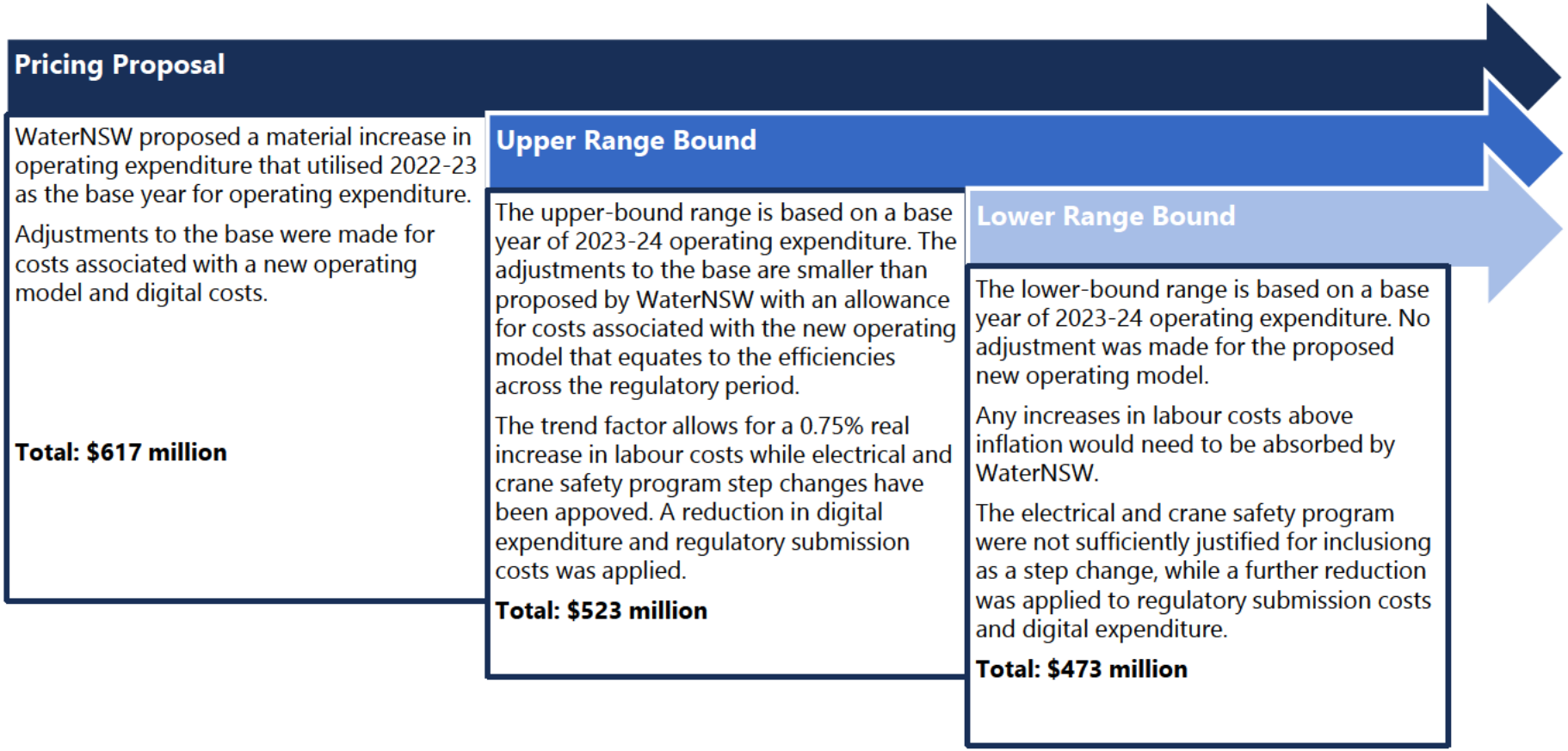

Figure 12 Summary of recommendations against proposal

Appendix A - Capital project assessment method

The assessment framework below was employed in the assessment of each of the capital projects and programs reviewed.

	Questions
Assessing Prudency	Is the need demonstrated? E.g. by law/licence/requirement, to meet demand, asset/facility replacement, business efficiency, or regulatory driver.
	Was a genuine suite of options examined, including 'do nothing'?
	Has the best option been selected based on overall costs and benefits?
	Is the project consistent with the water businesses' asset management plans and asset class strategies?
Assessing efficiency	Is the scope of work appropriate to meet the need? Is the standard of works appropriate?
	What was the highest NPV (lowest NPC) of available options (costs + benefits for whole of asset life)?
	Have synergies with other projects been considered (timing/alignment)?
	Benchmark costs against similar projects.
	Are unit costs based on market rates or otherwise shown to be efficient?
	Develop conclusion on efficiency of chosen solution.
	How are contingencies being applied? Are there cases of contingencies being applied to contingencies?
	Identify any 'red flags'
3Cs - Customers*	Is the proposed expenditure customer centric, including reflecting customer feedback or promoting better customer outcomes?
	Does the proposed expenditure meet community needs?
	Does the proposed expenditure support environmental sustainability?
	Does the proposed expenditure promote choice of service?
3Cs - Costs*	Does the proposal demonstrate robust costs?
	Does the proposal balance risk and long-term performance?
	Does the proposal show a commitment to improving value?
	Does the proposal demonstrate equitable and efficient cost-recovery?
3Cs - Credibility*	Does the proposal demonstrate continuous improvement?
Additional questions from IPART	Is there compelling evidence that the expenditure can't be delayed?
	What does a high risk (low expenditure) scenario look like for this project?
	What does a low risk (high expenditure) scenario look like for this project?
Additional considerations from FTI review of systems and processes 2023	Has the new Estimating Manual - Capital Works been applied systematically?
	Is the project underpinned by (and does it align with) an asset class strategy, asset management and investment plan?
	Is all relevant framework and process documentation up to date?

Appendix B - Information sources

The documents listed below form the basis for this review.

Document Name

Document Name

[redacted]

Document Name

[redacted]

Document Name

[redacted]

Document Name

[redacted]

Appendix C - Response to WaterNSW feedback on draft report

Separate to our review of WaterNSW's Greater Sydney review, IPART also appointed AtkinsRéalis to carry out the expenditure review for WaterNSW's Rural Valleys Determination in parallel to this review.

WaterNSW issued a letter to IPART on 19 March 2025 setting out a response to both the Rural Valleys and Greater Sydney Draft Expenditure Reports. This included a 45-page attachment setting out the details of WaterNSW's concerns.

Aither and AtkinsRéalis have prepared a joint response to the points raised by WaterNSW using a template provided by IPART. This response is summarised below.

Table 44 Combined response to WaterNSW feedback on common issues

WaterNSW feedback	Page reference	Response
Capital Expenditure		
Program level recommendations contradict project findings	p. 7	We do not consider that there is a contradiction. The expenditure reviews have examined a sample of projects/programs and drawn conclusions from these where necessary. This is standard practice which WaterNSW will be familiar with from previous reviews. It is not clear how there can be a contradiction at Valley level in the report given that it sets out Determination not Valley level figures.
Findings on policy-related projects have not addressed Government policy requirements	p. 4, p. 7-8	Our recommendations are part of an expenditure review and are not intended as a binding constraint on the need for projects. The ranges are based on the logic agreed with IPART and set out in the report. Neither the Warragamba Dam Resilience project nor the selected solution is specifically required under Dams NSW legislation or regulations. We recommend the Final Business Case be undertaken, and if an option is determined to be appropriate it should proceed to construction. WaterNSW may recover costs through a cost pass through mechanism or similar.

WaterNSW feedback	Page reference	Response
		Based on the material reviewed, Dam Safety NSW has not made a specific direction to WaterNSW in relation to Cataract Dam. If it is the case that this direction exists it is expected that it would form part of the regulatory submission.
Lack of understanding of WaterNSW's regulatory obligations	p. 8	We can confirm that we are aware of these regulatory obligations and have taken them into consideration in our review. We are only in a position to recommend expenditure for which we have been provided robust justification and evidence of ability to deliver. The reasons for the inclusion or otherwise of capex in the recommended ranges are set out in our reports.
Consultants did not consider customer feedback	p. 4, p. 8-9	We confirm that we have considered customer feedback and WaterNSW's customer and community engagement as summarised for example in Appendix 2 of its submission. IPART's Handbook sets out that it expects *"businesses to demonstrate how they ensure customers understand the overall impact of their preferences and willingness to pay"*. In its submission WaterNSW makes it clear that it has not assessed willingness to pay. Instead it presented things such as a ranking of customers priorities as support for its proposed significant increases in expenditure. On the specific point raised in the letter about customer support for Water Insights we note that this appears to be ranked 32nd in the customer advisory group ranking of priorities. We do not consider this to be robust justification for expenditure.
Early engagement review (by FTI consulting) did not appear to be incorporated	p.4-5, p. 9-10	We can confirm that we have read and taken into consideration the early engagement review undertaken by FTI. We do not consider the findings of the expenditure review to be inconsistent with those of the early engagement review. The FTI review focused on systems and processes whereas our review focused on the pricing proposal and supporting documents.

WaterNSW feedback	Page reference	Response
		We note that the letter does not give specific examples of inconsistencies. Many of the 'cross-cutting' comments in the Rural Valleys report are based directly on what was said by WaterNSW staff at interview and in some cases the information used as the justification for the business's proposed opex step changes (e.g. the data gaps justifying the crane safety opex step change).
We note that both consultants recommend reductions to some projects and programs that were not raised or prosecuted during the interview or request for information (RFI) process	p. 4	Aither included specific words that limited application of this review to those projects we reviewed (p. iv) and maintains that this occurred in practice. In the Rural Valleys review, given the large number of projects/programs we examined a sample of projects/programs and have drawn conclusions from these where necessary. This is standard practice which WaterNSW will be familiar with from previous reviews.
Aither has incorrectly suggested that WaterNSW has not engaged with Government or Sydney Water on the Warragamba Climate Resilience Project, and that until we do, they imply that there is no justification for the project. Aither also calls out the lack of community engagement, despite the evidence we provided that the project is part of a whole of government initiative under the Hawkesbury-Nepean Disaster Adaptation Plan work being led by the NSW Reconstruction Authority, and contained in the jointly developed LTCOP with Sydney Water (Attachment 24 of our submission).	p. 5	The records of engagement provided for review do not provide any indication of stakeholder support (or otherwise) for the project, from either community or government. Aither has adjusted the wording in the report and incorporated the following: If a preferred project is supported by the NSW Government and investment is required to commence in the forthcoming price period, WaterNSW can recover prudent and efficient costs of the project in this price period through a "reopener" or "pass through" provision.
Operating Expenditure		
Base year assumption:	p. 10-11	We agree with WaterNSW that the choice of base year could result in the same FY25 forecast, but only if, as specified in the Handbook the efficiency of the base year had been demonstrated, and only appropriate base year adjustments had been applied.

WaterNSW feedback	Page reference	Response
• WaterNSW contends that if the appropriate adjustments are made to the base year, the future operating expenditures are largely unaffected. • FY24 is not a representative base year, and cannot be used without adjustment. • The use of the 2021 Determination for the lower bound is not a reasonable starting point as it relies on forecasts from four years ago that were made under a different regulatory framework • WaterNSW does not accept the consultants' criticism that WaterNSW's use of FY23 as the base year instead of FY24 is misaligned to IPART's Handbook.		As noted in the Rural Valleys report, we consider that WaterNSW has not demonstrated the efficiency of its proposed base year and has proposed numerous adjustments which do not meet the Handbook definition. Whilst the feedback asserts that FY24 is not a representative year in the absence of any analysis or figures to quantify this assertion it is difficult for us to take this into account. We also note that WaterNSW has identified that Rural Valley's overheads may be overstated in FY23 highlighting the challenges of using that as a base year instead.
Inconsistent application of principles/approaches and the 3Cs framework: • Base Year • Base year adjustments • Trends and escalation • Upper and lower bounds • Treatment of SAAS costs	p.3, p. 11-13	We consider that these differences demonstrate how independent the two reviews are and reinforce the fact that two separate reviews have drawn similar overall conclusions.
Comments regarding WaterNSW financial analysis WaterNSW's view is that it provided substantial analysis outlining the drivers for the variances.	p. 13-14	The Handbook requires that businesses provide reasons for any material deviations over the period. We do not agree that it was *"naive to expect any entity should to look to reconcile actual outcomes to assumptions developed in 2020.... The allowance does not and should not require an entity to invest resources in a detailed line by line synopsis of what has changed from 2020 given the magnitude of change"*.

WaterNSW feedback	Page reference	Response
		The variance in overheads in WaterNSW's proposed base year (FY23) was +$8.5M which is material at the Rural Valleys level and WaterNSW was not able to provide a robust explanation, even stating that it was *"possible that RV's overhead allocation in FY23 was overstated"*.
Prudent operating costs: • The consultants treat many regulatory obligations as "optional" and have reduced required expenditure accordingly. • The lower range recommended would result in less revenue than what we receive today, to deliver greater services and functions imposed under our new Operating Licence and a raft of legislative instruments.	p. 14	Where the proposed increase in costs relate to existing regulatory obligations that have not changed, we have assessed this proposed increase against the requirements for a step change in operating expenditure under the IPART Handbook. If the proposed increase in operating expenditure relating to the existing regulatory obligation does not meet the requirements for a step change, this does not mean that we consider this obligation to be optional, but rather the information provided by WNSW was insufficient to justify a step change in expenditure related to an existing obligation that WNSW has been required to meet under the current regulatory period (and therefore would already have costs in the base year in complying with the obligation).
Base Trend Step: • WaterNSW strongly refutes the statement that WaterNSW has not applied the Base-Trend-Step (BTS) approach in line with IPART's 3Cs framework.	p.14-15	This feedback does not set out any ways in which our statement is incorrect. We address the comments on the different elements of the BTS below.
Base Year Adjustments: The consultant has stated that only three of the twenty baseline adjustments applied by WaterNSW meet the intent of IPART's Handbook. We do not agree and suggest that the consultant has applied an incorrect interpretation of what could be classified as step changes or a trend component.	p. 15	We can confirm that whether something is classed as a base year adjustment or step change has not significantly affected the recommended expenditure ranges as all of WaterNSW's proposed changes have been assessed and included where justified.

WaterNSW feedback	Page reference	Response
Step adjustments: WaterNSW disagrees with how the consultants have treated the following proposed step changes: • Land management • Crane Safety • Electrical Safety • Opex from New Capex • Grant Expiry	p.16-18	This feedback is largely an assertion that WaterNSW does not agree with the lower range recommendations. It does not set out clearly any ways in which our recommendations are factually incorrect. For lease capex in Rural Valleys, the 'upper' range adjustments to base overheads opex largely take the overhead figures back to FY23 levels before the change in cost treatment. The 'lower' range is also based on the allowance before the change in cost treatment. As such we do not consider change is required. We have amended the report to make this point clearer. On opex from capex, we note that the range of expenditure allows IPART to make these choices in an informed manner. On Rural Valleys electrical safety improvements, we would be open to amending this recommendation if WaterNSW is able to demonstrate that it had no electrical safety expenditure in its prior allowances. For Rural Valleys land management we are not persuaded that WaterNSW did not incorporate land management in its cost base previously. From a GS perspective, the upper bound of the recommended ranges for these step changes reflects that which was proposed by WaterNSW. The lower bound of the range reflects our interpretation of the IPART Handbook in relation to the requirements for step changes.
Trend adjustments: WaterNSW disagrees with how the consultants have treated the following proposed trend changes: • Insurance • Labour	p.18-20	On insurance, four of the five premiums set out in the figure in the Rural Valleys report relate to the Pacific insurance market and one relates to the global market. All are indicative of similar trends. We can confirm that we have considered the case made by WaterNSW for real terms labour cost increases which we do not consider to be compelling.

WaterNSW feedback	Page reference	Response
A flawed approach to providing alternative opex forecasts: • Lower bound approach using FY22 determination. The lower range recommended would result in less revenue than what we receive today, to deliver greater services and functions imposed under our new Operating Licence and a raft of legislative instruments. • Upper bound approach of using FY24 as the baseline	p. 20-21	We consider the logic for these approaches to be well explained in the reports. The previous Determination allowance has been applied (with an increase for well explained variance) for Rural Valleys lower range because of the lack of explanation of variance. The variance is different between the Determinations. Taking as an example FY24 when Greater Sydney's opex was below the allowance whereas Rural Valleys was significantly above it.
Customer Contributions		
WaterNSW considers it is misleading that consultants have stated that considering the scale of increase (and consequent impact on customers) WaterNSW has provided surprisingly little formal documentation such as business cases demonstrating decision-making logic, efficiency and consideration of the impacts and benefits to customers.	p.21	The response does not make it clear how the statement is misleading. As a concrete example, WaterNSW has not provided a business case for its largest proposed opex increase (operating model) setting out the benefits to customers.
Considering the majority of the proposed adjustments and steps are driven by regulatory change and obligations, there was very little scope for customers and WaterNSW to propose alternative approaches, albeit our pricing proposal did outline three alternative approaches for IPART to consider.	p. 21-22	We consider that there was significant scope for WaterNSW to propose alternative approaches. The largest single proposed increase in operating expenditure relates to WaterNSW's operating model and the largest proposed step change relates to a compliance uplift with existing requirements.

WaterNSW feedback	Page reference	Response
In some instances, we believe the consultant has overstepped their remit in attempting to assess what is fair for customers, rather than applying the lens of what is prudent and efficient expenditure (noting in other cases the consultants have ignored customer preferences completely).	p. 21-22	Adjustments to the proposed expenditure have been based on the approach outlined in the Introduction section of our report and are for scope, efficiency, service level, external assumptions and potential reforms to operating environment. No adjustments have been specifically made by making an assessment of what is fair for customers to pay.
Absence of Risk Assessments		
WaterNSW observes that the risks associated with capital expenditure reductions across Rural Valleys and Greater Sydney of between 37% and 70% and operating expenditure reductions of between 12% and 25% are extensive, but have only been given cursory attention by the consultants.	P, 6, p. 22	We acknowledge that there are risks with expenditure allowances which are lower than those proposed by WaterNSW and these have been outlined in the report. We also note that the recommended range of expenditure for RV actually encompasses an increase in spend compared to historical levels. We note that from a Greater Sydney perspective, the average annual recommended upper-bound range for operating expenditure is equivalent to historical operating expenditure (noting there was a significant one-off increase in operating expenditure in 2022-23 – excluding this one year, there is a recommended increase in operating expenditure on historical levels).
Capitalised overheads need to be reallocated		
Simple "rules of thumb" are not likely to accurately calculate the impact on opex from a lower capex program. WaterNSW suggests that once IPART has landed on a small number of realistic scenarios for capex and opex for the draft determination, WaterNSW is asked to recalculate the overhead and capitalisation allocations across Rural Valleys, Greater Sydney and WAMC. This is likely to be the most accurate way to ensure a "no surprises" approach to assess the pricing impacts of expenditure reductions prior to the draft determinations.	p. 22	We have clearly set out the approach we have taken to capitalised overheads in our report.

Feedback specific to the Greater Sydney review

The following table reflects feedback specific to the Greater Sydney review.

Table 45 WaterNSW comments on Greater Sydney draft report

WaterNSW feedback	Page reference	Response
Digital Expenditure		
WaterNSW has concerns with Aither's approach in the Greater Sydney Determination for digital expenditure as it adopts a flawed methodology from AtkinsRéalis without considering the fundamental differences between regions.	p. 23	We have adopted the findings of Atkins without issue, and if they choose to change their recommendation on the basis of this review we will continue to accept those findings. This approach was agreed with IPART at the commencement of the review.
WaterNSW is concerned that this methodology does not align to principles under the IPART Handbook for promoting customer value and ensuring the business achieves equitable and efficient cost recovery.	p. 23	
Capital Expenditure		
There is a misalignment between WaterNSW's understanding of the intended approach for defining high and low scenarios and how these scenarios have ultimately been calculated in the review: • There appears to be a disconnect between the definition provided in the guidance, the actual methodology used to determine the upper and lower bounds and the supporting guidance provided by the reviewer on the factors that have contributed to the proposed range.	p. 23-25	We can update specific instances where this is unclear however we don't believe there is a misalignment as such. i.e. we've updated p. 12 regarding E-flows: *"The project is considered one of many possible strategies for reaching objectives included in the Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2023 under the Water Management Act 2000. It is not a requirement for compliance with the Act. It could be deferred on this basis."*

WaterNSW feedback	Page reference	Response
• the lower-bound scenarios often do not align with the report's own definition of a 'minimum expenditure required to deliver essential services while seeking to balance affordability with service quality'.		
The report misrepresents WaterNSW's legal obligations, particularly in relation to dam safety obligations under the Dams Safety Act (2015) and the Dams Safety Regulation (2019), WaterNSW is concerned that the Aither reviewer has overlooked key elements, leading to findings that could result in insufficient revenue allowance to progress the requisite work to demonstrate SFAIRP, resulting in non-compliance with NSW Dams Safety regulations.	p. 23, p. 25-26	23: We take no issue with the manner in which WaterNSW has structured or operates its DSMS, aside from the project options selected and whether their prudency and efficiency has been suitably demonstrated to justify the proposed expenditure. WaterNSW has been given opportunity through the RFI process and through their Draft Expenditure Review Response to give direct and specific responses to concerns raised about the options selected. 25-26: We take no issue with the Dam Safety Risk Management Framework itself. We support work being undertaken to progress both Warragamba resilience project and the Cataract Dam Safety upgrade, but maintain that the documentation provided for our review does not justify the expenditure proposed. Where documentation does justify the proposed expenditure, as in the case of Cataract Dam, it has been recommended it be pursued. WNSW may recover costs through a cost pass through mechanism or similar. Note: Updated words on p. 20: *"IPART may consider a cost pass through or similar provision for WaterNSW, should investment beyond that allowed be required for dam safety compliance, within the forthcoming period."*
The proposed top-down methodology used to adjust the Greater Sydney renewals program is overly simplistic and presents a high-risk approach.	p. 23, p. 26	The top-down methodology was used due to a lack of transparency in the prioritisation system used by WaterNSW and a lack of clear response on the system through the RFI process. As noted elsewhere, the draft finding indicates that a range of projects in the renewals program do not show cause to justify the expenditure approval; this is not the same as forcing WaterNSW to defer the projects.

WaterNSW feedback	Page reference	Response
• This draft finding, based on an overly simplistic methodology, would force WaterNSW to defer projects that provide important benefits and service continuity to customers.		
Warragamba Dam Resilience Project: The draft consultant report contains several factual errors, or misinterpretations of the content provided during the review process in relation to the Warragamba Dam Resilience project.	p. 26-27	We recommend the Final Business Case be undertaken, and if an option is determined to be appropriate it should proceed to construction. WNSW may recover costs through a cost pass through mechanism or similar if delivery is pursued during the determination period. The noted "factual errors" and "misinterpretations" lists in the Response do not appear to address the stated concerns in the expenditure review.
Warragamba E-flows Project: The treatment by the consultants of E-flows provides an example of the disconnect between the consultant's guidance on determining the lower and upper bound scenarios. In WaterNSW's opinion, the requirement for the consultants to provide clear guidance on the factors informing IPART's decision has not been met.	p. 27-29	The project may be considered a non-essential service, and it is on this basis that the lower bound scenario is recommended.
Warragamba Pipelines Project: As with the Warragamba E-Flows project, the assessment of the Pipeline Renewals Project lacks a clear explanation of how the lower bound scenario was determined based on the defined guidance.	p. 29	As stated in the expenditure review, the Tranche 4 works that are suggested for deferral have very limited detail provided for their costs (a single line in the capital estimate) and amount to $35 million spend. Based on the regulatory submission it is not clear whether it is prudent or efficient for this work to occur in the next regulatory period, These concerns are stated directly in the report and not addressed in the response received,

WaterNSW feedback	Page reference	Response
Cataract Dam Safety Upgrade Project: Consultant's draft report contains several incorrect and misleading assumptions and assertions regarding UN270011 – Cataract Dam Safety Upgrade project. These errors demonstrate a fundamental misunderstanding of the regulatory framework, dam safety risk management approach, and the technical considerations underpinning WaterNSW's proposed structural risk mitigation measures.	p.29-30	The recommendations are made on the basis of the information provided to Aither for review, which appear to treat SMM1 And SMM2 as different options, rather than staged components of the one option. Aither's recommendations include to undertake additional structural mitigation measures should further analysis determine they are necessary.
Water Infrastructure Renewals (Excluding Warragamba Pipeline Renewals): The analysis underpinning the proposed low scenario for Greater Sydney Water Infrastructure Renewals (excluding Warragamba Dam) lacks rigour, WaterNSW highlighted some errors of fact.	p.30-31	There are a range of concerns raised in this section responded to in turn; p. 30 *"This is misleading – the corporate risk appetite statements upon which scoring is based reflect relative tolerance for different types of risk."* The concern raised by Aither regarding equal weighting of factors was immaterial to the assessment however the notion that **Safety** is considered to have an equal weighting to **People Development** or **Stakeholder partnerships** was and remains to be surprising. p. 30 *"This statement is incorrect. The calculation for benefit uses the benefit value without the application of Log scale."* This response from WaterNSW related to a misquoted excerpt from the Aither report. Irrespective of this, the concerns stands that whilst the benefit scores are built up using benefit values prior to the application of the log scale, the prioritisation model then relies on log scores to determine the cut off for inclusion into the renewals program and this cut-off appears to be arbitrary; the concern was stated in the report and has not been addressed.

WaterNSW feedback	Page reference	Response
		p. 31 In response to the deferral of low and medium risk projects in the program *"This statement is both inaccurate and misleading. The deferral of all projects assessed as retiring* *moderate risks (78 projects, at a risk value of $500,000 each) or low risks (22 projects at a risk value of $25,000 each) does not in aggregate represent a low risk to WaterNSW or our customers. In fact, on the basis of the scoring methodology, these would appear in aggregate to represent a risk value of $39,550,000, being roughly the equivalent of two individual extreme risks."* This basis for inclusion of projects is not described in WaterNSW's submission nor is it detailed in their prioritisation matrix and was therefore not considered as part of the review. The concerns presented around projects being included on the basis of the Project Value Score of greater than 0.2 (a log score) was not addressed by WaterNSW. p. 31; Based upon the stated approach to determining the high and low expenditure scenarios, WaterNSW presented different results - $160 million vs $156.7 million for the low and 265.5 million vs $265.20 million for the high however as these calculations were not provided they cannot be verified. p. 31: It is noted by WaterNSW that two projects within the renewal program that were independently assessed by Aither as being "on the whole the expenditure was deemed to be prudent and efficient" (Pg 21). This quotation presents only half of a sentence. The full statement in the Aither report was as follows and referred to six projects including these two "As with other completed options assessments the urgency of the work was not fully demonstrated however on the whole the expenditure was deemed to be prudent and efficient." The immediate need for these two projects was not evident in the options assessments or in the risk prioritisation analysis provided.
Operating Expenditure		
In the Aither Report, it is stated that WaterNSW will receive a CSO for land management for the amounts specified below. This is factually incorrect.	p. 19	We have adjusted the wording in the report to account for this feedback, noting that we did not receive any information relating to the project that is related to the CSO.

WaterNSW feedback	Page reference	Response
Customer/Stakeholder Engagement		
The reports seem to suggest that government has not been coordinated in its approach to policy and other projects, which we strongly do not support.	p. 5, p. 31-32	While some limited information was provided on the Interagency Consultative Committee - draft terms of reference for the group, there is no reference to the outcomes of that consultation or its impact on decision making.
Consultants also call out the lack of community engagement (in relation to the Warragamba Resilience Project), despite the evidence we provided that the project is part of a whole of government initiative under the Hawkesbury-Nepean Disaster Adaptation Plan work being led by the NSW Reconstruction Authority.	p.5, p.31-32	We note your feedback and have removed the text your feedback references. Meaningful engagement should be undertaken with affected stakeholders prior to an investment decision on a final risk reduction solution, which forms part of our recommendation.

Document History

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Acknowledgements:

Person	Role
Tim Ryan	Project Director and operating expenditure lead
Courtney Rogers	Project Manager
Bill Fuller	Capital expenditure lead
Eleanor Gray	Capital expenditure specialist

For information on this report:

Please contact	Tim Ryan
Mobile	+61 418 140 857
Email	Tim.ryan@ricardo.com

www.aither.com.au