Expenditure Review of WaterNSW Broken Hill Pipeline

Excluding Energy Costs

INDEPENDENT PRICING & REGULATORY TRIBUNAL

11 May 2022

Quality information

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Revision History

Revision	Revision date	Details	Name	Position
A	25 October 2021	First Draft	Lucy Harrington	Project Manager
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Glossary

Term	Definition
AER	Australian Energy Regulator
AMP	Asset Management Plan
CAM	Cost Allocation Methodology
CMMS	Computerised Maintenance Management System
EAMS	Enterprise Asset Management System
FTE	Full Time Equivalent
IPART	Independent Pricing and Regulatory Tribunal
JV	Joint Venture
KPI	Key Performance Indicator
O&M	Operations and Maintenance
RAB	Regulatory Asset Base
SOC	State Owned Corporation
SPV	Special Purpose Vehicle
TOTEX	Total Expenditure
The Pipeline	The Broken Hill Pipeline
WAMC	Water Administration Ministerial Corporation
2019 Pricing Determination	The period 1 July 2020 to 30 June 2022
2022 Pricing Determination	The period 1 July 2023 to 30 June 2027

Executive Summary

WaterNSW is a state-owned corporation established under the *Water NSW Act 2014* that is a major supplier of water and raw water in NSW, operating under an Operating Licence issued and monitored by the Independent Pricing and Regulatory Tribunal NSW (IPART). WaterNSW manages the Operations and Maintenance Contract (O&M Contract) for the recently constructed Broken Hill Pipeline (the Pipeline), which was built in response to a direction from the NSW Government. Essential Water is WaterNSW's primary customer, but a small number of offtake customers are also serviced. The Pipeline is subject to regulation by IPART, which sets the maximum prices that public water utilities can charge for supply of their services based on an assessment of efficient costs.

AECOM was engaged by IPART to determine WaterNSW's efficient operating and capital costs for the Pipeline, and this report provides our findings and recommendations.

Asset Management Practices and Processes (Section 4)	The Pipeline is managed by the Trility-John Holland Joint Venture (JV). The JV's asset management practices were assessed by KBR in 2020, which generally found that the JV is well aligned with good practice. We agree with this finding. In its audit, KBR identified some improvements for the JV to implement, and WaterNSW has confirmed that these have been addressed. The JV has set a maximum outage duration for the pipeline of 24 hours and geared its resources to achieve that. The bulk storage facility holds considerably more than one day's demand, and we find that the maximum outage duration could be increased, which could potentially reduce maintenance costs.
Cost Allocation and Corporate Overheads (Section 5)	WaterNSW has allocated its corporate overheads in accordance with its Cost Allocation Manual (CAM) which uses total expenditure (TOTEX) as the allocator of shared costs. In line with previous reviews of WaterNSW's methodology by Atkins and subsequent determinations by IPART, we do not consider TOTEX to be an appropriate allocator and note that it is not commonly used by water utilities. We therefore recommend that WaterNSW revise its CAM to identify a more appropriate driver for overhead costs or alternatively to base overhead allocation on direct operating costs only. For the Pipeline specifically, we also consider that amendments to the suggested direct operating cost allocator should be made in relation to energy (consistent with Atkins' and IPART's findings) and the O&M Contract fixed costs, since these external costs to WaterNSW are not drivers of WaterNSW overhead (unlike WaterNSW's own contract management costs which do attract overhead), and the Joint Venture has its own internal overhead costs which are included in the contract fee paid by WaterNSW. This recommended change in allocation results in a significant decrease in corporate overhead costs allocated to the Pipeline, and we recommend that this be applied to both determination periods.
Regulatory Submission Costs (Section 5.6)	WaterNSW has included costs for regulatory submission preparation in both its proposed operating and capital costs. These costs are not typically capitalised, and WaterNSW has referenced a PwC interpretation of the Intangible Assets Accounting Standard prepared for a pricing submission to the AER to support the capitalisation of some of these costs. The AER allowed these capital costs (as part of a larger efficient cost base) but noted that they were more likely to be operating costs. In line with previous pricing proposals and determinations, we consider that all regulatory submission costs should be treated as operating costs. Regulatory submission preparation costs exceeded IPART allowances in the 2019 Determination Period and remain at a similar level in the 2022 Determination Period. We consider that these costs should have been more in line with 2019 Determination Allowances and therefore consider that costs in excess of the allowance are not efficient.
Operating Costs (Section 6)	We have found that WaterNSW's operating costs are reasonable and efficient, except for its allocation of corporate overhead and its treatment of regulatory submission costs.

Capital Costs (Section 7) WaterNSW's capital expenditure for the 2019 Determination Period exceeded the allowances by a significant amount. There appears to be a cost driver present to support each of the proposed capital items, however we would recommend that WaterNSW improve its documentation of capital projects to support its proposal more effectively.

WaterNSW has not proposed any capital expenditure for the upcoming period, except for the regulatory submission costs which have been discussed above.

Summary of Recommended Efficient Costs

Table 1 presents a summary of our recommended adjustments to WaterNSW's proposed total expenditure and recommended efficient costs over the 2019 Determination Period. Total recommended efficient costs over the 2019 Determination Period are $2.3 M (or 17.2%) lower than WaterNSW's actual/projected costs for the period.

Table 1 Recommended Efficient Expenditure over the 2019 Determination Period ($ Millions, Nominal)

	FY20	FY21	FY22	Total
WaterNSW Costs				
Operating Expenditure (Excl. Electricity)	$2.86	$3.19	$3.03	$9.08
Capital Expenditure	$1.86	$0.64	$1.69	$4.19
Total	**$4.72**	**$3.83**	**$4.72**	**$13.28**
Attribution of Regulatory Submission Costs to Operating Expenditure				
Operating Expenditure (Excl. Electricity)		$0.18	$0.09	$0.28
Capital Expenditure		-$0.18	-$0.09	-$0.28
Revised WaterNSW Costs				
Operating Expenditure (Excl. Electricity)	$2.86	$3.38	$3.12	$9.36
Capital Expenditure	$1.86	$0.46	$1.60	$3.92
Total	**$4.72**	**$3.83**	**$4.72**	**$13.28**
AECOM Recommended Adjustments				
Operating Expenditure (Excl. Electricity)	-$0.67	-$0.89	-$0.72	-$2.28
Capital Expenditure				
Total	**-$0.67**	**-$0.89**	**-$0.72**	**-$2.28**
Percentage Change	**-14.2%**	**-23.2%**	**-15.3%**	**-17.2%**
Recommended Efficient Costs				
Operating Expenditure (Excl. Electricity)	$2.19	$2.49	$2.40	$7.08
Capital Expenditure	$1.86	$0.46	$1.60	$3.92
Total	**$4.05**	**$2.94**	**$4.00**	**$10.99**

** Capital expenditure includes Wentworth Ski Park Rehabilitation and revenue requirement*

Table 2 presents a summary of our recommended adjustments to WaterNSW's proposed total expenditure in $FY22 and recommended efficient costs over the 2022 Determination Period. Total recommended efficient costs over the 2019 Determination Period are $2.4 M (or 16.2%) lower than WaterNSW's proposed costs. The application of the continuing efficiency adjustment reduces this by a further $0.3 million.

Table 2 Recommended Efficient Expenditure over the 2019 Determination Period ($ Millions, $FY22)

	FY23	FY24	FY25	FY26	FY27	Total
WaterNSW Costs						
Operating Expenditure (Excl. Electricity)	$2.79	$3.19	$2.71	$2.94	$3.25	$14.87
Capital Expenditure				$0.18	$0.09	$0.27
Total	**$2.79**	**$3.19**	**$2.71**	**$3.12**	**$3.34**	**$15.14**
Attribution of Regulatory Submission Costs to Operating Expenditure						
Operating Expenditure (Excl. Electricity)				$0.18	$0.09	$0.27
Capital Expenditure				-$0.18	-$0.09	-$0.27
Revised WaterNSW Costs						
Operating Expenditure (Excl. Electricity)	$2.79	$3.19	$2.71	$3.12	$3.34	$15.14
Capital Expenditure						
Total	**$2.79**	**$3.19**	**$2.71**	**$3.12**	**$3.34**	**$15.14**
AECOM Recommended Adjustments						
Operating Expenditure (Excl. Electricity)	-$0.43	-$0.43	-$0.43	-$0.58	-$0.57	-$2.45
Capital Expenditure						
Total	**-$0.43**	**-$0.43**	**-$0.43**	**-$0.58**	**-$0.57**	**-$2.45**
Percentage Change	**-15.6%**	**-13.6%**	**-15.8%**	**-18.7%**	**-17.1%**	**-16.2%**
Recommended Efficient Costs						
Operating Expenditure (Excl. Electricity)	$2.36	$2.76	$2.28	$2.53	$2.77	$12.70
Capital Expenditure						
Total	**$2.36**	**$2.76**	**$2.28**	**$2.53**	**$2.77**	**$12.70**
Recommended Efficient Costs, Including Continuing Efficiency Adjustment						
Operating Expenditure (Excl. Electricity)	$2.34	$2.72	$2.23	$2.46	$2.67	$12.43
Capital Expenditure						
Total	**$2.34**	**$2.72**	**$2.23**	**$2.46**	**$2.67**	**$12.43**

1. Introduction

1.1 IPART NSW

IPART NSW is charged with regulating the prices for monopoly services such as energy, public transport and water under the *Independent Pricing and Regulatory Tribunal Act 1992*. The Act requires it to review and set the maximum prices that public water utilities can charge for supply of their services. Generally, prices charged by utilities will allow recovery of efficient costs.

IPART undertakes pricing reviews to assess the efficiency of water utilities' costs at intervals usually ranging between three and five years. Each regulated utility is required to submit a pricing proposal to IPART outlining its proposed operating and capital costs, and IPART typically engages consultants to review the costs and provide recommendations to assist IPART in making its determination.

IPART is in the process of conducting a review of WaterNSW's pricing proposal for the Broken Hill Pipeline for the 2022 Determination Period, to establish the maximum prices it may charge customers from 1 July 2022 for a period of up to five years and has engaged AECOM to review costs associated with the Broken Hill Pipeline (the Pipeline).

1.2 WaterNSW

WaterNSW is a state-owned corporation established under the *Water NSW Act 2014* that is a major supplier of water and raw water in NSW, operating under an Operating Licence issued and monitored by IPART.

In 2016, the NSW Government announced that it would construct a pipeline from Wentworth to Broken Hill to deliver low salinity raw water from the River Murray to Essential Water in Broken Hill along the route of the Silver City Highway. In 2017, the Board of WaterNSW received a Direction from the New South Wales Minister of Lands and Water in relation to the construction, operation and maintenance of the pipeline. Following a competitive tendering process, WaterNSW engaged the John Holland MPC Group Joint Venture (including John Holland, MPC Kinetic Group and TRILITY) to construct the pipeline, which became fully operational in April 2019.

The system includes 270 km of mostly buried pipeline, several pumping stations and bulk water storage facilities. Essential Water is WaterNSW's primary customer, but a small number of offtake customers are also serviced.

1.3 Scope of the Review

AECOM was engaged by IPART to undertake a desktop review to assist IPART in determining the prudency and efficiency of WaterNSW's operational, maintenance, administrative and capital costs with respect to the Pipeline for the 2022-2027 Determination Period. The energy (electricity) usage and related costs of the Pipeline is the subject of a separate review.

Table 3. Scope of this Review

Task B.1 Review planning and asset management practices and processes	• Determine whether the Pipeline's proposed expenditure is in line with good asset management and strategic business planning, and if not, what impacts would better planning have on its proposed expenditure and service levels. • Evaluate how the Pipeline considers climate change in its planning processes.
Task B.2 Review operating expenditure	• Review actual operating expenditure incurred over the 2019 Determination Period and forecast operating expenditure for the 2022 Determination Period, using any relevant findings from Task B.1 and from the 2019 Expenditure Review. • Comment on the reasonableness of the Pipeline's cost allocation methodology principles, how it has attributed costs (direct and shared costs such as overheads), and whether there has been any inappropriate allocation of shared costs (such as double counting). • Assess and identify the potential for and recommend any efficiency savings in the 2022 Determination Period and provide annual efficient operating expenditure estimates with reasoning to support any recommended savings.

Task B.3 Review of capital expenditure

- Using any relevant findings from Task B.1 and B.2 and any relevant findings and recommendations from the 2019 review of the Pipeline's expenditure:
- Review efficient capital expenditure over the 2019 Determination Period
- Assess and provide recommendations on the efficient level of the utility's capital expenditure over the 2019 Determination Period and provide rationale to support any difference from the utility's proposed actual level of capital expenditure.
- Review efficient capital expenditure over the 2022 Determination Period
- Comment on the reasonableness of the utility's proposed capital expenditure over the 2022 Determination Period considering the findings from Task B.1.

1.4 Report Structure

The structure of this report follows the methodology outcomes as outlined in Table 4.

Table 4. Report Structure

Executive Summary	
Section 1	Introduction and Scope of Review
Section 2	Assessment Methodology
Section 3	Issues for this Determination
Section 4	Review of Planning and Processes
Section 5	Review of Cost Allocation Methodology
Section 6	Review of Operational Expenditure
Section 7	Review of Capital Expenditure
Section 8	Findings and Recommendations

All operating costs and forward capital costs in this report are presented in $FY22 unless otherwise stated. Historical capital costs are presented as actuals.

1.5 Summary of Proposal

This section provides an overview of the Pipeline's historic and proposed operating and capital expenditure as outlined in WaterNSW's June 2021 submission. Figures for FY21 (which were forecast in the June 2021 submission) have been replaced with actuals.[1] Operating and capital expenditure are analysed in detail in Sections 6 and 7 respectively of this report.

1.5.1 Operating Expenditure

WaterNSW's historical and proposed operating expenditure (expressed in $FY22) from FY19 to FY27 is provided in Figure 1. The coloured bars represent actual costs (up to FY21) and forecast costs from FY22 to FY27. IPART allowances over the 2019 Determination Period are represented by the black markers, and WaterNSW proposed costs represented by the blue markers. Total costs, as well as total costs excluding electricity, are reported.

Costs relating to the Wentworth Ski Park Reserve Rehabilitation have been excluded from the operating costs over FY19 to FY22, as these are being sought for inclusion in the Regulated Asset base (RAB).[2].

[1] *Attachment 4 October Update - WaterNSW (Pipeline) AIR SIR 2021 - to IPART.xlsx*

[2] Excluded 'Other operating costs' for Wentworth Ski Park Reserve Rehabilitation amount to (in $ millions, $FY22):

	FY19	FY20	FY21	FY22
Wentworth Ski Park Reserve Rehabilitation	*$0.13*	*$1.21*	*$0.05*	*$0.08*

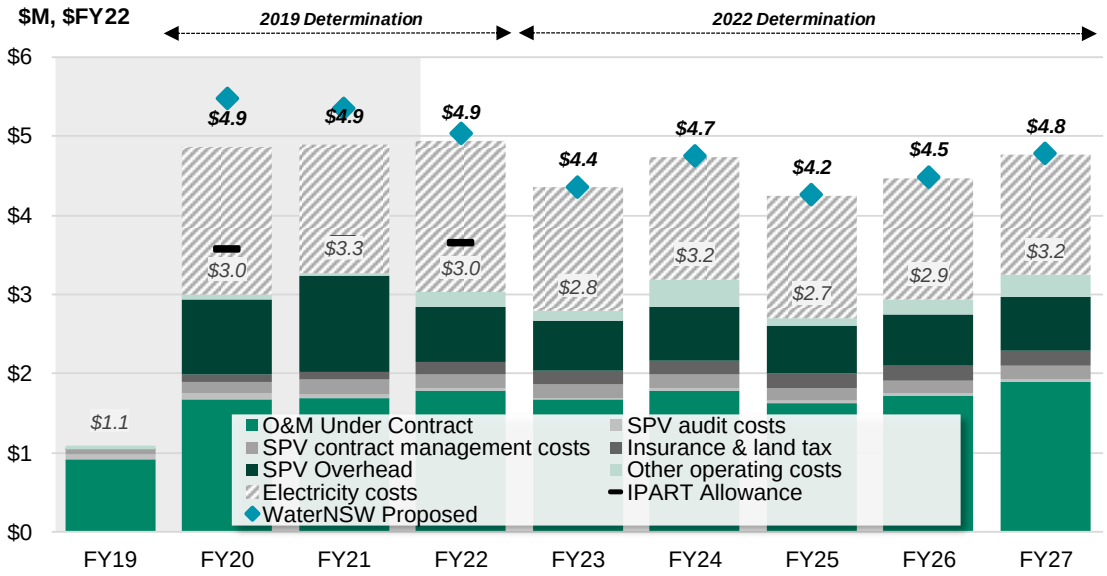


Figure 1 Operating Expenditure ($ Millions, $FY22)

A summary of actual/projected operating expenditure over the 2019 Determination Period is provided at Table 5.

Table 5 Summary of Operating Expenditure over the 2019 Determination Period ($ Millions, $FY22)

	FY20	FY21	FY22
Operation and maintenance under contract	$1.67	$1.69	$1.79
Electricity costs	$1.86	$1.62	$1.92
SPV audit costs	$0.08	$0.04	$0.03
SPV contract management costs	$0.15	$0.19	$0.17
Insurance & land tax	$0.09	$0.09	$0.16
SPV Overhead	$0.95	$1.23	$0.70
Other operating costs	$0.06	$0.03	$0.18
Total	**$4.87**	**$4.90**	**$4.94**
Total, excluding electricity	*$3.01*	*$3.27*	*$3.03*

A summary of proposed operating expenditure over the 2022 Determination Period is provided at Table 6.

Table 6 Summary of Proposed Operating Expenditure over the 2022 Determination Period ($ Millions, $FY22)

	FY23	FY24	FY25	FY26	FY27
Operation and maintenance under contract	$1.67	$1.78	$1.62	$1.72	$1.90
Electricity costs	$1.56	$1.55	$1.54	$1.54	$1.53
SPV audit costs	$0.03	$0.03	$0.03	$0.03	$0.03
SPV contract management costs	$0.17	$0.17	$0.17	$0.17	$0.17
Insurance & land tax	$0.18	$0.18	$0.18	$0.19	$0.19
SPV Overhead	$0.62	$0.67	$0.60	$0.64	$0.68
Other operating costs	$0.13	$0.35	$0.09	$0.20	$0.28
Total	**$4.35**	**$4.74**	**$4.25**	**$4.48**	**$4.78**
Total, excluding electricity	*$2.79*	*$3.19*	*$2.71*	*$2.94*	*$3.25*

1.5.2 Capital Expenditure

Over the 2019 Determination Period, WaterNSW incurred a total of $2.6 million in capital expenditure (in actuals), which is $2.1 million (or 421%) above IPART's allowances. This is represented graphically in Figure 2, where the coloured columns represent the actual costs incurred, and the black markers represent IPART allowances. WaterNSW's proposed costs for the period are also represented by the light blue markers.

WaterNSW are seeking the inclusion of additional costs in the RAB, relating to Wentworth Ski Park Reserve Rehabilitation and a revenue requirement for a related Land Swap Agreement (whereby WaterNSW waived usage and access charges for some impacted landowners, incurring foregone revenue). The additional costs and revenue requirement are represented by the hatched columns in Figure 2.

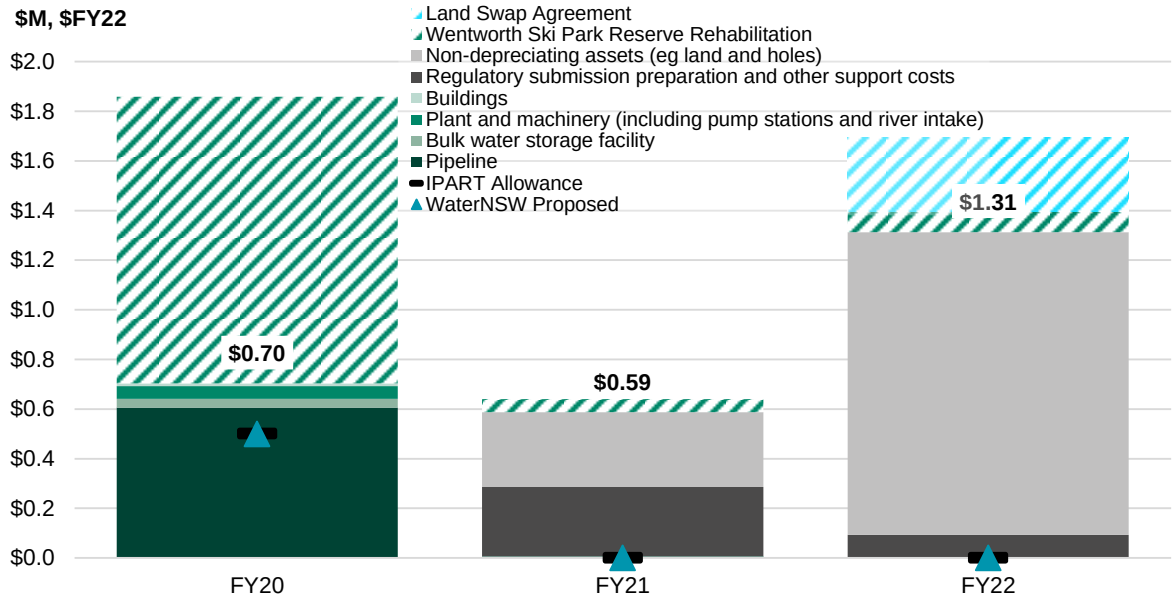


Figure 2 Capital Expenditure over the 2019 Determination Period ($ Millions, Nominal)

Table 7 presents the tabulated expenditure.

Table 7 Capital Expenditure over the 2019 Determination Period ($ Millions, Nominal)

	FY20	FY21	FY22
Capital Expenditure			
Pipeline	$0.61	$0.01	$0.00
Bulk water storage facility	$0.04	$0.00	$0.00
Plant and machinery (including pump stations and river intake)	$0.05	$0.00	$0.00
Buildings	$0.01	$0.00	$0.00
Regulatory submission preparation and other support costs	$0.00	$0.28	$0.09
Non-depreciating assets (eg land and holes)	$0.00	$0.30	$1.22
Total	**$0.70**	**$0.59**	**$1.31**
Additional costs			
Wentworth Ski Park Reserve Rehabilitation	$1.16	$0.05	$0.08
Land Swap Agreement	$0.00	$0.00	$0.30
Total Including Additional costs	**$1.86**	**$0.64**	**$1.69**
IPART Allowance	*$0.50*	*$0.00*	*$0.00*
WaterNSW Proposed	*$0.50*	*$0.00*	*$0.00*

WaterNSW's proposal for the 2022 Determination Period includes capital expenditure of $0.27 M (in $FY22). This is represented graphically in Figure 3. The forecast capital expenditure excludes $0.34 M for asset renewals, which due to the large volume of small assets are allocated to operating expenditure by WaterNSW.

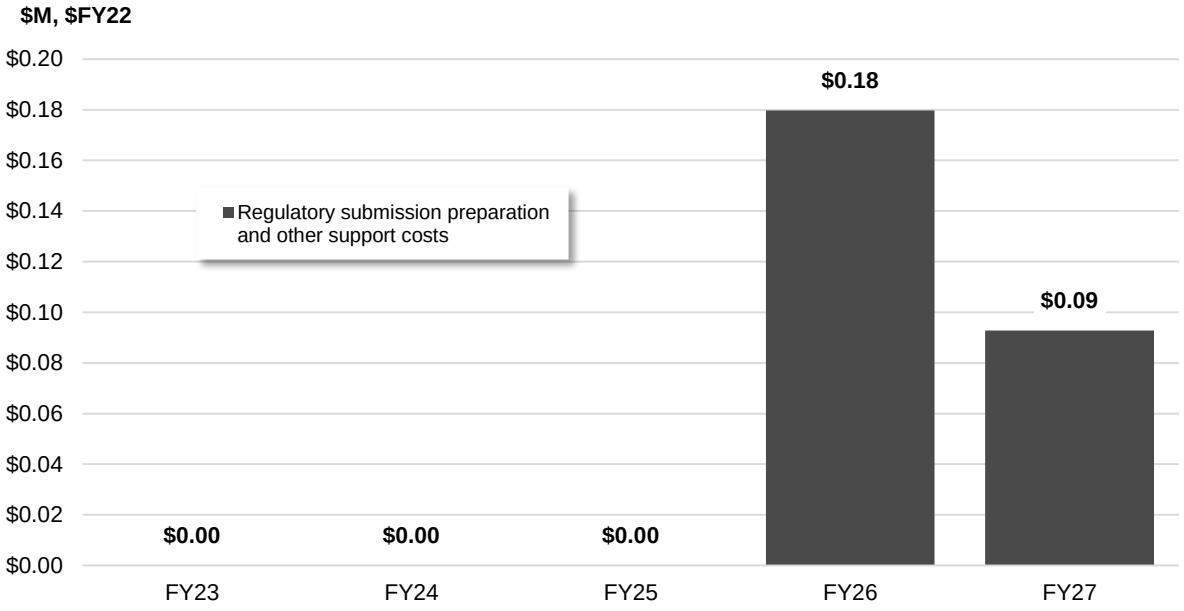


Figure 3 Capital Expenditure over the 2022 Determination Period ($ Millions, $FY22)

Table 8 presents the tabulated proposed capital expenditure.

Table 8 Capital Expenditure over the 2022 Determination Period ($ Millions, $FY22)

	FY23	FY24	FY25	FY26	FY27
Regulatory submission preparation and other support costs	$0.00	$0.00	$0.00	$0.18	$0.09
Total	**$0.00**	**$0.00**	**$0.00**	**$0.18**	**$0.09**

2. Assessment Methodology

Our methodology for assessment is presented in the sections below.

2.1 Operational Expenditure

AECOM's methodology for the review of operating expenditure is presented in Figure 4.

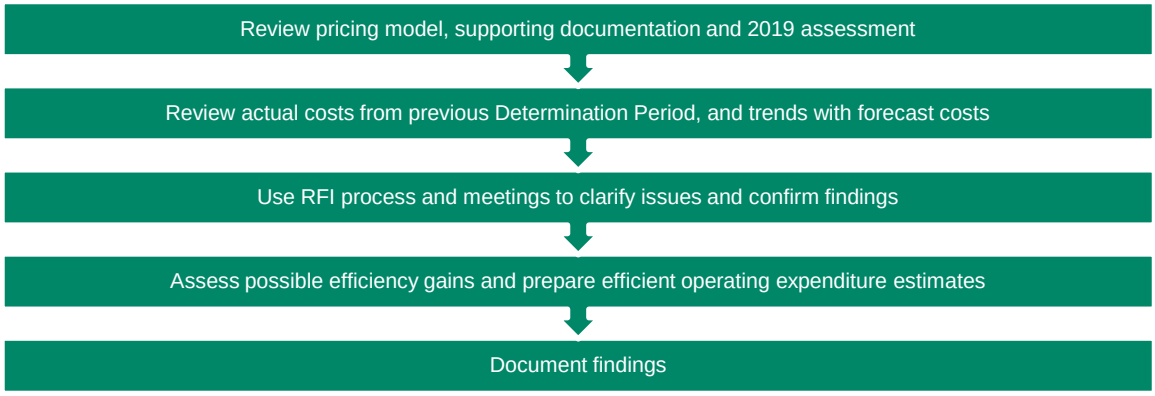


Figure 4. High level methodology for operating cost review

2.2 Capital Expenditure

For the assessment of the capital expenditure, our overarching methodology is presented in Figure 5. More detail is provided in the sections following.

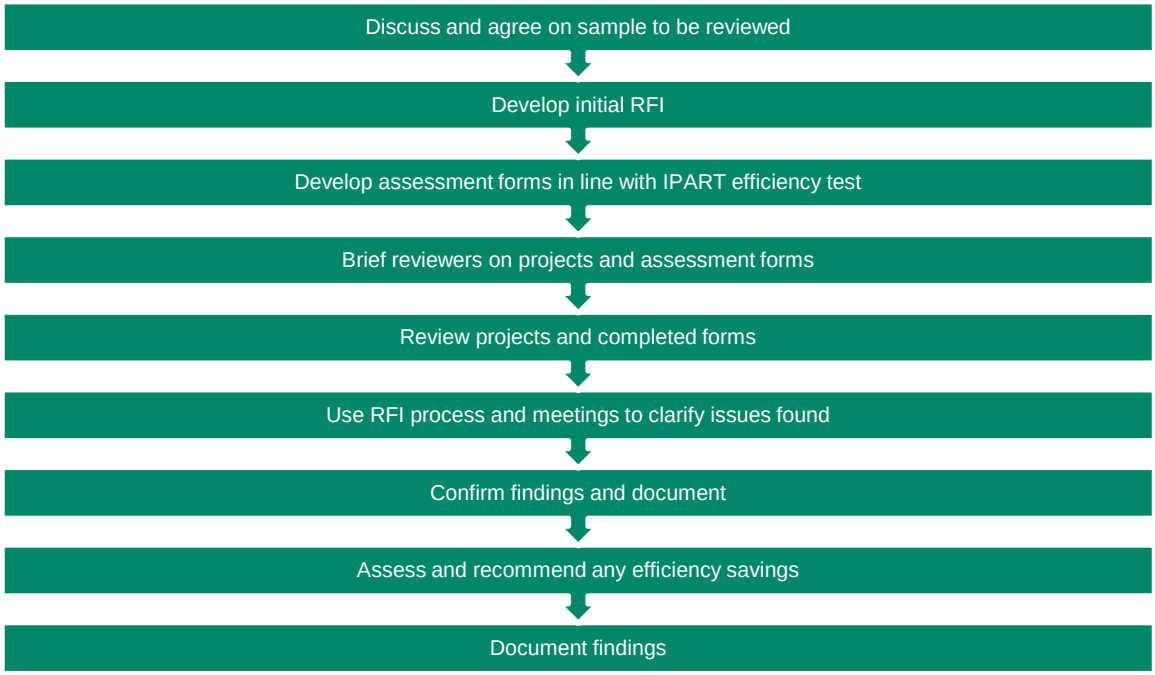


Figure 5. High level methodology for Capital Review

2.2.1 Assessment Template

A standard project assessment template was developed using the IPART efficiency test criteria as a guide. The template includes a series of questions to be answered by reviewers which guide the efficiency assessment. The template ensures a structured approach to the technical and costs assessments and is a key mechanism by which AECOM has demonstrated transparency in its review. Each team member conducting the review was briefed on the format of the assessment and how to complete the form. The completed form is the basis for the project capital expenditure assessment.

For this project, we developed an assessment template for the detailed project review, presented in Figure 6.

Technical Review

	Consideration	Response	Comment	Impact on Claim	Information Assessed
1, 2	Were/are the works reasonably required to address risks to agreed service levels or continue to deliver agreed service levels?				
1	Were/are the works reasonably required to address a legal or compliance obligation (safety, environmental or other legislative requirements)?				
1	Were/are the works reasonably required to fulfil regulatory obligations such as those specified in a water management protocol, resource operation plan, resource operation licence or interim resource operations licence?				
	For renewal projects - is the timing of the renewal appropriate:				
1, 2	*Based on the condition of the asset*				
3	*Based on a risk-based approach to replacement? Has service life been appropriately estimated?*				
2	Is there any evidence of customer consultation, and were the outcomes of this consistent with the scope of works proposed?				
5	Were/are alternatives evaluated (including an option analysis undertaken) as part of the scoping process?				
5	Were non-capex options considered? (e.g. operational solutions)				
5	Is the scope of the works the best means of achieving the desired outcomes?				
5	Were any learnings applied from prior projects in the development of the project scope?				
5	Does the (proposed) standard of the works conform with technical, design and construction requirements in legislation, industry and other standards, codes and manuals?				
5	Is the (proposed) standard of works compatible with existing and adjacent infrastructure or modern engineering equivalents?				
5	Outline any considerations relating to technological change, process redundancy and/or cost associated with improving general business performance.				

Technical Review Summary

Is the project efficient from a technical perspective?		**Documentation quality**	
Comment on efficiency			

Cost Review

	Consideration	Response	Comment	Impact on Claim	Information Assessed
3	Was/is the incurred/proposed cost reasonable for the scope of the project?				
3	Was/is the cost of the defined scope and standard of works consistent with conditions prevailing in the markets for engineering, equipment supply and construction?				
3	Was/is the allowance for indirect costs reasonable for the scope of the project?				
4	Were/are suitable approaches taken for managing risk and uncertainty regarding projects at an early stage of development?				
4	Does the organisation have access to the resources required to deliver the works within the proposed time frames?				
4	Was/is the proposed delivery method and project plan appropriate, and likely to result in the desired outcomes?				
3	Was/are the proposed cost escalation methods appropriate? (e.g. consistent with prevailing market conditions and historical trends)				
5	Were options considered in determining the least cost or preferred option?				
5	Were the procedures/approach used for determining the preferred option appropriate in terms of determining efficient and least cost outcomes?				
5	Is there a robust basis for the estimated project costs? i.e. Is there any evidence of estimates being informed by prior projects (specifically, the variance between actual costs for completed projects and their original estimated costs)?				
3	Did the project consider whole-of-life costs, including future maintenance and operating costs?				
3	Have any potential efficiency gains been identified?				
4, 5	Was/is the adopted/proposed procurement methodology appropriate and consistent with approved procurement policy?				

Technical Review Summary

Is the project considered efficient from a cost perspective?		**Documentation quality**	
Comment on efficiency			

Figure 6. Project Assessment Template

2.2.2 Project Documentation Assessment

The sampled project has been reviewed for efficiency, and recommendations are made, based on:

- Review of project documentation provided by WaterNSW and supplemented by a request for information (RFI) process.
- Information provided during meetings with WaterNSW.
- The judgement of the technical reviewers.

We reviewed project documentation provided to inform our efficiency assessment. We assessed the suitability (in terms of quality and range) of the documentation provided by WaterNSW for the sampled project, and used a scoring system to indicate the degree to which existing documentation enabled an assessment to be made; and highlighted areas where documentation could be improved for future reviews and for better internal project controls. In summary:

- The quality of documentation is high where the documentation alone was sufficient to make sound a sound recommendation. This rating indicates that all information required to make the recommendation was documented and available, to a sufficient level of quality.
- The quality of documentation is medium where there was insufficient quantity and range, but when supplemented by interviews, informal documentation and/or professional judgement, supported a conclusion of prudency.
- The quality of documentation is low where the documentation provided was inadequate in range or quality, and our reviewers were reliant on professional judgement to make a sound recommendation.

3. Issues for this Determination

3.1 The Pipeline as a Standalone Business

WaterNSW has issued its pricing submission in the context that the Pipeline management forms part of WaterNSW as a consolidated business, and therefore is supported by the business's corporate functions. It states that if it were a standalone entity, this would require corporate costs to be set on a standalone basis and costs of implementing this would be around $2.5 M per annum higher. While we are uncertain of the quantum of costs, we agree with WaterNSW that a standalone business would likely represent a less efficient means of operation. This is based on the following:

- WaterNSW is a water utility with experience in managing and delivering water infrastructure.
- A standalone business would require its own management structure and corporate support functions. For a relatively small business these are unlikely to be required on a full-time basis and may therefore represent inefficient costs.

Based on this, we have undertaken our review assuming that the Pipeline Special Purpose Vehicle (SPV) is part of the broader WaterNSW consolidated business.

3.2 Efficiency Adjustments

In general, there are three types of efficiency adjustment which could be considered for this review:

- Scope efficiency adjustments – which are made to account for costs relating to specific activities or programs which are not prudent or inefficient.
- Catch-up efficiency adjustments – which are made based on identified improvements that would enable the utility to transition towards an efficient frontier.
- Continuing efficiency adjustments – which are general efficiency improvements that even efficient utilities should be able to realise over time, as more productive ways of working emerge.

In this review, where possible we have sought to directly account for expected efficiencies (such as those relating to the cost allocation method and corporate overheads). Additionally, (as a stretch target), IPART advised that a continuing efficiency adjustment of 0.7% p.a. should be applied.

3.3 Cost Allocation

Corporate overhead cost allocations over the 2019 Determination Period are considerably higher than IPART targets (as discussed at Section 6.1.8). WaterNSW's cost allocation methodology was reviewed in detail by Atkins in 2021, in support of IPART's Pricing Determination for WaterNSW's Rural Bulk Water and Water Administration Ministerial Corporation (WAMC) determinations. Atkins recommended a change in cost allocator from TOTEX to direct operating expenditure, excluding energy costs for the Pipeline.

In our approach, we reviewed and took into account the previous recommendations on the cost allocation methodology and consider the relevance of the recommended methodology to the Pipeline specifically (Section 5).

4. Review of Planning and Processes

4.1 Summary of Findings

Our findings for this section are as follows:

- KBR assessed the Contractor's asset management systems against applicable standards (using the ISO55000:2014 suite) and undertook site audits and inspections to assess performance of the services provided under contract to assess compliance with a range of regulatory requirements and to confirm that the facility is being managed in a manner consistent with the need to return the facility to its owner at the end of the contract in a satisfactory condition. The contractor was found to be generally compliant with the requirements of the contract.
- The asset management plan provided is comprehensive and demonstrates a commitment to good asset management practice, including asset replacement informed by criticality and condition. Some content that we might expect to see in an Asset Management Plan (AMP) does not appear here, including consideration for demand, specific risks etc. However, we understand that the AMP has been delivered with the specific purpose of demonstrating continued compliance with the O&M Contract.
- A number of high-risk items were recommended to be addressed by KBR. The majority of these have been addressed, and those outstanding are targeted for completion by March 2022.
- Bulk water storage for the pipeline is significant, representing over 100 days of supply. This could present an opportunity to increase the maximum pipeline supply interruption target, and potentially enable the contractor to reduce maintenance costs.
- Asset lives are considered prudent and reasonable.
- We did not find evidence that climate change impacts have been considered within the AMP, where we would expect to see it treated as a risk.

4.2 Asset Management

WaterNSW requires its Operations and Maintenance contractor (John Holland TRILITY Joint Venture (JV)) to maintain a comprehensive asset management plan (AMP) for the pipeline and associated assets.

The JV has an AMP, and this was made available for review. The version provided was last revised in March 2021, adhering to the annual review timetable specified in the AMP. The JV commissioned an audit report on its asset management systems in December 2020 from KBR, as required by its contract, and this document was also provided to us for review.

The audit report is comprehensive. KBR assessed the JV's asset management systems against applicable standards (using the ISO55000:2014 suite) and undertook site audits and inspections to assess performance of the services provided under contract, to assess compliance with a range of regulatory requirements and to confirm that the facility is being managed in a manner consistent with the need to return the facility to its owner at the end of the contract in a satisfactory condition.

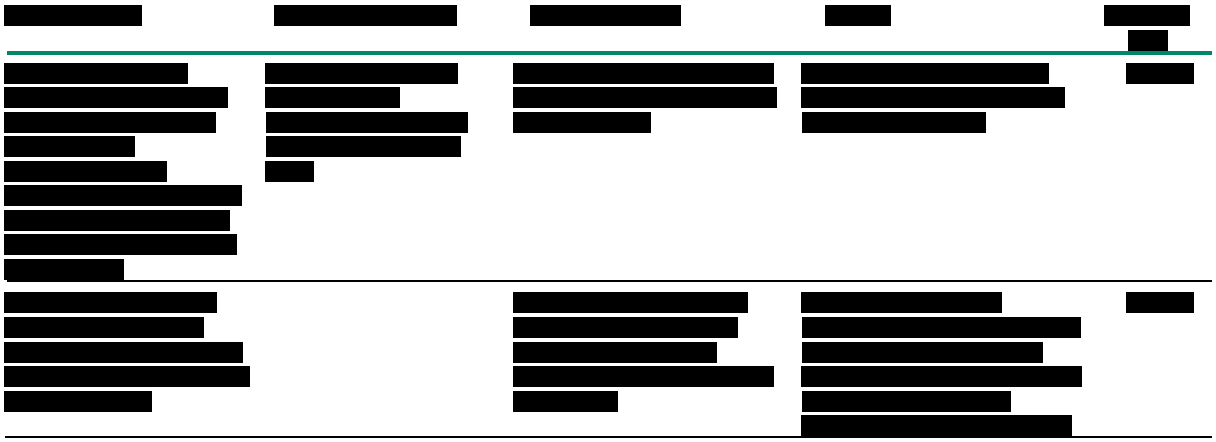
KBR found that the contractor had fully or mostly complied with most (but not all) of the requirements of the O&M Contract. A total of 66 recommendations were made for action by the contractor, 12 of which were considered 'High' risk by KBR (these are listed in Table 9).

We have been provided with a letter from the JV's Operations Manager to WaterNSW dated 21 July 2021 in which he itemises the JV's response to KBR's recommendations. Of the 66 recommendations made by KBR, 54 are noted as being *Complete* or *Closed*, including all the items labelled by KBR as High Priority. Of the remainder, 7 recommendations were outstanding as at the date of the letter but were scheduled to have been completed by the date of this report, and although we have not been provided with a later update of progress, we assume these are now also complete.

That leaves 5 items still outstanding, all scheduled to be completed by March 2022. These were not considered high priority by KBR, and we agree.

The list of outstanding recommendations is reproduced in Table 9.

[redacted]



The majority of KBR's recommendations are already addressed by the JV, so we support KBR's general finding that the JV appears to be compliant with its contractual obligations, in relation to its asset management that it is aligned with ISO55000:2014, and therefore that the JV is managing the assets effectively. We note, however, that the contractor is required to provide monthly progress reports on its operations and maintenance activity and the state of the pipeline assets. We were not provided with a copy for review this so remains an outstanding item.

4.2.1 Bulk Storage

The service standards for the pipeline provide for a maximum water supply interruption of 24 hours (JV AMP, Section 3.5.1). The bulk storage at the destination has a capacity of 833ML, which represents more than 100 days of supply at current demand levels. A tank of that size indicates that the pipeline could be taken out of service (for maintenance) for considerably longer than the current 24 hour maximum pipeline supply interruption target (subject to the actual volume stored in the tank) without impacting the ability of Essential Water to supply its customers (although there could be water quality issues as a result of deteriorated water quality due to water age). An increase in the maximum pipeline supply interruption target could potentially enable the JV to reduce some of its maintenance costs.

4.3 Asset Lives

WaterNSW's proposed asset lives are similar to those IPART approved in its May 2019 Determination (Table 10). In the previous determination, IPART did not accept WaterNSW's proposal for a single asset life, instead allowing separate asset lives for different major asset classes. The asset classes and lives proposed for the 2022 Determination are consistent with the approved asset lives in the previous determination.

For the pipeline asset itself, IPART relied on the design parameters used for the pipeline rather than generic industry practice in determining an expected service life for the pipeline, and we agree with that position. The other asset lives shown are for aggregations of assets where the individual components could have considerably different nominal service lives. We understand that the proposed asset lives were consistent with those recommended by IPART's consultant in the previous determination, which were informed by Deloitte Access Economics' Assessment of State Water's asset lives for the ACCC. While we have not examined the asset register in detail, we consider that these asset lives are reasonable.

Table 10 Proposed Asset Lives

Asset Class	Asset Life (years)	AECOM Recommended
Pipeline	100	100
Bulk Water Storage	80	80
Buildings	60	60
Plant and Machinery (including pump stations)	25	25
Regulatory Submission Preparation	5	Exclude from RAB
Offtakes	25	25

WaterNSW has also included Regulatory Submission Preparation as an asset, referring to on a PwC paper intended to support a DirectLink pricing submission to the AER that made the case for partial capitalisation of the cost of a submission, namely the cost of external consultants. The AER did not make a ruling on this issue at the time because it considered that the capital value proposed was not material. We address this issue in Section 7.3, and conclude that this decision would represent a policy position for IPART because the principle, if adopted, could then set a precedent for other utilities and be a departure from current practice.

Our experience is that the majority of utilities recover the cost of their submission preparation as an expense (operational cost) during the period of the pricing determination. Pricing submissions are a key part of the regulatory environment in which the utilities operate and view this as a cost of doing business and we conclude that this cost should continue to be expensed. Therefore, there is no asset life required.

4.4 Climate Change Planning

An AMP would typically consider changes in demand, or risks, arising from changes in climate, where relevant. A review of the AMP for the Pipeline does not include a review of demand factors, or specific risks to assets and/or service delivery, and no mention of climate change planning is made. Incorporating climate change planning into planning for the assets might include consideration of increased incidences of severe weather/climate events, such as drought or heavy rain, in the risks and demand sections of the AMP.

The capacity of the pipeline and associated bulk water storage is significantly higher than what is currently required by customers. This may represent a consideration for future climatic conditions.

5. Review of Cost Allocation Methodology

5.1 Summary of Findings

Our findings relating to WaterNSW's cost allocation methodology are outlined below:

- WaterNSW has proposed a direct total expenditure (TOTEX) allocator for its corporate overheads and has used this to identify overhead costs for the two determination periods.
- Consistent with the findings of Atkins and a recent determination by IPART, we do not consider TOTEX to be the most causal driver of overhead costs, and suggest that an alternative allocator, potentially direct operating costs, be adopted.
- The nature of the Pipeline and its management gives cause for additional adjustments to the proposed allocator:
  - A large proportion of WaterNSW operating costs are fixed contract costs paid to an O&M contractor, which has its own overhead costs that are included in the contract fee payable by WaterNSW. We do not consider the value of the contract to be a driver of WaterNSW corporate overhead (WaterNSW's costs to manage the contract do attract WaterNSW overhead). We recommend the contract cost be removed from the allocation calculation.
  - Similarly, we do not consider the energy cost incurred by the Pipeline to be a driver for overhead allocation (WaterNSW's costs to manage that supply contract do attract overhead). Consistent with Atkins' assessment, we recommend that these be removed from the overhead allocation calculation.
- We have recommended reductions to corporate overheads in both the historic and forward periods to account for these changes.
- Some proposed capital costs in the 2019 and 2022 Determination Period reflect an allowance for external consultant costs in preparation of WaterNSW's regulatory submission. While our recommendation is pending a policy decision from IPART, we consider that these costs should be operating costs, and have therefore assessed them as part of the operating expenditure review.

5.2 Principles of Cost Allocation

Based on research into cost allocation principles, there are a number of notable principles which are common to many regulated entities' cost allocation methods:

- Wherever possible, costs should be directly identified and attributed to a service, segment or component.
- Causality is the most prominent principle in cost allocation guidelines and manuals. Costs are attributed or allocated to those activities and services that cause the cost to be incurred. This means that where a cost is unable to be directly identified or attributed, then that cost should be allocated to a service, segment or component based on a causal driver of that cost.
- In the absence of a causal relationship, a reasonable method of allocation should be used as a substitute for an ideal causal allocator.
- All costs should only be allocated once, and cascading of overhead (to other overhead cost categories) should be avoided to keep cost allocation relatively simple to apply in practice.

These principles have formed the basis of review of WaterNSW's cost allocation methodology.

5.3 WaterNSW's Cost Allocation Principles

WaterNSW has a Cost Allocation Manual which sets out the principles and methodology for cost allocation. It outlines the following principles for cost allocation used as a guide for its methodology:

- **The causality principle** - all costs (capital and operating) must be allocated to the relevant service which causes those costs to be incurred.
- **Allocating costs where a causal relationship cannot be established** - where a causal relationship does not exist, or where it is not practicable to precisely identify and measure causal allocators, it is then necessary to substitute a close approximation to an ideal causal allocation.
- **Total costs to be allocated** - the sum of costs allocated to each service must reconcile with the total costs outlined in our audited statutory financial accounts.

- **A cost should only be allocated once** - costs within a service, as well as between services, should only be counted or allocated once. There should be no double counting or duplication of costs across WaterNSW's separate determinations and service areas.
- **Periodic review of the basis for cost allocation** - allocators should not be regarded as static or permanent, and as such causal allocators should be updated as often as is practical, to ensure casual relationships remain relevant.
- **Can be practically implemented** - although ideal allocators are always preferred, in some cases it may not be practicable to precisely identify and measure causal allocators of cost without undue cost and effort.

The principles are largely an interpretation of the principles outlined by IPART for cost allocation, with the addition of the practicality principle. These closely align with the common principles noted across many regulated entities and we consider these cost allocation principles, if properly applied, to drive efficient cost allocations.

5.4 WaterNSW's Cost Allocation Method for Corporate Overheads

WaterNSW uses TOTEX as the cost allocator for its shared operating expenditure costs. This is a blanket application of an allocator, and as found in previous reviews of the CAM, the TOTEX allocator may not be consistent with the principles stated in the CAM, specifically approximating an ideal causal allocator. As Atkins noted in 2021[6], capital expenditure is not a major driver for operational and corporate costs (particularly if there are high materials/equipment costs), and the use of capital costs for overhead allocation can result in variable, inconsistent and often unpredictable overhead allocations driven by a capital works program that can fluctuate markedly year by year.

Atkins suggested reviewing the allocator for each shared cost to see if a practical and more causal allocator might be appropriate, for example, FTE numbers for Safety, People and Performance and Business Information Systems.

As a blanket allocator, the use of direct operating costs is a more commonly adopted approach, and this was the approach recommended by Atkins in the absence of strong data to support other allocators. Overhead cost allocation using this approach could, however, result in an increase in the allocation to the Broken Hill Pipeline (as demonstrated in Table 8-24 and 8-25 of Atkins' final report) because of the high energy costs incurred by the Pipeline. Atkins proposed in its Supplementary Report an adjustment to the suggested allocation methodology that removed energy costs from the allocator calculation. IPART's determination accepted Atkins' recommendation for this change.

We also do not consider TOTEX to be an appropriate allocator and note that it is not commonly used by water utilities in Australia. We recommend that WaterNSW revise its CAM to use direct costs as its driver for overhead costs in line with IPART's determinations. For the Pipeline specifically, we also consider that amendments to the currently suggested direct cost allocator should be made in relation to energy (consistent with Atkins' findings) and the O&M Contract fixed costs.

We note that the direct costs used to determine the receiving cost pool for overhead allocation include labour, materials and consumables, but will usually exclude contractor costs (the direct cost involved in managing contracts or contractors would be included in the receiving cost pool, but not the contract value itself) because the contractor provides its own overhead for the contract, and this is included in the contract value payable by the utility. This principle avoids double-counting overhead or cascading overhead (allocating overhead to other overhead).

This principle applies to the Pipeline, which is operated as a SPV managing a JV that has its own management and therefore its own overheads (which are included in the contract value paid by WaterNSW). WaterNSW has contended that it incurs its own corporate overhead costs associated with the management and governance the Pipeline contract (separate to the corporate overhead costs of the JV), including costs relating to corporate risk management, corporate governance (executive and board oversight), legal support, finance, billing, auditing functions, human resources and IT support. We recommend that all costs that can reasonably be directly attributed and charged to the pipeline should be (including legal costs, for example), and that the remaining overhead cost pool be allocated to WaterNSW's direct costs only (excluding the value of the JV contract).

The cost of staff directly associated with managing the contract and SPV audits are already included in the receiving direct cost pool.

[6] February 2021 – Atkins Report on Expenditure – Final Report

Some external costs are generally approached in the same principle. As Atkins has suggested, the cost of electricity purchased at scale to move water (for example) would not normally be included in the receiving cost pool, but the cost of staff and systems used to procure and manage the energy purchase contract would be included. We note that electricity used in WaterNSW facilities (such as buildings or workshops) is an internal cost and should be included in the receiving cost pool.

We agree with Atkins' view that changes to a cost allocation methodology may take time and are generally required before or during budget-setting, so it may be difficult for WaterNSW to review and apply new allocator(s) before the Determination Period.

WaterNSW has noted that the cost allocation approach should be consistent with its three main determinations (the timing of which differ to this review). For example, the Rural Valley and WAMC determinations were finalised in September 2021. We acknowledge that there may be issues associated with the practicality of revising the allocation methodology considering the timeframe of other reviews, however in this review recommend what we consider to be an efficient approach and (consequent) cost.

5.5 Overhead Cost Allocation to the Pipeline SPV

We recommend that the overhead cost allocation principles summarised in Section 5.4 should be applied to the Pipeline as follows:

- The allocator of corporate overhead will need to be adjusted (increased) to reflect the use of direct costs only for overhead allocation. We note this will need to be done in WaterNSW's business model to derive an accurate allocator, but for the purposes of this report we have approximated the change based on the analysis undertaken in the Atkins Supplementary Report.
- The receiving cost pool for the Pipeline should:
  - Exclude the cost of the bulk energy used by the Pipeline, and
  - Exclude the ongoing fixed costs for the O&M Contract.
- The overhead cost pool to be allocated is assumed for this purpose to not require further adjustment, but this will depend on the workings of the business model used by WaterNSW.
- The allocation of overhead costs to the revised receiving cost pool for the Pipeline should in practice be adjusted to reflect the smaller size of the receiving pool. We note this will need to be done in WaterNSW's business model to derive an accurate allocator, but in practice we believe an adjustment in the ratio of the new to the old receiving cost pools (the value used in WaterNSW's submission) should be close enough for pricing determination purposes.

We recommend that resultant adjustments to corporate overhead costs should apply to both the historic and forward periods, to reflect regulatory principles as we understand them. We acknowledge, however, that there may be issues associated with the practicality of revising the allocation methodology (especially over the 2019 Determination Period) considering the timeframe of other reviews.

5.6 Regulatory Submission Costs

For both historical and future periods, WaterNSW has proposed that a proportion of the costs for regulatory submission preparation be capitalised, namely the costs for external consultants. WaterNSW's proposed position references a paper by PwC submitted to the AER by APT Management Services in 2019, which suggests that an intangible asset is created by the submission and uses that assumption to justify capitalisation.[7] In its determination, the AER suggested that while the expenditure should most likely be considered operating expenditure, it declined to take a position on this issue because it found that the amount claimed as capital was not material.[8] This issue is not specifically addressed by current accounting standards.

It remains standard practice to expense the cost of preparing a regulatory submission, and if IPART were to accept WaterNSW's position, this could set a precedent for all regulated entities. We therefore regard this issue as a policy position that IPART may wish to state or adopt to clarify its views for WaterNSW and the other entities it regulates. In the interim, we consider that the cost of preparation of a regulatory submission should be entirely expensed, not partly capitalised.

[7] Attachment 4-3 – PwC – Capitalisation – 10 December 2019
[8] Final Decision: Directlink Transmission Determination 2020 to 2025 Attachment 5 Capital expenditure. AER, June 2020

Regulated utilities generally feel that they have an incentive to capitalise as much as reasonably possible, because returns on their RAB are preferable to recover expenses treated as operational costs. This view reflects the bias towards capital expenditure in the building block model currently used by IPART and other regulators. The TOTEX approach being adopted in Great Britain avoids this perverse outcome,[9] but as far as we are aware, IPART has not indicated an intention to follow suit.

A contrasting view to the PwC paper is that the submission process is a fundamental requirement of doing business in the Australian regulatory environment, and that no asset is created that has separate value to the utility's customers. If a utility invested in an asset that would reduce the cost of preparing submissions in the future (such as software specific to the purpose), that investment should be capitalised and depreciated following standard accounting rules. The PwC paper refers to an intangible asset, however, not a physical one.

Following our review of the capitalisation of the preparation cost of regulatory submission, we recommend that this proposed expenditure be included as operating costs, subject to IPART taking a policy position on this issue. For the purposes of this review, this adjustment has been made to the proposed costs in accordance with Table 11 and Table 12. This change has been carried through the remainder of the report.

Table 11 2019 Determination – Reattribution of capital regulatory submission costs to operating costs ($ Million, Actual)

	FY20	FY21	FY22	Total
WaterNSW Costs				
Operating Expenditure (Excl. Electricity)	$2.86	$3.19	$3.03	$9.08
Capital Expenditure	$1.86	$0.64	$1.69	$4.19
Total	**$4.72**	**$3.83**	**$4.72**	**$13.28**
Attribution of Regulatory Submission Costs to Operating Expenditure				
Operating Expenditure (Excl. Electricity)		$0.18	$0.09	$0.28
Capital Expenditure		-$0.18	-$0.09	-$0.28
Revised WaterNSW Costs				
Operating Expenditure (Excl. Electricity)	$2.86	$3.38	$3.12	$9.36
Capital Expenditure	$1.86	$0.46	$1.60	$3.92
Total	**$4.72**	**$3.83**	**$4.72**	**$13.28**

Table 12 2022 Determination – Reattribution of capital regulatory submission costs to operating costs ($ Million, $FY22)

	FY23	FY24	FY25	FY26	FY27	Total
WaterNSW Costs						
Operating Expenditure (Excl. Electricity)	$2.79	$3.19	$2.71	$2.94	$3.25	$14.87
Capital Expenditure				$0.18	$0.09	$0.27
Total	**$2.79**	**$3.19**	**$2.71**	**$3.12**	**$3.34**	**$15.14**
Attribution of Regulatory Submission Costs to Operating Expenditure						
Operating Expenditure (Excl. Electricity)				$0.18	$0.09	$0.27
Capital Expenditure				-$0.18	-$0.09	-$0.27
Revised WaterNSW Costs						
Operating Expenditure (Excl. Electricity)	$2.79	$3.19	$2.71	$3.12	$3.34	$15.14
Capital Expenditure						
Total	**$2.79**	**$3.19**	**$2.71**	**$3.12**	**$3.34**	**$15.14**

[9] Total expenditure frameworks: a report prepared for the AEMC. Frontier Economics, Dec 2017

6. Review of Operating Expenditure

6.1 WaterNSW's Operating Expenditure over the 2019 Determination Period

AECOM's review of WaterNSW's operating expenditure for the 2019 Determination Period is provided below.

6.1.1 Summary of Findings

Adjustments to WaterNSW's operating expenditure for the 2019 Determination Period are recommended for:

- Operations and maintenance under contract (with adjustments reflecting excess costs to the contract fixed charge).
- Regulatory submission preparation costs, with adjustments made to align with the previous IPART allowance which we consider an efficient level of expenditure.
- Corporate overhead costs, because of the revised approach to corporate cost allocation (direct operating costs excluding energy and fixed O&M costs under contract), and the direct cost adjustments.
- Costs relating to the Wentworth Ski Park Reserve Rehabilitation project have been excluded from the efficient operating costs, as WaterNSW propose to include these in the RAB for recovery over time.

6.1.2 Overview of Expenditure

WaterNSW's operating expenditure (expressed in $FY22) from FY19 to FY22 is indicated in Figure 7 (as presented previously in Section 1.5.1). The coloured bars represent escalated actual costs (up to FY21) and forecast costs for FY22. IPART allowances over the 2019 Determination Period are represented by the black markers, and WaterNSW proposed costs represented by the blue markers. Total costs, as well as total costs excluding electricity, are reported. Costs are derived from WaterNSW's June 2021 submission (and accompanying attachments), with some adjustments. Namely:

- Costs relating to the Wentworth Ski Park Reserve Rehabilitation (which were recorded as 'other operating costs') have been excluded from the 2019 Determination Period figures, as these are being sought for inclusion in the RAB.[10]
- Regulatory submission preparation costs which are being sought by WaterNSW as capital expenditure ($0.28 million in total over the 2019 Determination Period) have been included in the WaterNSW operating expenditure figures, for the reasons specified in Section 5.6.

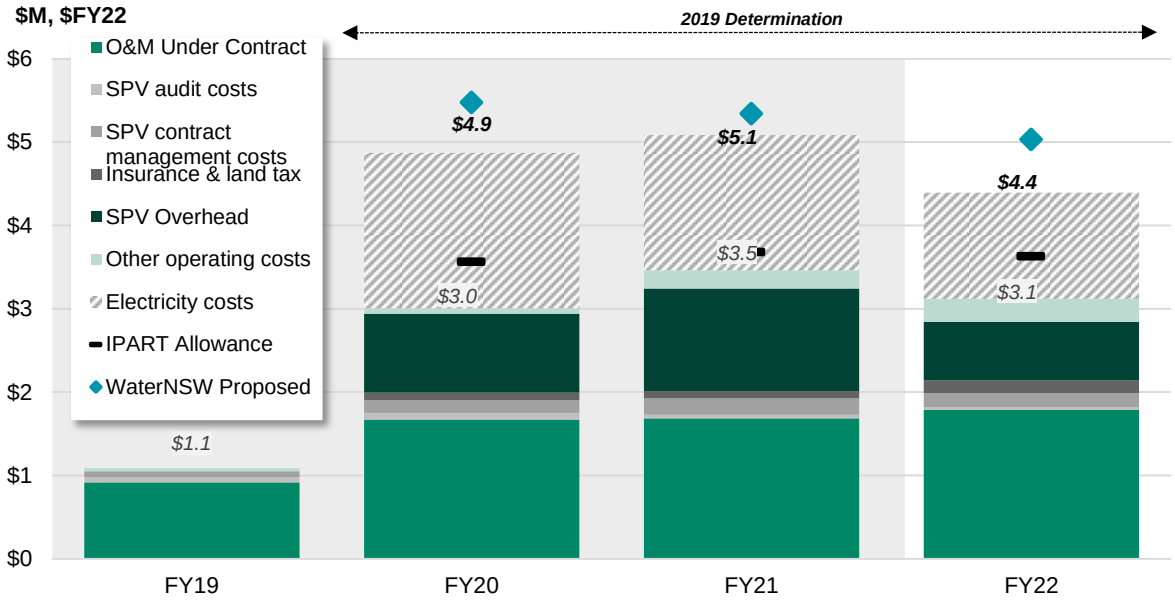


Figure 7 Operating Expenditure, 2019 Determination Period ($ Millions, $FY22)

[10] Excluded 'Other operating costs' for Wentworth Ski Park Reserve Rehabilitation amount to (in $ millions, $FY22):

	FY19	FY20	FY21	FY22
Wentworth Ski Park Reserve Rehabilitation	*$0.13*	*$1.21*	*$0.05*	*$0.08*

WaterNSW's operating expenditure exceeded IPART allowances over the 2019 Determination Period (with average annual costs 32% higher than IPART allowances). Figure 8 presents a summary of WaterNSW's average annual costs over the period (green columns), in comparison to IPART allowances (markers). The percentage difference for each cost category is reported.

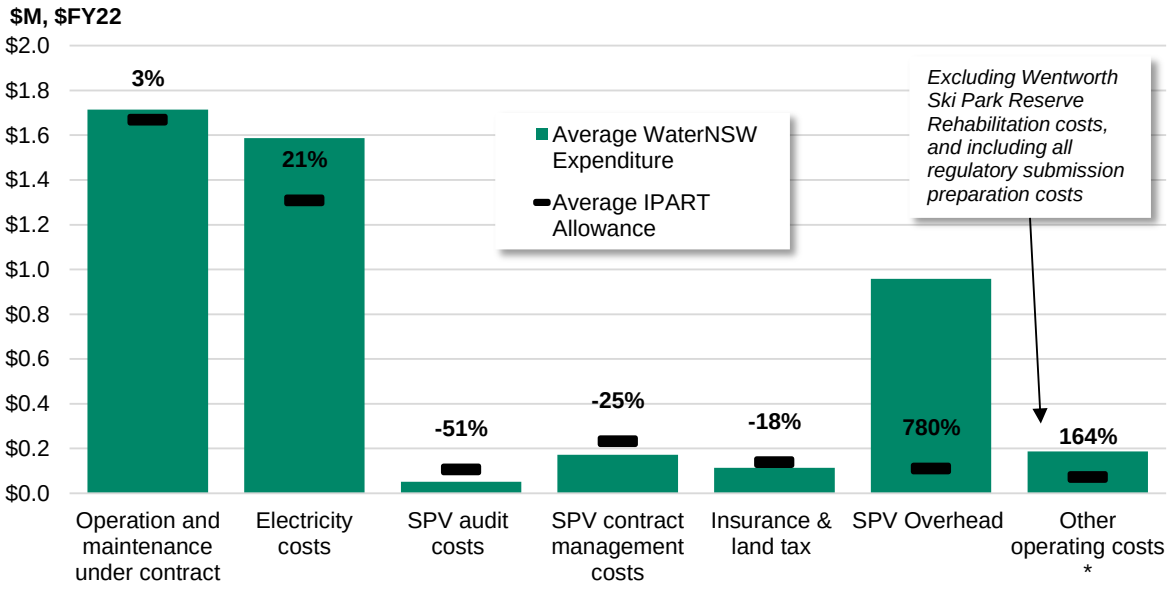


Figure 8 Average Operating Expenditure Compared to IPART Allowances, 2019 Determination Period ($ Millions, $FY22)

The main drivers of the higher costs are overheads, other operating costs and electricity (which is outside the scope of this review). Table 13 presents the tabulated summary.

Table 13 Average Operating Expenditure Compared to IPART Allowances, 2019 Determination Period ($ Millions, $FY22)

	Average FY20 - FY22		
Operating Expenditure, $M, $FY22	**IPART Allowance**	**WaterNSW Expenditure**	**% Change**
Operation and maintenance under contract	$1.67	$1.71	3%
Electricity costs	*$1.31*	*$1.59*	*21%*
SPV audit costs	$0.10	$0.05	-51%
SPV contract management costs	$0.23	$0.17	-25%
Insurance & land tax	$0.14	$0.11	-18%
SPV Overhead	$0.11	$0.96	780%
Other operating costs *	$0.07	$0.19	164%
Total	**$3.63**	**$4.78**	**32%**
Total Excluding Electricity	***$2.32***	***$3.20***	***38%***

** Excluding Wentworth Ski Park Reserve Rehabilitation costs*

** Including all regulatory submission preparation costs*

The most significant expenditures and variances to IPART allowances are discussed in the following sections.

6.1.3 Operation and Maintenance under Contract

Operations and maintenance of the pipeline are delivered under an O&M Contract (with a 20-year term from the pipeline commissioning). WaterNSW pays a fixed (monthly) rate charge to the Pipeline contractor to perform the operations and maintenance works. Responsibilities (as outlined in WaterNSW's submission) include:

- Meeting WaterNSW's operational performance requirements (including availability targets, demand forecasts, water quality thresholds, safety and environmental performance indicators, as well as continuous monitoring of system performance and losses).

- Maintaining the water supply system (including regular maintenance, inspection, scheduled replacement of equipment, reactive maintenance to meet availability targets, periodic auditing of maintenance systems, adherence to an accredited maintenance management system, recording of maintenance activities and costs).
- Development, maintenance and implementation of:
  - An asset management system (including asset data requirements, planned/routine maintenance, reactive and unplanned maintenance and other general maintenance services),
  - A Water Quality Management Plan,
  - An Incident Management Plan,
  - Management plans covering project operations and maintenance requirements for health, safety, environment and quality.
- Monthly reporting providing sufficient detail relating to performance and compliance with the requirements of the contract, in line with WaterNSW's Operating Licence.
- Communications with Essential Water and day-to-day operational issues.
- Arranging for an annual independent audit in conjunction with WaterNSW.
- Operations and maintenance work under contract is the highest value operating cost (Figure 9).

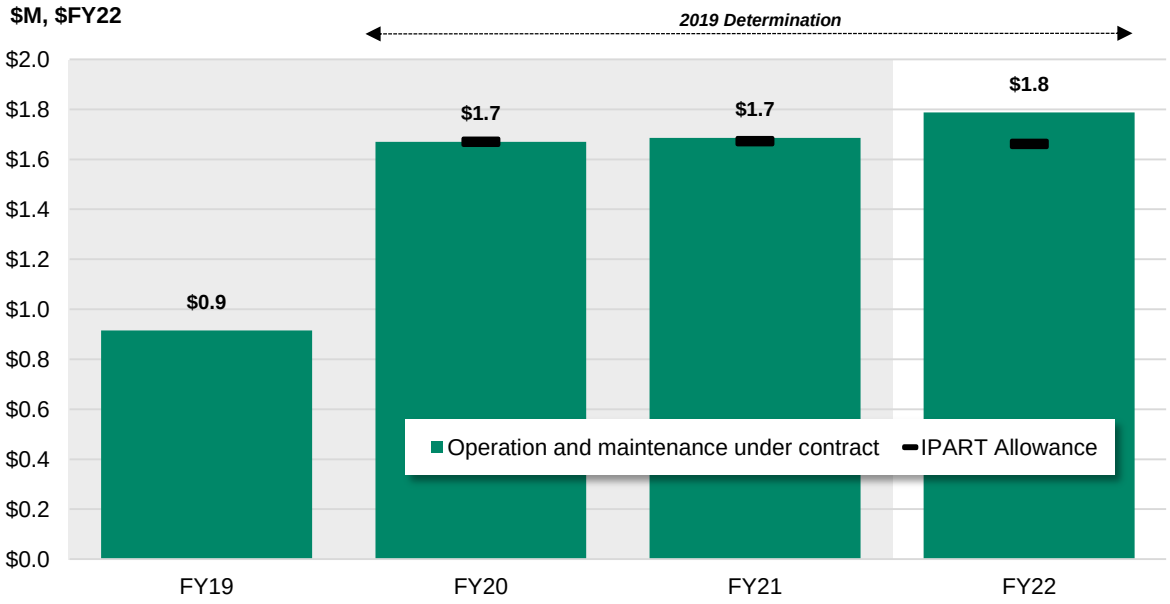


Figure 9 Operation and Maintenance under Contract ($ Millions, $FY22)

The contract has been the subject of one review, and the operating and maintenance costs specified for the determination period found to be efficient, with Synergies' finding that:

- The operation and maintenance contractual requirements were prudent.
- An appropriate, competitive procurement process was used to select the contractor, resulting in efficient fixed operation and maintenance costs for the Pipeline.

The actual costs for FY21 and FY22 are in excess of IPART allowances, and in excess of the fixed monthly charge (by $0.01 million in FY21, and $0.12 million in FY22). Following further enquiry, WaterNSW has advised that the FY21 costs previously included 'one month of variable costs which were journaled out subsequent to forecast,' and that 'Final FY21 actuals reflects a more accurate position in line with the O&M Contract. Forward looking costs are in line with the contract.' This suggests that actual costs will reflect the fixed monthly charge.

Findings

We consider that the costs specified by the O&M Contract are efficient, for the same reasons nominated by Synergies in the last review (namely, the competitive procurement process followed). However, the costs in excess of the amount specified in the contract ($0.01 million in FY21 and $0.12 million in FY22), appear to have been recorded in error according to advice from WaterNSW and in line with this advice, we recommend these be excluded from the efficient costs (Table 14).

Table 14 AECOM Recommended Costs, Operation and Maintenance ($ Millions, $FY22)

Operation and maintenance under contract	FY20	FY21	FY22
WaterNSW Costs	$1.67	$1.69	$1.79
AECOM Recommended Adjustments		-$0.01	-$0.12
Efficient Costs	$1.67	$1.68	$1.67

6.1.4 SPV Audit Costs

WaterNSW incurs annual audit costs associated with meeting its reporting obligations under the *Annual Report (Statutory Bodies) Act 1984,* the *SOC Act*, the *Government Sector Employment Act 2013*, the *Public Finance and Audit Act 1983* and the *Public Finance and Audit Regulation 2010*. Costs over the 2019 Determination Period (as well as IPART allowances) are provided at Figure 10.

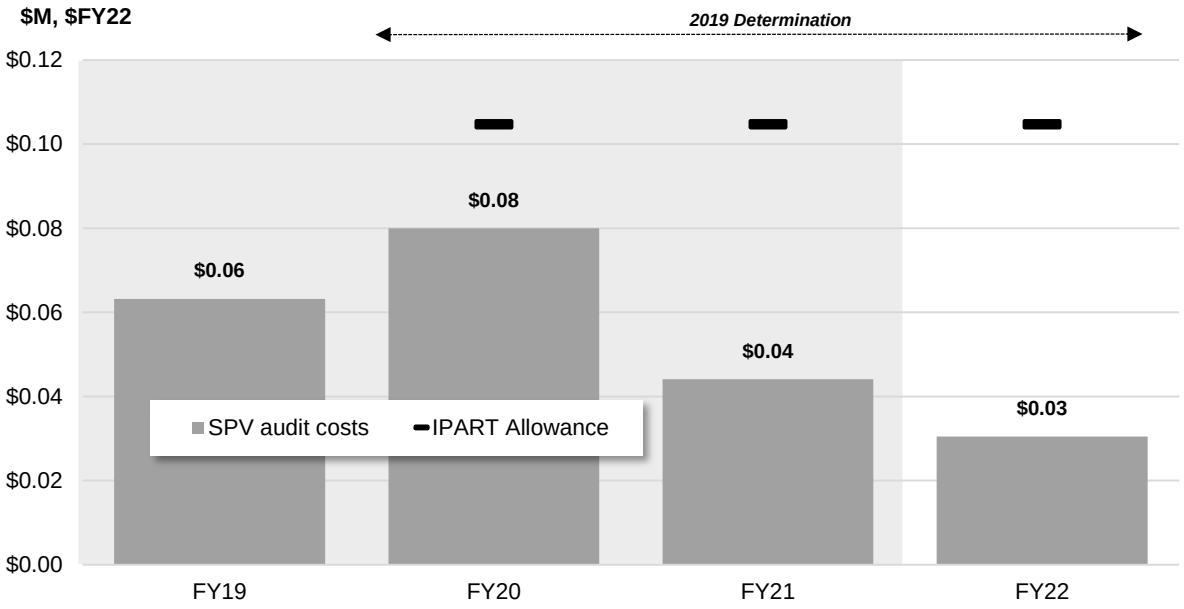


Figure 10 SPV Audit Costs ($ Millions, $FY22)

Audit costs are significantly below IPART targets (51% below the annual average allowance over the 2019 Determination Period). Costs have decreased following from the initial operating period to a level that reflects typical operations.

Findings

Costs reflect statutory obligations and are well below allowances. We consider these SPV audit costs efficient (Table 15).

Table 15 AECOM Recommended Costs, SPV Audit Costs ($ Millions, $FY22)

SPV audit costs	FY20	FY21	FY22
WaterNSW Costs	$0.08	$0.04	$0.03
AECOM Recommended Adjustments			
Efficient Costs	$0.08	$0.04	$0.03

6.1.5 SPV Contract Management Costs

This cost reflects one WaterNSW employee who manages the O&M Contract on behalf of the SPV. The function ensures that the contractor complies with the requirements of the O&M Contract. Contract management costs over the 2019 Determination Period are provided at Figure 11.

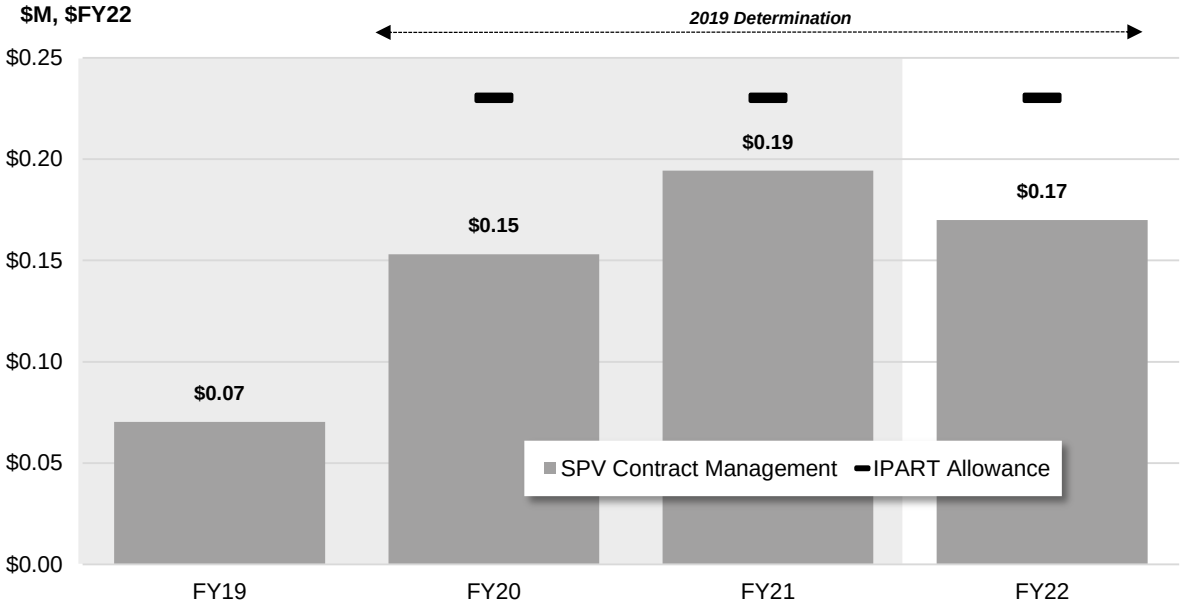


Figure 11 SPV Contract Management Costs ($ Millions, $FY22)

Costs are below IPART allowances for the duration of the 2019 Determination Period (which allowed for 1.5 FTEs).

Findings

Noting that WaterNSW has been able to deliver the contract management function at a lower cost to the IPART allowance with a lower FTE base (1 FTE instead of 1.5 FTEs), we consider contract management to be efficient (Table 16).

Table 16 AECOM Recommended Costs, SPV Contract Management Costs ($ Millions, $FY22)

SPV contract management costs	FY20	FY21	FY22
WaterNSW Costs	$0.15	$0.19	$0.17
AECOM Recommended Adjustments			
Efficient Costs	$0.15	$0.19	$0.17

6.1.6 Insurance and Land Tax

The SPV uses WaterNSW's insurance cover with iCare for its infrastructure and property assets, covering property, public liability, directors and officer's liability and statutory liability. Insurance costs are allocated to the pipeline in the same proportion as the Pipeline value/WaterNSW total asset value.

WaterNSW also incurs land tax payable on the land owned by the SPV (calculated as 2% of the value of the land). Land tax is a legislative obligation, and an unavoidable cost. Insurance and land tax costs over the 2019 Determination Period are provided at Figure 12.[11]

[11] Insurance and land tax costs are not separated in WaterNSW's June 2021 submission. The relative split in costs has been estimated by escalating the proposed land tax costs from the 2019 determination and adding the additional land tax incurred for the land acquired over 2020-21 and 2021-22.

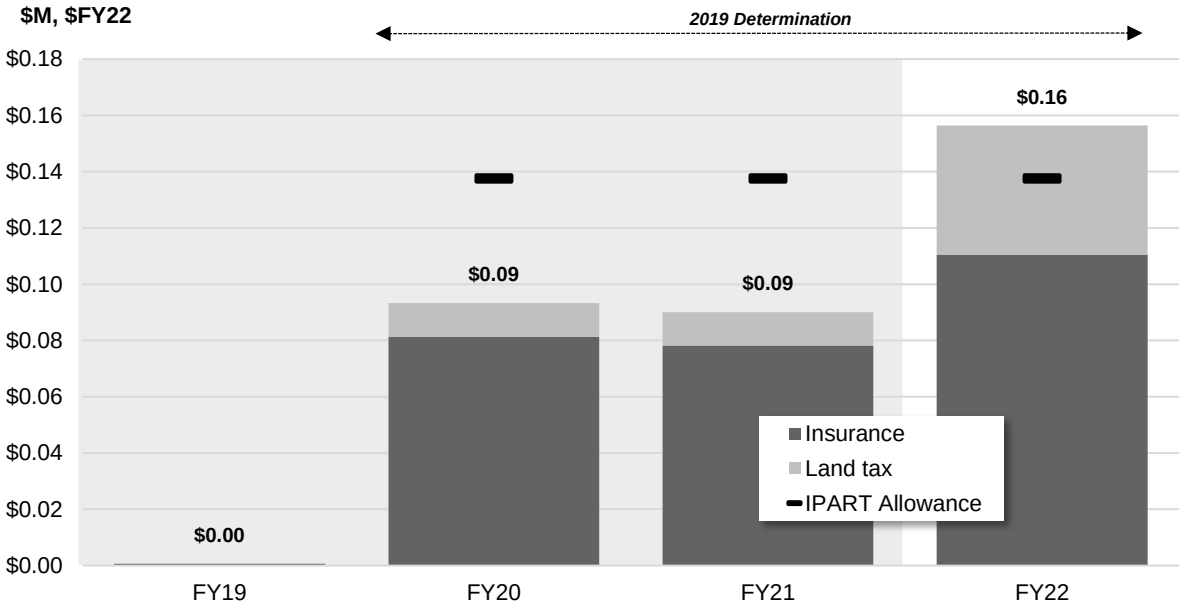


Figure 12 Insurance and Land Tax ($ Millions, $FY22)

Insurance and land tax are on average below IPART allowances. For FY20 and FY21 this appears to be due to lower insurance costs than forecast, which were estimated at $126,000 (in $FY22) in the 2019 Determination. Costs are forecast to exceed the allowance in FY22, with WaterNSW noting that:

- Its forecast insurance premiums have increased as a result of recent bushfires and floods (as advised by WaterNSW's insurance provider based on the claims received).
- There is an increase in land tax costs, with WaterNSW acquiring land specifically related to the pipeline (at an acquisition cost of $1.71 million over FY21 and FY22). WaterNSW has advised that the NSW Government's land tax calculator has been used as the basis of the cost increase.

Based on the information available, we conclude that approximately half of the increase at FY22 is due to additional land tax expenditure, and the remaining half due to increased insurance premiums.

Findings

On average costs are below IPART targets, and there are defined drivers for the forecast cost increase in FY22. Costs relating to land acquisition have exceeded what was proposed in the 2019 Determination, however we have been advised that this is the result of changed conditions and negotiations. We consider the insurance and land tax costs over the 2019 Determination Period to be efficient.

Table 17 AECOM Recommended Costs, Insurance and Land Tax Costs ($ Millions, $FY22)

Insurance & land tax	FY20	FY21	FY22
WaterNSW Costs	$0.09	$0.09	$0.16
AECOM Recommended Adjustments			
Efficient Costs	$0.09	$0.09	$0.16

6.1.7 Other Operating Costs

A range of 'other' operating costs are presented in Figure 13. Costs relating to the Wentworth Ski Park Reserve Rehabilitation, landscaping and replanting works are represented by the hatched grey columns. These costs have been excluded from the proposed operating costs, as WaterNSW has stated that it intends to capitalise these costs. The works for this project are discussed further in Section 7.

WaterNSW proposes to capitalise $0.28 million in external consultant costs in relation to preparation of its regulatory submission, contending that the professional fees incurred in relation to the preparation of a pricing proposal are incremental and directly attributable to the creation of an intangible asset. For the reasons outlined in Section 5.6, we consider these to be operating costs and have included these amounts in Figure 13.

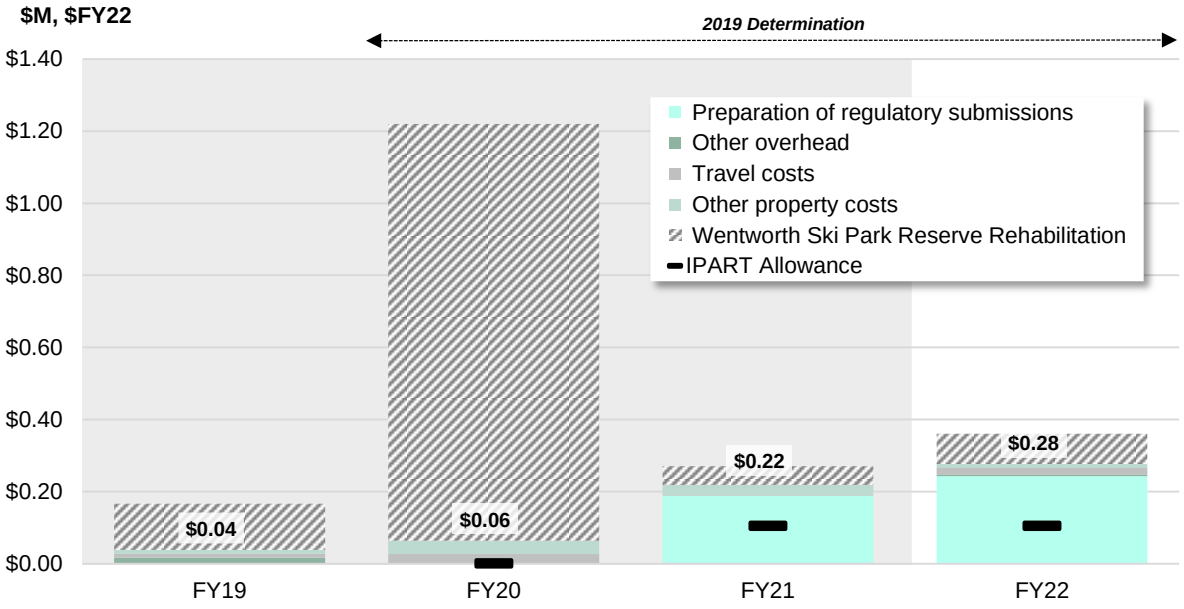


Figure 13 Other Operating Costs ($ Millions, $FY22)

In the 2019 Determination Period, IPART provided an operating cost allowance for the preparation of the regulatory submission in FY21 and FY22. Considering the proposed capital costs (moved to operating expenditure), the allowance over these two years has been exceeded by over 100%.

Other costs were not provided for in the IPART allowance. However, travel and property costs represent relatively small portions of the total for other operating costs and are not material to the claim.

Findings

Costs relating to the Wentworth Ski Park Reserve Rehabilitation are excluded from the 2019 Determination Period figures, as these are being sought for inclusion in the RAB. The review of the Wentworth Ski Park Reserve Rehabilitation project is included at Section 7.

We consider regulatory submission preparation costs as operating expenditure and have included all related costs in WaterNSW's reported operating costs. Additional comment on this issue is provided at Section 5.6. In total, these costs are significantly above IPART allowances, which have been based on recommendations from Synergies. Based on industry knowledge, we believe that typical costs of preparing regulatory submissions for water utilities should be in the order of 1% of the annual revenue for the business. For the WaterNSW Broken Hill Pipeline, this would arrive at around $0.25 million. WaterNSW has contended that the 1% benchmark may not be appropriate for a business of the scale for the WaterNSW Broken Hill Pipeline, noting a 'fixed cost' effort required to prepare a submission. We disagree with this view. In this case, we believe that the level of effort (and cost) should in practice be lower than average as:

- WaterNSW can obtain many of the inputs from the JV (for instance, with operations and maintenance costs being specified in the contract) and does not need to develop them itself.
- WaterNSW should be able to leverage its broader regulatory capability for this small portion of its business.

WaterNSW has noted that in the 2021 Rural Valley Determination, IPART found that three additional regulatory staff were required for regulatory preparation. However, the determination specifically cites that the increase in 3 FTEs was attributable to the rural bulk water and Water Administration Ministerial Corporation (WAMC) determinations. WaterNSW proposed a 50:50 allocation between WAMC and rural bulk water *'because of the extensive work involved in these reviews.'*[12]

[12] IPART (2021). *Review of WaterNSW's Rural Bulk Water Prices - 1 October 2021 to 30 June 2025.* https://www.ipart.nsw.gov.au/sites/default/files/cm9_documents/Final-Report-Review-of-Water-NSWs-rural-bulk-water-prices-September-2021.PDF

WaterNSW also notes that there is a requirement to forecast future energy costs over the regulatory period, under IPART Framework to set Pipeline charges. In the previous determination, IPART commissioned Frontier Economics to provide this specialist advice. However, for this determination WaterNSW commissioned Frontier Economics through a competitive procurement process, at a cost of $0.06 million.

Considering this, we conclude that the IPART allowance (and Synergy recommendation) of $0.21 million, with an additional allowance of $0.06 million associated with the provision of specialist advice applied (or $0.27 million in total), reflects an efficient cost. We therefore recommend a reduction of costs above this allowance (Table 18). We were not provided any detail of the costs relating to preparation of the submission. This adjustment is purely based on a high-level assessment, considering industry benchmarks. We consider this a catch-up adjustment.

Table 18 AECOM Recommended Costs, Other Operating Costs ($ Millions, $FY22)

Other operating costs	FY20	FY21	FY22
WaterNSW Costs	$0.06	$0.03	$0.18
Attribution of Regulatory Submission Costs to Operating Expenditure		$0.19	$0.09
Revised WaterNSW Costs	$0.06	$0.22	$0.28
AECOM Recommended Adjustments		-$0.06	-$0.11
Efficient Costs	$0.06	$0.16	$0.17

6.1.8 SPV Overheads

Overhead costs are allocated from WaterNSW to the SPV in accordance with WaterNSW's cost allocation methodology (discussed in detail in Section 5). Overhead costs over the 2019 Determination Period are indicated in Figure 14.

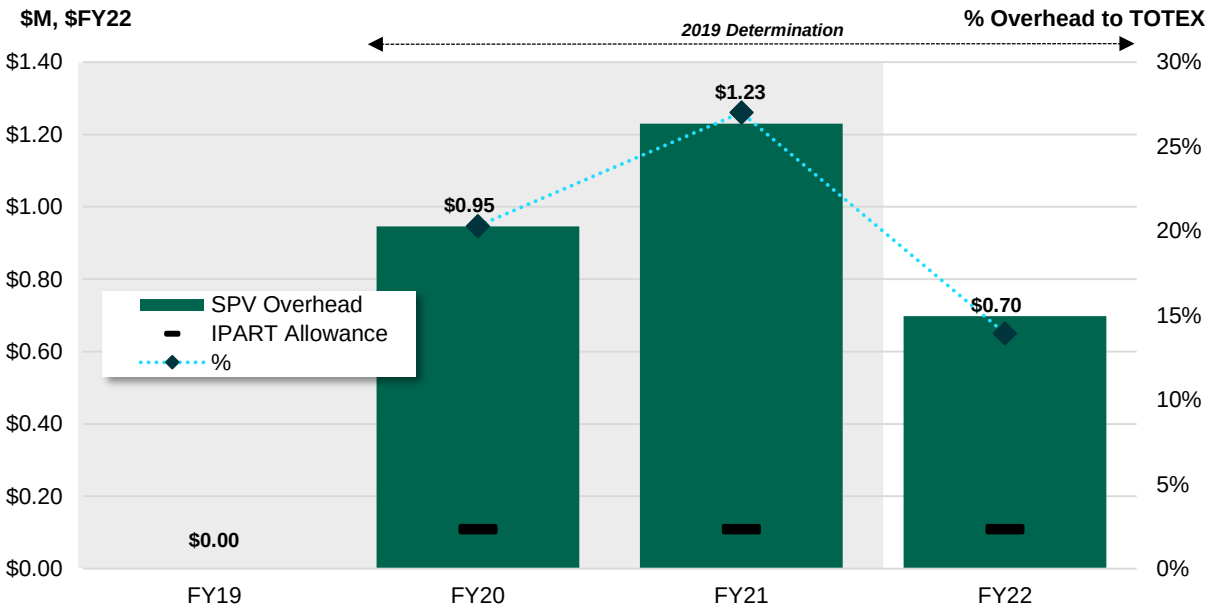


Figure 14 SPV Overhead ($ Millions, $FY22)

Overhead costs consistently exceed IPART allowances of $0.1 million per annum. These were based on recommendations from Synergies, which provided for WaterNSW staff for a select number of relevant functions to spend a portion of their time providing services to the SPV.[13] WaterNSW's actual and projected overhead costs for the 2019 Determination Period have been determined using the WaterNSW cost allocation methodology (TOTEX) outlined at Section 5, as opposed to the process suggested by Synergies, which has resulted in much higher than allowed for costs.

[13] Additional allowances in the overhead category in FY21 and FY22 for regulatory submission preparation costs were also allowed for, which are shown (where recorded by WaterNSW) against 'other operating costs' at Section 6.1.7.

Forecast overhead costs in FY22 (of $0.70 million) are lower than actuals costs in FY20 of $0.95 million and FY21 of $1.23 million. The ratio of allocated corporate overhead costs to total expenditure is also higher in FY20 and FY21 (at 20% and 27% respectively). WaterNSW has noted that a number of system changes occurred in and around 2019. Namely, the implementation of a new finance System, delivery of training to enable improved allocation of costs using the new system and hiring of three finance business partners to assist the business in navigating the system. As a result of this initiative, improved direct costing reduced the pool of overhead cost to be allocated to the Broken Hill Pipeline (and other areas of WaterNSW). This does not appear to have yet occurred in FY21, however is observed in FY22.

Findings

We recommend that adjustments be made to overheads based on the revised allocation methodology outlined in Section 5.5. Adjustments made to efficient direct costs are also reflected in the revised corporate overhead allocation. Table 19 presents our recommended adjustments and resulting efficient costs. We consider these to be catch up adjustments.

Table 19 AECOM Recommended Costs, SPV Overhead Costs ($ Millions, $FY22)

	FY20	FY21	FY22
WaterNSW Costs			
SPV Overhead	$0.95	$1.23	$0.70
AECOM Recommended Adjustments			
Shift in Allocator from TOTEX to Direct Operating Costs (Excluding Energy)	$0.06	$0.08	$0.05
Removal of Fixed Costs for the O&M Contract from the Receiving Pool	-$0.77	-$1.01	-$0.54
Adjustments Resultant of Other Direct Cost Adjustments		$0.08	$0.00
Efficient Costs			
SPV Overhead	$0.24	$0.38	$0.20

6.1.9 Recommended Efficient Costs

Table 20 presents a summary of the proposed adjustments to WaterNSW's operating expenditure over the 2019 Determination Period.

Table 20 WaterNSW's Operating Costs for the 2019 Determination Period ($ Million, $FY22)

	FY20	FY21	FY22	Total
WaterNSW Costs				
Operation and maintenance under contract	$1.67	$1.69	$1.79	$5.14
SPV audit costs	$0.08	$0.04	$0.03	$0.15
SPV contract management costs	$0.15	$0.19	$0.17	$0.52
Insurance & land tax	$0.09	$0.09	$0.16	$0.34
SPV Overhead	$0.95	$1.23	$0.70	$2.87
Other operating costs	$0.06	$0.03	$0.18	$0.28
Total, Excluding Electricity	**$3.01**	**$3.27**	**$3.03**	**$9.31**
Attribution of Regulatory Submission Costs to Operating Expenditure				
Other operating costs		$0.19	$0.09	$0.28
Total, Excluding Electricity		**$0.19**	**$0.09**	**$0.28**
Revised WaterNSW Costs				
Operation and maintenance under contract	$1.67	$1.69	$1.79	$5.14
SPV audit costs	$0.08	$0.04	$0.03	$0.15
SPV contract management costs	$0.15	$0.19	$0.17	$0.52
Insurance & land tax	$0.09	$0.09	$0.16	$0.34
SPV Overhead	$0.95	$1.23	$0.70	$2.87
Other operating costs	$0.06	$0.22	$0.28	$0.56
Total, Excluding Electricity	**$3.01**	**$3.46**	**$3.12**	**$9.59**
AECOM Recommended Adjustments				
Operation and maintenance under contract		-$0.01	-$0.12	-$0.12
SPV Overhead	-$0.70	-$0.85	-$0.49	-$2.05
Other operating costs		-$0.06	-$0.11	-$0.16
Total, Excluding Electricity	**-$0.70**	**-$0.91**	**-$0.72**	**-$2.34**
Percentage change	**-23.4%**	**-26.4%**	**-23.1%**	**-24.4%**
Recommended Efficient Costs				
Operation and maintenance under contract	$1.67	$1.68	$1.67	$5.02
SPV audit costs	$0.08	$0.04	$0.03	$0.15
SPV contract management costs	$0.15	$0.19	$0.17	$0.52
Insurance & land tax	$0.09	$0.09	$0.16	$0.34
SPV Overhead	$0.24	$0.38	$0.20	$0.82
Other operating costs	$0.06	$0.16	$0.17	$0.39
Total, Excluding Electricity	**$2.30**	**$2.55**	**$2.40**	**$7.25**

**The WaterNSW costs and efficient costs exclude Wentworth Ski Park Reserve Rehabilitation costs.*

Table 21 presents the efficient costs de-escalated to nominal dollars.

Table 21 WaterNSW's Operating Costs for the 2019 Determination Period ($ Million, $Nominal)

	FY20	FY21	FY22
Efficient Costs			
Operation and maintenance under contract	$1.59	$1.64	$1.67
SPV audit costs	$0.08	$0.04	$0.03
SPV contract management costs	$0.15	$0.19	$0.17
Insurance & land tax	$0.09	$0.09	$0.16
SPV Overhead	$0.23	$0.37	$0.20
Other operating costs	$0.06	$0.16	$0.17
Total, Excluding Electricity	**$2.19**	**$2.49**	**$2.40**

6.2 Review of WaterNSW's Operating Expenditure for the 2022 Determination Period

AECOM's review of WaterNSW's proposed operating expenditure for the forward 2022 Determination Period is provided below.

6.2.1 Summary of Findings

Adjustments to WaterNSW's proposed operating expenditure for the 2022 Determination Period are recommended for:

- Regulatory submission preparation costs, with adjustments made in accordance with the IPART allowance which we consider an efficient level of expenditure
- A revised approach to corporate cost allocation (direct operating costs excluding energy and fixed O&M costs under contract), and further adjustments to corporate overhead costs in accordance with direct cost adjustments

While we have not proposed an adjustment to the asset replacement forecast (which has been included as an operating cost), we note two areas of concern for future consideration (with the cost of renewals forecast be more substantial over future Determination Periods):

- There may be potential for assets to outlive their nominal life expectancies and would typically expect asset renewal forecasts to be revised based on monitoring of actual asset condition.
- We reiterate Synergies' finding from the previous 2019 review that there appears to be little incentive for the contractor to achieve lower replacement costs than those specified in the tender, and that a mechanism to share cost savings could be beneficial.

6.2.2 Overview of Proposed Expenditure

WaterNSW's historical and proposed operating expenditure (expressed in $FY22) from FY19 to FY27 is provided at Figure 1 (as presented previously at Section 1.5.1). The coloured bars represent escalated actual costs (up to 2020-21) and forecast costs from 2021-22 to 2026-27. IPART allowances over the 2019 Determination Period are represented by the black markers, and WaterNSW proposed costs represented by the blue markers. Total costs, as well as total costs excluding electricity, are reported.

Costs relating to the Wentworth Ski Park Reserve Rehabilitation have been excluded from the 2019 Determination Period figures, as these are being sought for inclusion in the RAB. [14] Regulatory submission preparation costs which are being sought by WaterNSW as capital expenditure ($0.28 million in total over the 2019 Determination Period and $0.27 million in total over the 2022 Determination Period) have been included in the WaterNSW operating expenditure figures, for the reasons specified in Section 5.6.

[14] Excluded 'Other operating costs' for Wentworth Ski Park Reserve Rehabilitation amount to (in $ millions, $FY22):

	FY19	FY20	FY21	FY22
Wentworth Ski Park Reserve Rehabilitation	*$0.13*	*$1.21*	*$0.05*	*$0.08*

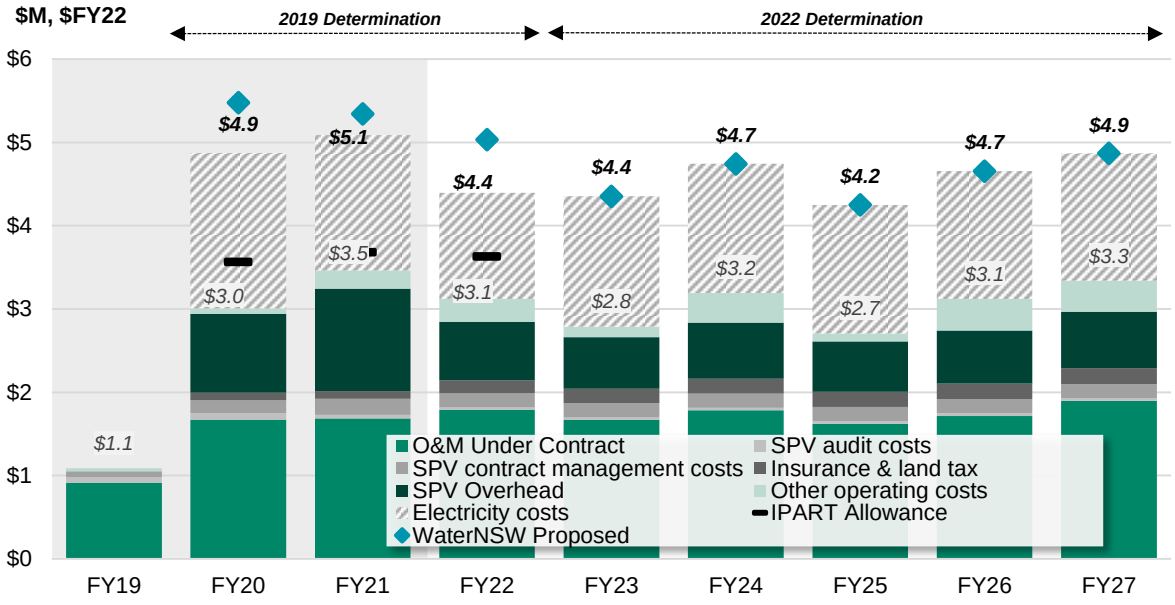


Figure 15 Operating Expenditure ($ Millions, $FY22)

Average annual costs (excluding electricity) over the 2022 Determination Period are 6% lower than historic costs over FY20 to FY21 (excluding historical Wentworth Ski Park Reserve Rehabilitation costs and including the full value of regulatory submission preparation costs).

6.2.3 Operation and Maintenance Under Contract

Costs for operations and maintenance delivered under the O&M Contract are presented in Figure 16.

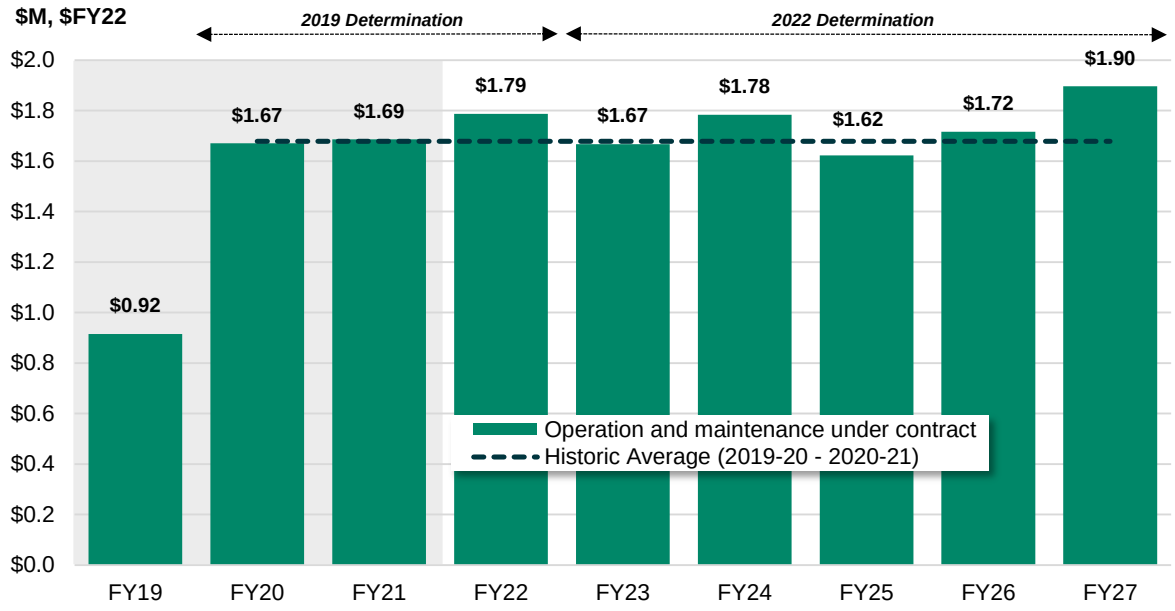


Figure 16 Operation and Maintenance under Contract ($ Millions, $FY22)

Average costs are relatively aligned with historic, reflecting the fixed basis of the costs. There is some year-on-year variability which is driven by variability in the contract specified fixed (monthly) rate charge for the given years. The forecast cost over the determination period aligns with the fixed (monthly) rate charge specified in the O&M Contract, escalated in accordance with the designated escalation method (where the annual escalation factor is a weighted combination of CPI at 70.54% and WPI at 29.46%).

Findings

The costs reflect the fixed charges specified in the O&M Contract. The full O&M Contract has not yet been provided for review, however for the same reasons as specified during the 2019 review (namely the competitive procurement process followed, as outlined at Section 6.1.3), we consider the costs efficient (Table 22).

Table 22 AECOM Recommended Costs, Operation and Maintenance ($ Millions, $FY22)

Operation and maintenance under contract	FY23	FY24	FY25	FY26	FY27
WaterNSW Costs	$1.67	$1.78	$1.62	$1.72	$1.90
AECOM Recommended Adjustments	$0.00	$0.00	$0.00	$0.00	$0.00
Efficient Costs	$1.67	$1.78	$1.62	$1.72	$1.90

**Excluding continuing efficiency adjustment.*

6.2.4 SPV Audit Costs

Figure 15 presents the forecast SPV audit costs over the 2022 Determination Period.

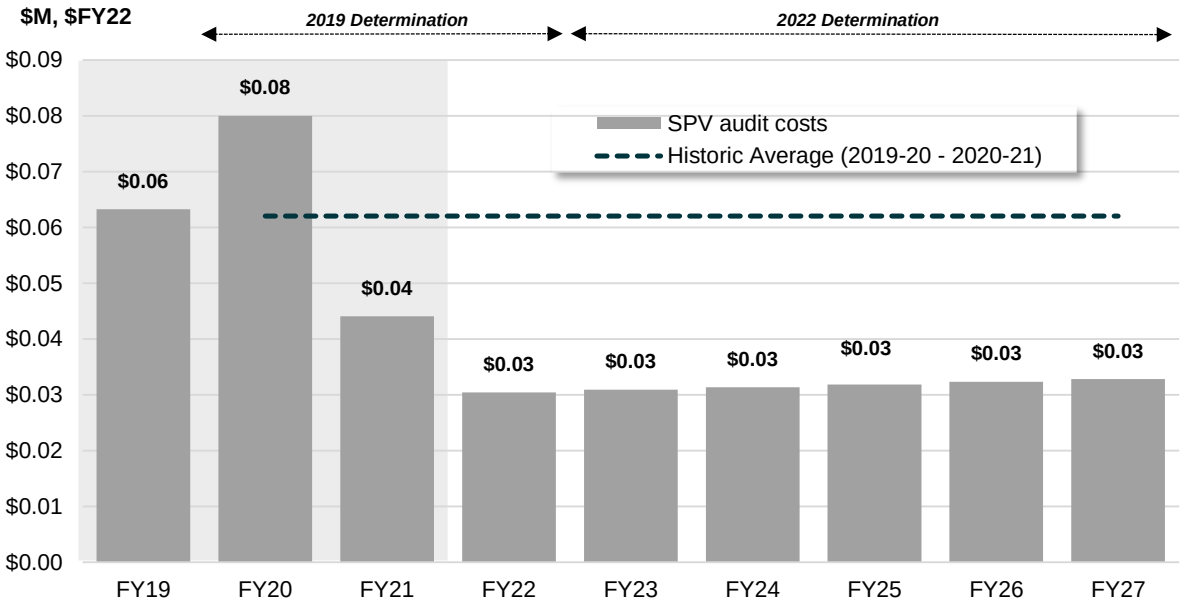


Figure 17 SPV Audit Costs ($ Millions, $FY22)

Forecast audit costs well below the historic average costs (measured over FY20 to FY21), at a constant level that reflects typical operations.

Findings

As for the historic costs (Section 6.1.4), costs reflect statutory obligations, and are well below previous IPART allowances. For these reasons, we consider SPV audit costs efficient (Table 23).

Table 23 AECOM Recommended Costs, SPV Audit Costs ($ Millions, $FY22)

SPV audit costs	FY23	FY24	FY25	FY26	FY27
WaterNSW Costs	$0.03	$0.03	$0.03	$0.03	$0.03
AECOM Recommended Adjustments	$0.00	$0.00	$0.00	$0.00	$0.00
Efficient Costs	$0.03	$0.03	$0.03	$0.03	$0.03

**Excluding continuing efficiency adjustment.*

6.2.5 SPV Contract Management Costs

Figure 18 presents the forecast contract management costs (one WaterNSW employee who manages the O&M Contract on behalf of the SPV) over the 2022 Determination Period.

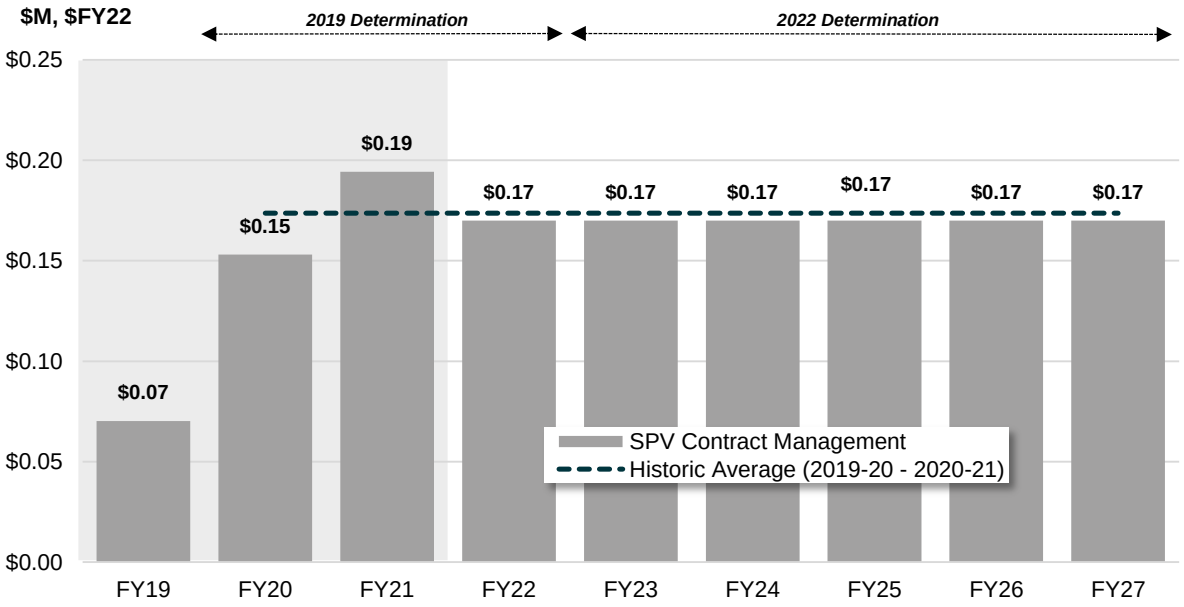


Figure 18 SPV Contract Management Costs ($ Millions, $FY22)

Annual costs over the 2022 Determination Period are on average 2% lower than historic (measured over FY20 to FY21). Costs are still well below the previous IPART allowance of $0.23 million (which provided for 1.5 FTEs to perform the function).

Findings

We consider that the forecast costs for one FTE to manage the O&M Contract are efficient (Table 24).

Table 24 AECOM Recommended Costs, SPV Contract Management Costs ($ Millions, $FY22)

SPV contract management costs	FY23	FY24	FY25	FY26	FY27
WaterNSW Costs	$0.17	$0.17	$0.17	$0.17	$0.17
AECOM Recommended Adjustments	$0.00	$0.00	$0.00	$0.00	$0.00
Efficient Costs	$0.17	$0.17	$0.17	$0.17	$0.17

**Excluding continuing efficiency adjustment.*

6.2.6 Insurance and Land Tax

Figure 19 presents the insurance and land tax costs forecast over the 2022 Determination Period. [15]

[15] Insurance and land tax costs are not separated in WaterNSW's June 2021 submission. The relative split in costs has been estimated by escalating the proposed land tax costs from the 2019 determination and adding the additional land tax incurred for the land acquired over 2020-21 and 2021-22.

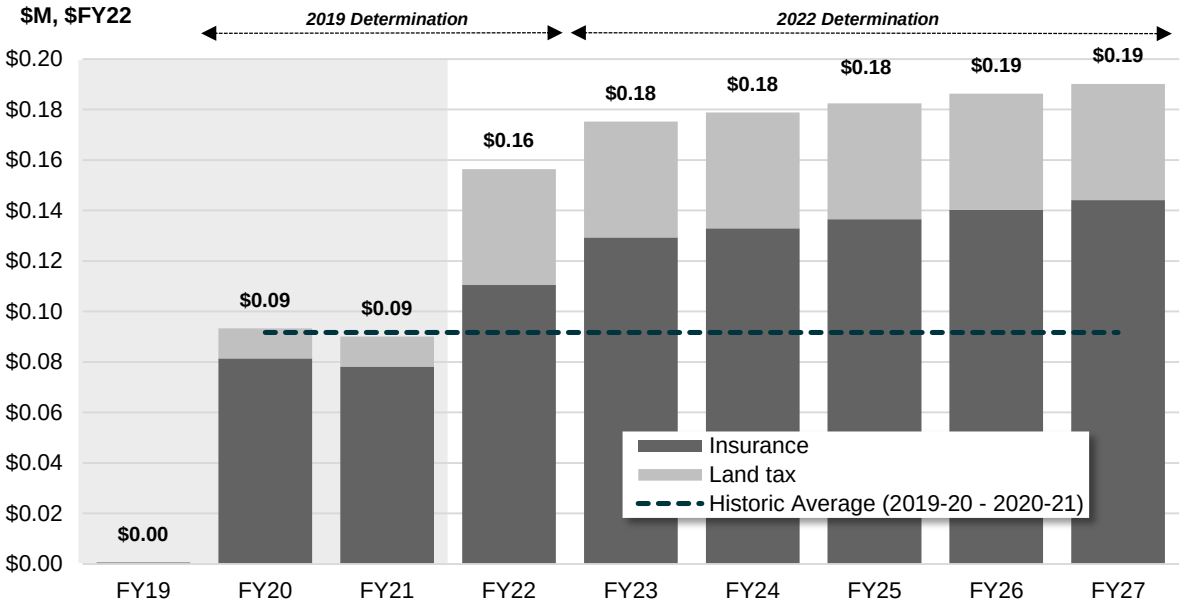


Figure 19 Insurance and Land Tax Costs ($ Millions, $FY22)

As discussed at Section 6.1.6, average annual costs have increased by 99% (or $0.09 million) from historic (measured over FY20 to FY21) because of additional land acquisitions and increased insurance premiums. At a value of $1.71 million (and a tax rate of 2% as advised by WaterNSW), $0.03 million of the cost increase can be attributed to the additional land acquired.

This suggests that the remainder of the increase ($0.06 million) is attributable to increased insurance premiums. Insurance costs are allocated based on the total pipeline asset value as a percentage of WaterNSW's total asset portfolio value. WaterNSW has stated that the increase in premiums is driven by recent bushfires and floods. This is consistent with recent reports offering insights on trends in the insurance industry:

- A report from the Insurance Council of Australia indicates that Australian insurers have paid more than $8.9 billion in natural disaster claims since December 2018, with more than $6.1 billion paid out since the FY20 bushfires.[16]
- A report from the Australian Business Roundtable for Disaster Resilience and Safer Communities estimates that annual extreme weather losses to infrastructure will grow to $39 billion per annum by 2050. [17]

While these are general trends not specific to the Broken Hill region, these are still reasonable drivers for the increased premiums, as premiums are influenced by global insurance losses in direct insurance and reinsurance markets. Figure 20 presents data sourced from Swiss Re[18], which demonstrates an increase in the quantum of global insured losses in 2020 compared to the previous years.

[16] Insurance Council of Australia (2021): Insurance Catastrophe Resilience Report: 2020-21.
[17] Insurance Council of Australia (2018): ICA Response to ACCC Issues Paper – Northern Australia Insurance Inquiry
[18] Swiss Re (2021). Sigma - Natural catastrophes in 2020. *https://www.swissre.com/dam/jcr:ebd39a3b-dc55-4b34-9246-6dd8e5715c8b/sigma-1-2021-en.pdf*

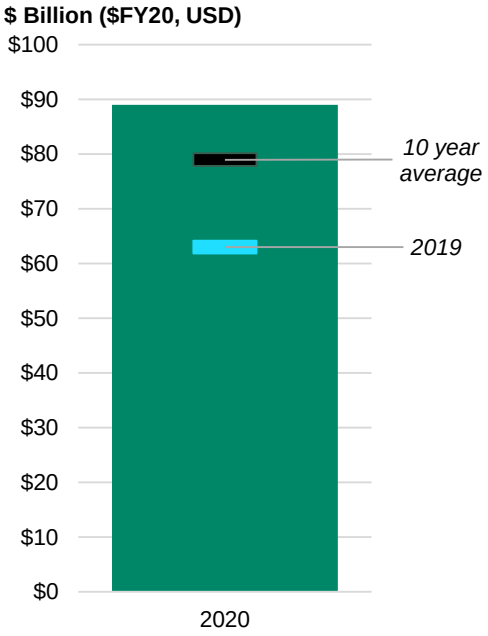


Figure 20 Global Insured Losses, 2020

Findings

There is a clear driver for the forecast increase in land tax costs, however we are reviewing the land acquisition requirement for the 2019 Determination Period, as these were higher than forecasted and allowed for. While the land tax for acquired land is a necessary and prudent cost, this ties in with the 2019 Determination Period Capital review. Our review of these costs finds that they are efficient, and so no amendments have been recommended.

Insurance premiums are market driven and inherently difficult to forecast. However, WaterNSW has advised that its expectations for increased insurance premiums are based on advice provided by its insurance provider, and these increases appear consistent with industry insights. For these reasons, we consider the forecast expenditure for insurance to be efficient (Table 25).

Table 25 AECOM Recommended Costs, Insurance and Land Tax ($ Millions, $FY22)

Insurance & land tax	FY23	FY24	FY25	FY26	FY27
WaterNSW Costs	$0.18	$0.18	$0.18	$0.19	$0.19
AECOM Recommended Adjustments	$0.00	$0.00	$0.00	$0.00	$0.00
Efficient Costs	$0.18	$0.18	$0.18	$0.19	$0.19

**Excluding continuing efficiency adjustment.*

6.2.7 Other Operating Costs

Figure 21 presents a range of 'other' operating costs forecast over the 2022 Determination Period.

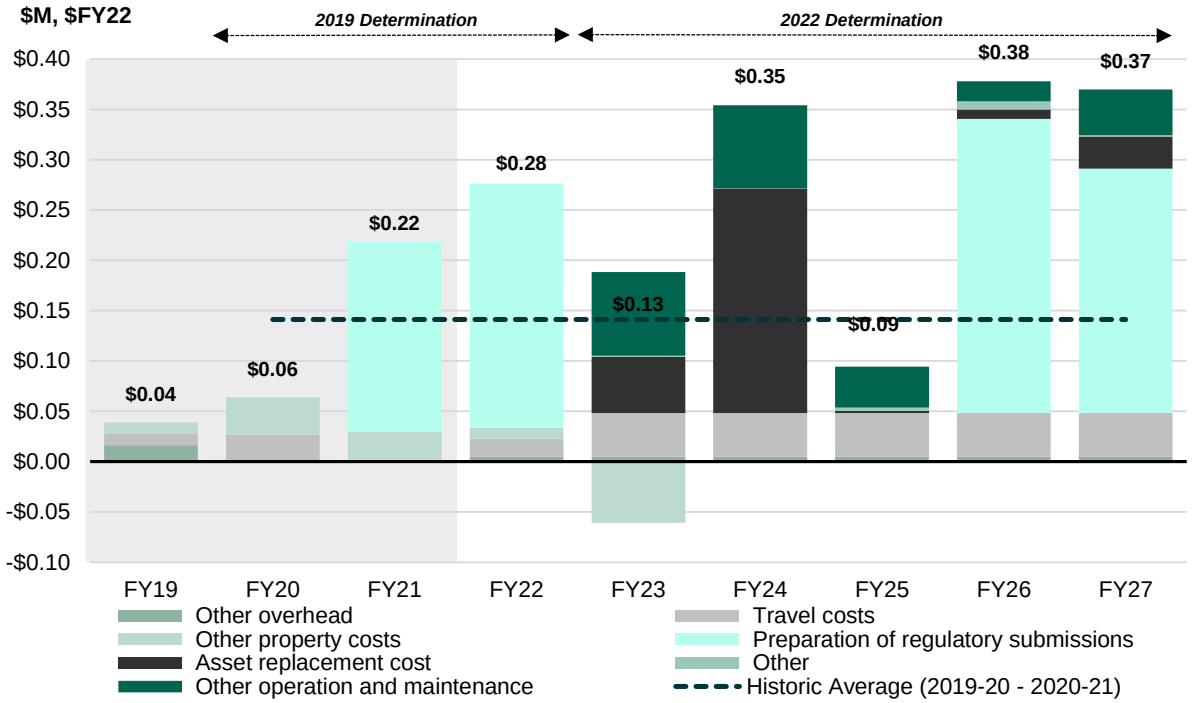


Figure 21 Other Operating Costs ($ Millions, $2021-22)

Average annual costs over the 2022 Determination Period are higher than the historical average (measured over FY20 to FY21). This is due to forecast asset replacement costs, increased travel costs, and inclusion of costs associated with maintaining the rehabilitated areas delivered under the Wentworth Ski Park Reserve Rehabilitation project. Table 26 presents a summary of the average forward and historic costs. Regulatory submission preparation costs appear reduced due to the longer time period over the forward determination period.

Table 26 Average 'Other' Operating Costs ($ Millions, $FY22)

	Average		
Operating Expenditure, $M, $FY22	Historic FY20 - FY21	Forward FY23 - FY27	% Change
Other overhead	$0.00	$0.00	461%
Travel costs	$0.01	$0.04	226%
Other property costs	$0.03	-$0.01	-137%
Other operation and maintenance	$0.00	$0.05	
Preparation of regulatory submissions	$0.09	$0.11	13%
Asset replacement cost	$0.00	$0.06	
Other	$0.00	$0.00	
Total	**$0.14**	**$0.26**	**87%**

**Costs relating to the Wentworth Ski Park Reserve Rehabilitation have been excluded from the 2019 Determination Period figures ('Other operation and maintenance'), as these are being sought for inclusion in the RAB. Regulatory submission preparation costs which are being sought by WaterNSW as capital expenditure ($0.28 million in total over the 2019 Determination Period and $0.27 million in total over the 2022 Determination Period) have been included in the WaterNSW operating expenditure figures, for the reasons specified in Section 5.6.*

Each of these costs are discussed in turn in Table 27.

Table 27 Review of Forecast 'Other' Operating Costs

Cost	Review
Asset Replacement	This includes minor asset replacement works for pipeline exterior coating replacement and refurbishment on pipeline appurtenances, bulk storage cells, control systems, electrical systems and other minor assets. The total expected expenditure for these asset replacements is $0.34 million over five years. Due to the large number of small assets, provision for asset replacement for the Wentworth to Broken Hill Pipeline has been included in operating costs. Minor asset replacement works for pipeline exterior coating replacement and refurbishment on pipeline appurtenances, bulk storage cells, control systems, electrical systems and other minor assets. The total expected operating costs for these small asset replacements is $0.34 million (FY21) and can be found in Section 5. Most organisations have a minimum value below which assets are expensed, the value representing an assumed trade-off of the cost of handling and processing the transaction as capital rather than as an expense. We have not been able to confirm WaterNSW's capitalisation policy and therefore the minimum asset value that it will capitalise, but we agree with this practical approach and with the assumption that the minimum value will be like that used by peer organisations (generally $10,000), we agree with the approach taken. The asset renewal schedule is based on a 20-year forecast specified in the contract (which is based on the nominal asset life expectancy). There may be potential for assets to outlive their nominal life expectancies and would typically expect asset renewal forecasts to be revised based on monitoring of actual asset condition. However, WaterNSW has advised that the costs it pays to the contractor for asset renewals is fixed. WaterNSW state the following in its submission – *'Over the O&M contract term, the contractor will be paid based on the lower of actual asset replacement costs incurred and the cumulative asset replacement cost profile bid by the contractor in its tender (adjusted for indexation).'* In relation the cost of asset replacement, Synergies noted in its 2019 review that: "*We consider that the mechanism does not particularly incentivise the John Holland/Trility JV to strive to achieve lower replacement prices than have been included in the tender. We consider that a mechanism that provided a shared cost of savings would provide a better incentive."* To the best of our understanding, no amendment of the O&M Contract has since occurred, and this finding appears still relevant. A review of the asset lives applied to the assets being replaced through this mechanism shows that nominal asset lives are generally reasonable and consistent with asset management practice, with the exception of a few assets which appear to have been assigned shorter than expected asset lives. However, with the limited information available on the assets, this may be due to the nature of the specific assets being employed.
Preparation of Regulatory Submission	WaterNSW has forecast a total of $0.54 million for preparation of the next regulatory submission over FY26 and FY27. As discussed, WaterNSW proposed a separate capital allowance to fund the external costs of submission preparation. For the reasons specified in Section 5.6, we consider these to be operating costs and have included the full amount in the operating figures reported. The inclusion of some operating expenditure for regulatory submission preparation is reasonable, noting that WaterNSW staff who would usually perform other functions for the consolidated business will be required to support this activity (and that the direct attribution of this time would avoid the potential for double counting with overhead costs). However, the forecast cost is double the $0.27 million considered efficient for the 2019 Determination Period. On the same basis as adopted for the 2019 Determination Period, we consider the IPART allowance (with an additional allowance for specialist advice) to be an efficient quantum of cost and recommend an adjustment to the forecast costs in excess of this.
Other Operation and Maintenance	This cost relates to the Wentworth Ski Park Reserve Rehabilitation, landscaping and replanting works. While historic expenditure for the upfront works is being sought for inclusion in the RAB, ongoing works associated with maintaining the rehabilitated areas (including weed control, tree maintenance, pruning, replanting, and other routine maintenance) have been included in the operating cost forecast. This cost is minor over the 2022 Determination Period (amounting to $0.27 million in total).

Travel Costs	We have observed an increase in travel costs of over 200% over the determination period (with average annual costs from FY20 to FY21 at $13,000, and average costs from FY23 to FY27 of $43,000). WaterNSW has advised that the main reason for the increase in travel costs is travel restrictions over the 2019 Determination Period due to the COVID-19 pandemic. The forecast however assumes normal operations (no travel restrictions) and a steady state cost. WaterNSW notes that: • The forecast cost is based on a bottom-up build from project managers and subject matter experts. • There are significant travel distances involve, with staff travelling from Melbourne to a depot at Menindee Lakes, which is some 120 km from Broken Hill.
Other Property Costs	Other property costs are negative $60,000 in FY23. WaterNSW has advised that this reflects a change in cost allocation due to routine accounting adjustment.
Other Overhead	WaterNSW has advised that this is a nominal amount to cover unplanned materials. Costs are immaterial over the 2022 Determination Period, amounting to a total of $24,000.
Other	These are minor costs ($14,000 in total) relating to offtake customers.

Findings

We consider regulatory submission preparation costs to be operating expenditure and have included all related costs in WaterNSW's reported operating costs. Additional comment on this issue is provided at Section 7. For the same reasons specified for the 2019 Determination Period (Section 6.1.7), we believe that the IPART allowance (and Synergy recommendation) of $0.21 million, with an additional allowance of $0.06 million associated with the provision of specialist advice applied (or $0.27 million in total), reflects an efficient cost. We therefore recommend a reduction of costs above this allowance (a reduction of $0.27 million). We were not provided any detail of the costs relating to preparation of the submission. This adjustment is purely based on a high-level assessment, considering industry benchmarks.

The 'other' operating costs over the 2022 Determination Period are considered reasonable, with the possible exception of asset replacements. While we have not proposed an adjustment to the asset replacement forecast (noting that this is in effect a fixed cost, and over the 2022 Determination Period is not a material expenditure), this may be a consideration for future Determination Periods where forecast expenditure is larger in value (Figure 22). For example, spikes in expenditure are forecast for FY28 and FY29, and significant annual expenditure is expected from FY33. It may be possible for some of these works to be deferred (based on asset condition assessments as the works become more imminent), or for the works to be delivered in a lower-cost manner.

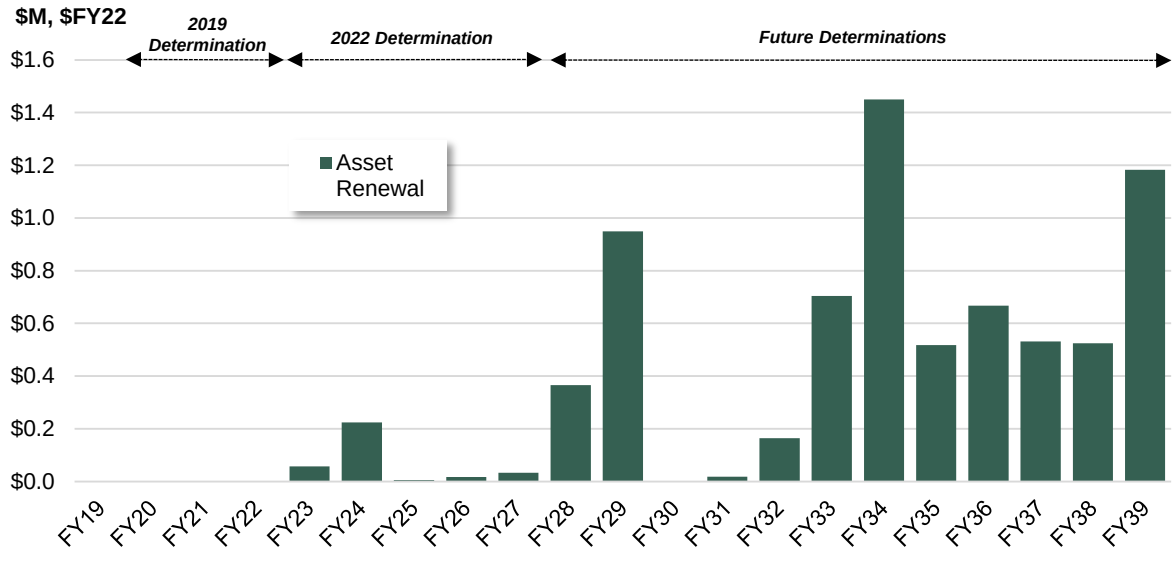


Figure 22 Forecast Renewal Expenditure ($ Millions, $FY22)

Table 28 presents our recommended 'other' operating costs.

Table 28 AECOM Recommended Costs, Other Operating Costs ($ Millions, $FY22)

Other operating costs	FY23	FY24	FY25	FY26	FY27
WaterNSW Costs	$0.13	$0.35	$0.09	$0.20	$0.28
Attribution of Regulatory Submission Costs to Operating Expenditure				$0.18	$0.09
Revised WaterNSW Costs	$0.13	$0.35	$0.09	$0.38	$0.37
AECOM Recommended Adjustments				-$0.16	-$0.11
Efficient Costs	$0.13	$0.35	$0.09	$0.22	$0.26

**Excluding continuing efficiency adjustment.*

6.2.8 SPV Overhead

Figure 23 presents a summary of the corporate overhead costs forecast over the 2022 Determination Period.

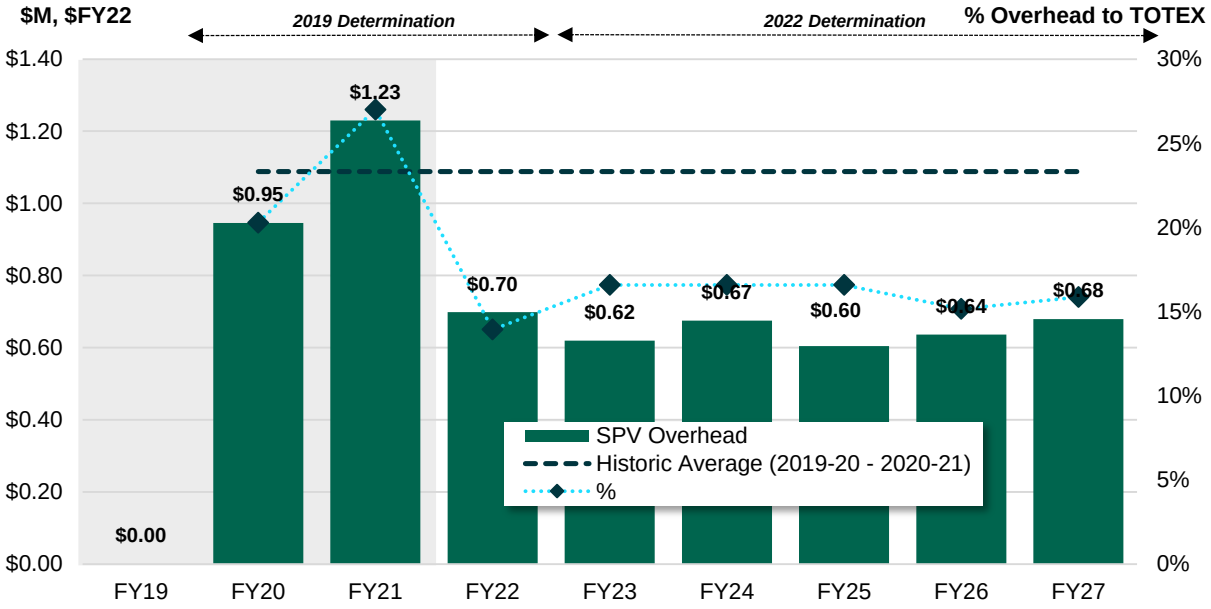


Figure 23 SPV Overhead Costs ($ Millions, $FY22)

Annual overhead costs over the 2022 Determination Period are below average historical (measured over FY20 to FY21). The ratio of allocated corporate overhead costs to TOTEX (the cost allocator) increases from FY22, which indicates changes in the value of the overhead cost pool being allocated.

Findings

Our review of the cost allocation methodology applied has found that the proposed allocator may not be the most efficient allocator for shared costs to the Pipeline. Recommended adjustments have been made based on a suggested revised allocation methodology outlined in Section 5.5. Adjustments made to efficient direct costs are also reflected in the revised corporate overhead allocation. Table 29 presents our recommended adjustments and resulting efficient costs. We consider these to be catch up adjustments.

Table 29 AECOM Recommended Costs, SPV Overhead Costs ($ Millions, $FY22)

	FY23	FY24	FY25	FY26	FY27
WaterNSW Costs					
SPV Overhead	$0.62	$0.67	$0.60	$0.64	$0.68
AECOM Recommended Adjustments					
Shift in Allocator from TOTEX to Direct Operating Costs (Excluding Energy)	$0.04	$0.04	$0.04	$0.04	$0.05
Removal of Fixed Costs for the O&M Contract from the Receiving Pool	-$0.48	-$0.48	-$0.47	-$0.47	-$0.50
Adjustments Resultant of Other Direct Cost Adjustments				$0.01	$0.00
Efficient Costs					
SPV Overhead	$0.18	$0.24	$0.18	$0.21	$0.22

**Excluding continuing efficiency adjustment.*

6.2.9 Recommended Efficient Costs

Table 30 presents a summary of the recommended adjustments to WaterNSW's proposed operating costs, and our recommended efficient operating costs (prior to, and including the continuing efficiency adjustment).

Table 30 Adjustments to WaterNSW's Proposed Operating Costs ($ Million, $FY22)

	FY23	FY24	FY25	FY26	FY27	Total
WaterNSW Costs						
Operation and maintenance under contract	$1.67	$1.78	$1.62	$1.72	$1.90	$8.68
SPV audit costs	$0.03	$0.03	$0.03	$0.03	$0.03	$0.16
SPV contract management costs	$0.17	$0.17	$0.17	$0.17	$0.17	$0.85
Insurance & land tax	$0.18	$0.18	$0.18	$0.19	$0.19	$0.91
SPV Overhead	$0.62	$0.67	$0.60	$0.64	$0.68	$3.21
Other operating costs	$0.13	$0.35	$0.09	$0.20	$0.28	$1.05
Total, Excluding Electricity	**$2.79**	**$3.19**	**$2.71**	**$2.94**	**$3.25**	**$14.87**
Attribution of Regulatory Submission Costs to Operating Expenditure						
Other operating costs				$0.18	$0.09	$0.27
Total, Excluding Electricity				**$0.18**	**$0.09**	**$0.27**
Revised WaterNSW Costs						
Operation and maintenance under contract	$1.67	$1.78	$1.62	$1.72	$1.90	$8.68
SPV audit costs	$0.03	$0.03	$0.03	$0.03	$0.03	$0.16
SPV contract management costs	$0.17	$0.17	$0.17	$0.17	$0.17	$0.85
Insurance & land tax	$0.18	$0.18	$0.18	$0.19	$0.19	$0.91
SPV Overhead	$0.62	$0.67	$0.60	$0.64	$0.68	$3.21
Other operating costs	$0.13	$0.35	$0.09	$0.38	$0.37	$1.32
Total, Excluding Electricity	**$2.79**	**$3.19**	**$2.71**	**$3.12**	**$3.34**	**$15.14**
AECOM Recommended Adjustments						
SPV Overhead	-$0.43	-$0.43	-$0.43	-$0.43	-$0.46	-$2.18
Other operating costs				-$0.16	-$0.11	-$0.27
Total, Excluding Electricity	**-$0.43**	**-$0.43**	**-$0.43**	**-$0.58**	**-$0.57**	**-$2.45**
Percentage change	**-15.6%**	**-13.6%**	**-15.8%**	**-18.7%**	**-17.1%**	**-16.2%**
Recommended Efficient Costs						
Operation and maintenance under contract	$1.67	$1.78	$1.62	$1.72	$1.90	$8.68
SPV audit costs	$0.03	$0.03	$0.03	$0.03	$0.03	$0.16
SPV contract management costs	$0.17	$0.17	$0.17	$0.17	$0.17	$0.85
Insurance & land tax	$0.18	$0.18	$0.18	$0.19	$0.19	$0.91
SPV Overhead	$0.18	$0.24	$0.18	$0.21	$0.22	$1.03
Other operating costs	$0.13	$0.35	$0.09	$0.22	$0.26	$1.06
Total, Excluding Electricity	**$2.36**	**$2.76**	**$2.28**	**$2.53**	**$2.77**	**$12.70**
Recommended Efficient Costs, Including Continuing Efficiency Adjustment						
Operation and maintenance under contract	$1.66	$1.76	$1.59	$1.67	$1.83	$8.50
SPV audit costs	$0.03	$0.03	$0.03	$0.03	$0.03	$0.16
SPV contract management costs	$0.17	$0.17	$0.17	$0.17	$0.16	$0.83
Insurance & land tax	$0.17	$0.18	$0.18	$0.18	$0.18	$0.89
SPV Overhead	$0.18	$0.24	$0.17	$0.20	$0.21	$1.01
Other operating costs	$0.13	$0.35	$0.09	$0.21	$0.25	$1.03
Total, Excluding Electricity	**$2.34**	**$2.72**	**$2.23**	**$2.46**	**$2.67**	**$12.43**

7. Review of Capital Expenditure

7.1 Summary of Findings

We have reviewed the information made available on the capital expenditure for the 2019 Determination Period and the 2022 Determination Period, and have made the following observations:

- Capital expenditure significantly exceeded the allowed amounts for the 2019 Determination Period, due to:
  - Increased costs for land acquisitions,
  - The Wentworth Ski Park Reserve Rehabilitation Project.
- For the Wentworth Ski Park Reserve Rehabilitation Project, we refer to a letter of intent to the Wentworth Council which states WaterNSW's intention to proceed with the works as part of a make good exercise. The letter states that a sum will be included in the construction contract to cover the costs for this. We outline the following findings:
  - Costs for the project were not specifically requested in the 2019 review, despite WaterNSW knowing of the requirement in 2017 and it is not clear if the costs were included in the contract costs.
  - The project was separately tendered and awarded to a local contractor (not the JV).
  - Basis for the scope of works has not been provided for review.
  - The works were competitively tendered, resulting in an efficient cost for the works.
  - The assessment has been based on quality of documentation that we assess to be low.
- Land acquisition is a necessary activity to ensure infrastructure is available to support pipeline operations. WaterNSW has cited the nature of commercial negotiations for the excess costs in this area. We find that the costs are reasonable, however note that the quality documentation made available to support review of these costs has been low.
- We recommend that WaterNSW improve the quality of its documentation for capital costs to demonstrate prudency and efficiency in scope and cost.
- Proposed costs in the 2022 Determination Period are minimal and reflect an allowance of $0.27 million for external consultant costs in preparation of WaterNSW's regulatory submission. While our recommendation is pending a policy decision from IPART, we consider that these costs should be operating costs, and have therefore assessed them as part of the operating expenditure review.

7.2 WaterNSW's Capital Expenditure over the 2019 Determination Period

Capital expenditure over the 2019 Determination Period (excluding regulatory submission preparation costs) is expected at $2.3 million, $1.8 million higher than IPARTs allowance of $0.5 million. WaterNSW is also proposing to capitalise an additional $1.6 million over the period through the Wentworth Ski Park Reserve Rehabilitation Project and foregone revenue because of the Land Swap Agreement. A breakdown of capital expenditure can be found in Table 31.

Table 31 Actual and forecast capital expenditure over 2019 Determination period ($M, $Nominal)

	FY20	FY21	FY22
WaterNSW Capital Expenditure			
Pipeline	$0.61	$0.01	$0.00
Bulk water storage facility	$0.04	$0.00	$0.00
Plant and machinery (including pump stations and river intake)	$0.05	$0.00	$0.00
Buildings	$0.01	$0.00	$0.00
Regulatory submission preparation and other support costs	$0.00	$0.28	$0.09
Non-depreciating assets (eg land and holes)	$0.00	$0.30	$1.22
Total	**$0.70**	**$0.59**	**$1.31**
Attribution of Regulatory Submission Costs to Operating Expenditure			
Regulatory submission preparation and other support costs	$0.00	-$0.18	-$0.09
Total	**$0.00**	**-$0.18**	**-$0.09**
Revised Capital Expenditure			
Pipeline	$0.61	$0.01	$0.00
Bulk water storage facility	$0.04	$0.00	$0.00
Plant and machinery (including pump stations and river intake)	$0.05	$0.00	$0.00
Buildings	$0.01	$0.00	$0.00
Other Suppport Costs	$0.00	$0.10	$0.00
Non-depreciating assets (eg land and holes)	$0.00	$0.30	$1.22
Total	**$0.70**	**$0.40**	**$1.22**
Additional costs			
Wentworth Ski Park Reserve Rehabilitation	$1.16	$0.05	$0.08
Land Swap Agreement	$0.00	$0.00	$0.30
Total Including Additional costs	**$1.86**	**$0.46**	**$1.60**
IPART Allowance	*$0.50*	*$0.00*	*$0.00*
WaterNSW Proposed	*$0.50*	*$0.00*	*$0.00*

**Regulatory submission preparation costs ($0.18 million in in FY21 and $0.09 million in FY22) have been included in WaterNSW operating expenditure figures and are excluded from the reported figures (for the reasons specified at Section 5.6).*

WaterNSW has significantly exceeded its proposed (and IPART allowed) capital costs for the 2019 Determination Period, by $3.5 million. This exceedance has been driven by:

- Land acquisition costs which have exceeded allowances by $1.2 million, with an additional $0.3 million incurred as foregone revenue from a Land Swap Agreement.
- The Wentworth Ski Park Reserve Rehabilitation Project which was not included in the proposed capital costs for the 2019 Determination Period. The total for this project was $1.4 million (with $0.13 million incurred in FY19).

These are looked at in more detail in the following sections.

7.2.1 Land Acquisitions

WaterNSW attributes a large proportion of its capital cost to land acquisitions required to place infrastructure such as pump stations, bulk water storage and access to place pipe on private lands. While land acquisition is prudent for these reasons, WaterNSW's pricing proposal does not explain in detail the reasons behind the requirements for the additional acquisitions or costs.

Further discussion with WaterNSW has provided more information on this item. WaterNSW is forecasting capital expenditure of $301,000 in FY21 for easement acquisition and leasing costs with landholders, including costs of surveying and planning, the largest landholder being [redacted]. Further [redacted] acquisition costs of $1.2 million are expected to be incurred in FY22. WaterNSW has stated that the land acquisitions are necessary to place infrastructure such as pump stations and bulk water storage and provide access to place pipe on private lands.

WaterNSW has suggested that the commercial nature of the negotiations for land acquisitions are responsible for the difference between forecast costs and actuals. It is unclear if additional land was required as the driver for these costs, or if the costs were significantly higher due to the commercial negotiations.

[redacted]

Findings

Land acquisition is a necessary activity to ensure infrastructure is available to support pipeline operations. WaterNSW has cited the nature of commercial negotiations for the excess costs in this area. We find that the costs are reasonable, however note that the quality documentation made available to support review of these costs has been low.

7.2.2 Wentworth Ski Park Reserve Rehabilitation

Project Overview

Due to the disturbance caused during the construction of the Pipeline, WaterNSW rehabilitated the Greater Murray Darling Junction Reserve at Wentworth Ski Park as a 'make good' obligation to the residents of Wentworth. This $1.4 million project included the construction of a functional outdoor recreational space in the Ski Park Reserve at Wentworth, with works being undertaken in accordance with the Wentworth Shire Management Plan.

WaterNSW states that the costs were incurred because of the need for WaterNSW to comply with the Direction issued to WaterNSW's board under the *SOC ACT 1989*.

Efficiency Considerations

AECOM's review of the efficiency considerations for this project is provided in Table 32.

Table 32 Efficiency Considerations – Wentworth Ski Park

Efficiency Consideration	Comment
Customer needs, subject to the utility's regulatory requirements.	The major driver for this project is the delivery of make good activities to the community of Wentworth, as stated in WaterNSW's proposal, and was required to comply with a direction issued to the WaterNSW Board under the *SOC ACT 1989*. A Letter of Intent from WaterNSW in 2017 stated *'WaterNSW shall establish with the Contractor a provisional sum under the Contract to implement rehabilitation works within the Great Murray Darling Junction Reserve in accordance with the Reserve Management Plan. This will comprise implementation of the desired management outcomes for Management Zones 1 and 2 of the Reserve Management Plan.'* It is unclear whether a provisional sum, or how much, was included in the Pipeline contract, however the project was issued for open tender. In addition, this project was not included in the 2019 Pricing Proposal, despite the letter demonstrating intent for the project.
Customer preferences for service levels, including customers' willingness to pay.	This project was not related to customers of the Pipeline, rather a make good exercise for the Wentworth community because of disturbance from construction.
Trade-offs between operating and capital expenditure, where relevant.	Evaluation of options and consideration of capital expenditure and operating expenditure has not been made available for review.
The utility's capacity to deliver planned expenditure.	This is a completed project delivered through a contractor, demonstrating capacity to deliver the project.

Efficiency Consideration	Comment
The utility's expenditure planning and decision-making processes.	AECOM has made the following findings relating to expenditure planning: **Procurement** A Tender Recommendation Report was provided for the works, demonstrating a competitive tender process with four tenderers submitting conforming bids. The selected tenderer was King Construction Group Pty Ltd for a tendered price of $949,838, which was the lowest tendered price. The report showed that the review panel was confident in King's ability to complete the project, and cited reference checks which were generally positive. **Contingency and Variations** Contingency of 10% of the tendered price was requested for approval to account for variations in the project, bringing the total recommended cost for the project up to $1.05 million. It is unclear what the remaining $0.37 million was required for, or if the project went over budget as this information has not been made available to review.
Project Scope	A landscape scope has been sighted, as well as Council confirmation of scope, and notice to proceed with works. We understand that the scope of works was designed to align with the Wentworth Council Management Plan. This plan has been requested, but has not been made available for review.
Alignment with Standards.	Final drawings have not been made available for review.

Review Findings

It appears that there was a clear driver for the project to make good for an area disrupted by the construction of the Pipeline.

A competitive tender process has been run for the works, with the lowest price option being selected, having satisfied other evaluation criteria also. The total amount requested for the project was $1.05 million in the evaluation report.

We find that the project was necessary as a make good to the Wentworth community, and should be included as a project cost. While we have viewed a scope of works, an options analysis showing consideration for scope and cost has not been provided for review. While little documentation has been sighted to support prudency in scope, we understand that the scope has been developed to align with the Council's management plan, and Council approved the scope. Further we consider that a competitive tender process was undertaken to deliver the scope of works, and as a result we find the costs to be efficient.

This finding is subject to confirmation that a provisional sum was not included in the contract for these works, which was identified as WaterNSW's intent in the letter of intent written to Council in 2017.

7.3 Review of WaterNSW's Efficient Capital Expenditure for the 2022 Determination Period

As discussed in Section 5.6, WaterNSW proposes a relatively small capital program of $0.27 million over the last two years of the 2022 Determination Period (Table 33). Following our review of the capitalisation of the preparation cost of regulatory submission (in Section 5.6), we recommend that this proposed expenditure be included as an operational cost subject to IPART taking a policy position on this issue.

Table 33. Proposed capital expenditure for the 2022 Determination Period ($M, FY22)

	FY23	FY24	FY25	FY26	FY27
Regulatory submission preparation and other support costs	$0.00	$0.00	$0.00	$0.18	$0.09
Total	**$0.00**	**$0.00**	**$0.00**	**$0.18**	**$0.09**

No other capital costs have been proposed for this period.

8. Summary

8.1 Findings and Recommendations

A summary of our findings is provided in Table 34.

Table 34 Summary of Findings

Area of Review	Findings and Recommendations
Planning and Process	• KBR assessed the Contractor's asset management systems against applicable standards (using the ISO55000:2014 suite) and undertook site audits and inspections to assess performance of the services provided under contract, to assess compliance with a range of regulatory requirements and to confirm that the facility is being managed in a manner consistent with the need to return the facility to its owner at the end of the contract in a satisfactory condition. The contractor was found to be generally compliant with the requirements of the contract. • The AMP provided is comprehensive and demonstrates a commitment to good asset management practice, including asset replacement informed by criticality and condition. Some content that we might expect to see in an AMP does not appear here, including consideration for demand, specific risks etc. However, we understand that the AMP has been delivered with the specific purpose of demonstrating continued compliance with the O&M Contract. • A number of high-risk items were recommended to be addressed by KBR. The majority of these have been addressed, and those outstanding are targeted for completion by March 2022. • Bulk water storage for the pipeline is significant, representing over 100 days of supply. This could present an opportunity to increase the maximum pipeline supply interruption target, and potentially enable the contractor to reduce maintenance costs. • Asset lives are considered prudent and reasonable. • Evidence of consideration of climate change planning has not been reviewed – this is not considered within the AMP, where we would expect to see it.
Operating Costs –2019 Determination Period	Adjustments to WaterNSW's operating expenditure for the 2019 Determination Period are recommended for: • Operation and Maintenance under contract (with adjustments reflecting excess costs to the contract fixed charge). • Regulatory submission preparation costs, with adjustments made to align with the previous IPART allowance which we consider an efficient level of expenditure. • Corporate overhead costs, because of the revised approach to corporate cost allocation (direct operating costs excluding energy and fixed operation and maintenance costs under contract), and the direct cost adjustments. • Costs relating to the Wentworth Ski Park Reserve Rehabilitation project have been excluded from the efficient operating costs, as WaterNSW propose to include these in the RAB for recovery over time.
Operating Costs – 2022 Determination Period	Adjustments to WaterNSW's proposed operating expenditure for the 2022 Determination Period are recommended for: • Regulatory submission preparation costs, with adjustments made in accordance with the IPART allowance which we consider an efficient level of expenditure. • A revised approach to corporate cost allocation (direct operating costs excluding energy and fixed operation and maintenance costs under contract), and further adjustments to corporate overhead costs in accordance with direct cost adjustments. • While we have not proposed an adjustment to the asset replacement forecast (which has been included as an operating cost), we note two areas of concern for future consideration (with the cost of renewals forecast be more substantial over future Determination Periods):

Area of Review	Findings and Recommendations
	– There may be potential for assets to outlive their nominal life expectancies and would typically expect asset renewal forecasts to be revised based on monitoring of actual asset condition. – We reiterate Synergies' finding from the previous 2019 review that there appears to be little incentive for the contractor to achieve lower replacement costs than those specified in the tender, and that a mechanism to share cost savings could be beneficial.
Cost Allocation Methodology	• WaterNSW has proposed a TOTEX allocator for its corporate overheads and has used this to identify overhead costs for the two determination periods. • Consistent with the findings of Atkins, and a recent determination by IPART, we do not consider TOTEX to be the most causal driver of overhead costs, and suggest that an alternative allocator, potentially direct operating costs, be adopted. • The nature of the pipeline and its management gives cause for additional adjustments to the proposed allocator: – A large proportion of WaterNSW operating costs are fixed costs paid to an O&M contractor, which will have its own overhead functions. Inclusion of these costs in the receiving pool of overhead costs for WaterNSW may represent double counting, as the fixed costs paid will likely cover overheads for the contractor. We recommend these be removed from the allocation calculation, as these fixed costs should not attract additional overhead. – Another significant cost which is not a causal driver for overhead is the energy costs incurred for the pipeline. Consistent with Atkins' assessment, we recommend that these be removed from the overhead allocation calculation. – We have recommended reductions to corporate overheads in both the historic and forward periods to account for these changes.
Capital Costs	• Capital expenditure significantly exceeded the allowed amounts for the 2019 Determination Period, due to: – Increased costs for land acquisitions, – The Wentworth Ski Park Reserve Rehabilitation Project. • For the Wentworth Ski Park Reserve Rehabilitation Project, we refer to a letter of intent to the Wentworth Council which states WaterNSW's intention to proceed with the works as part of a make good exercise. The letter states that a sum will be included in the construction contract to cover the costs for this. We outline the following findings: – Costs for the project were not specifically requested for in the 2019 review, despite WaterNSW knowing of the requirement in 2017 and it is not clear if the costs were included in the contract costs. – The project was separately tendered and awarded to a local contractor (not the JV). – Basis for the scope of works has not been provided for review. – The works were competitively tendered, resulting in an efficient cost for the works. – The assessment has been based on quality of documentation that we assess to be low. • Land acquisition is a necessary activity to ensure infrastructure is available to support pipeline operations. WaterNSW has cited the nature of commercial negotiations for the excess costs in this area. We find that the costs are reasonable, however note that the quality documentation made available to support review of these costs has been low. • We recommend that WaterNSW improve the quality of its documentation for capital costs to demonstrate prudency and efficiency in scope and cost. • Proposed costs in the 2022 Determination Period are minimal and reflect only an allowance of $0.27 million for external consultant costs in preparation of WaterNSW's regulatory submission. While our recommendation is pending a policy decision from IPART, we consider that these costs should be operating costs, and have therefore assessed them as part of the operating expenditure review.

8.2 Recommended Efficient Costs for the 2019 Determination Period

Table 35 presents a summary of the recommended adjustments to WaterNSWs proposed operating expenditure and recommended efficient costs over the 2019 Determination Period. Total recommended efficient operating costs over the 2019 Determination Period are $2.3 million (or 24.4%) lower than WaterNSW's revised costs.

Table 35 Efficient Operating Expenditure over the 2019 Determination Period ($ Millions, Nominal)

	FY20	FY21	FY22	Total
WaterNSW Costs				
Operation and maintenance under contract	$1.59	$1.64	$1.79	$5.02
SPV audit costs	$0.08	$0.04	$0.03	$0.15
SPV contract management costs	$0.15	$0.19	$0.17	$0.51
Insurance & land tax	$0.09	$0.09	$0.16	$0.33
SPV Overhead	$0.90	$1.20	$0.70	$2.80
Other operating costs	$0.06	$0.03	$0.18	$0.27
Total, Excluding Electricity	**$2.86**	**$3.19**	**$3.03**	**$9.08**
Attribution of Regulatory Submission Costs to Operating Expenditure				
Other operating costs		$0.18	$0.09	$0.28
Total, Excluding Electricity		**$0.18**	**$0.09**	**$0.28**
Revised WaterNSW Costs				
Operation and maintenance under contract	$1.59	$1.64	$1.79	$5.02
SPV audit costs	$0.08	$0.04	$0.03	$0.15
SPV contract management costs	$0.15	$0.19	$0.17	$0.51
Insurance & land tax	$0.09	$0.09	$0.16	$0.33
SPV Overhead	$0.90	$1.20	$0.70	$2.80
Other operating costs	$0.06	$0.21	$0.28	$0.55
Total, Excluding Electricity	**$2.86**	**$3.38**	**$3.12**	**$9.36**
AECOM Recommended Adjustments				
Operation and maintenance under contract		-$0.01	-$0.12	-$0.12
SPV Overhead	-$0.67	-$0.83	-$0.49	-$2.00
Other operating costs		-$0.05	-$0.11	-$0.16
Total, Excluding Electricity	**-$0.67**	**-$0.89**	**-$0.72**	**-$2.28**
Percentage Change	**-23.4%**	**-26.4%**	**-23.1%**	**-24.4%**
Recommended Efficient Costs				
Operation and maintenance under contract	$1.59	$1.64	$1.67	$4.90
SPV audit costs	$0.08	$0.04	$0.03	$0.15
SPV contract management costs	$0.15	$0.19	$0.17	$0.51
Insurance & land tax	$0.09	$0.09	$0.16	$0.33
SPV Overhead	$0.23	$0.37	$0.20	$0.80
Other operating costs	$0.06	$0.16	$0.17	$0.39
Total, Excluding Electricity	**$2.19**	**$2.49**	**$2.40**	**$7.08**

**The reported operating costs exclude Wentworth Ski Park Reserve Rehabilitation costs.*

Table 36 presents a summary of the recommended adjustments to WaterNSW's proposed total expenditure and recommended efficient costs over the 2019 Determination Period.

Table 36 Total Efficient Expenditure over the 2019 Determination Period ($ Millions, Nominal)

	FY20	FY21	FY22	Total
WaterNSW Costs				
Operating Expenditure (Excl. Electricity)	$2.86	$3.19	$3.03	$9.08
Capital Expenditure	$1.86	$0.64	$1.69	$4.19
Total	**$4.72**	**$3.83**	**$4.72**	**$13.28**
Attribution of Regulatory Submission Costs to Operating Expenditure				
Operating Expenditure (Excl. Electricity)		$0.18	$0.09	$0.28
Capital Expenditure		-$0.18	-$0.09	-$0.28
Revised WaterNSW Costs				
Operating Expenditure (Excl. Electricity)	$2.86	$3.38	$3.12	$9.36
Capital Expenditure	$1.86	$0.46	$1.60	$3.92
Total	**$4.72**	**$3.83**	**$4.72**	**$13.28**
AECOM Recommended Adjustments				
Operating Expenditure (Excl. Electricity)	-$0.67	-$0.89	-$0.72	-$2.28
Capital Expenditure				
Total	**-$0.67**	**-$0.89**	**-$0.72**	**-$2.28**
Percentage Change	**-14.2%**	**-23.2%**	**-15.3%**	**-17.2%**
Recommended Efficient Costs				
Operating Expenditure (Excl. Electricity)	$2.19	$2.49	$2.40	$7.08
Capital Expenditure	$1.86	$0.46	$1.60	$3.92
Total	**$4.05**	**$2.94**	**$4.00**	**$10.99**

** Capital expenditure includes Wentworth Ski Park Rehabilitation and revenue requirement*

No additional adjustments are proposed to capital expenditure. Total recommended efficient costs over the 2019 Determination Period are $2.3 million (or 17.2%) lower than WaterNSW's revised costs.

8.3 Recommended Efficient Costs for the 2022 Determination Period

Table 37 presents a summary of the recommended adjustments to WaterNSW's proposed operating expenditure and recommended efficient costs over the 2022 Determination Period. Total recommended efficient operating costs over the 2019 Determination Period are $2.4 million (or 16.2%) lower than WaterNSW's revised costs. The application of the continuing efficiency adjustment reduces this by a further $0.3 million.

Table 37 Recommended Efficient Operating Expenditure over the 2022 Determination Period ($M, $FY22)

	FY23	FY24	FY25	FY26	FY27	Total
WaterNSW Costs						
Operation and maintenance under contract	$1.67	$1.78	$1.62	$1.72	$1.90	$8.68
SPV audit costs	$0.03	$0.03	$0.03	$0.03	$0.03	$0.16
SPV contract management costs	$0.17	$0.17	$0.17	$0.17	$0.17	$0.85
Insurance & land tax	$0.18	$0.18	$0.18	$0.19	$0.19	$0.91
SPV Overhead	$0.62	$0.67	$0.60	$0.64	$0.68	$3.21
Other operating costs	$0.13	$0.35	$0.09	$0.20	$0.28	$1.05
Total, Excluding Electricity	**$2.79**	**$3.19**	**$2.71**	**$2.94**	**$3.25**	**$14.87**
Attribution of Regulatory Submission Costs to Operating Expenditure						
Other operating costs				$0.18	$0.09	$0.27
Total, Excluding Electricity				**$0.18**	**$0.09**	**$0.27**
Revised WaterNSW Costs						
Operation and maintenance under contract	$1.67	$1.78	$1.62	$1.72	$1.90	$8.68
SPV audit costs	$0.03	$0.03	$0.03	$0.03	$0.03	$0.16
SPV contract management costs	$0.17	$0.17	$0.17	$0.17	$0.17	$0.85
Insurance & land tax	$0.18	$0.18	$0.18	$0.19	$0.19	$0.91
SPV Overhead	$0.62	$0.67	$0.60	$0.64	$0.68	$3.21
Other operating costs	$0.13	$0.35	$0.09	$0.38	$0.37	$1.32
Total, Excluding Electricity	**$2.79**	**$3.19**	**$2.71**	**$3.12**	**$3.34**	**$15.14**
AECOM Recommended Adjustments						
SPV Overhead	-$0.43	-$0.43	-$0.43	-$0.43	-$0.46	-$2.18
Other operating costs				-$0.16	-$0.11	-$0.27
Total, Excluding Electricity	**-$0.43**	**-$0.43**	**-$0.43**	**-$0.58**	**-$0.57**	**-$2.45**
Percentage change	**-15.6%**	**-13.6%**	**-15.8%**	**-18.7%**	**-17.1%**	**-16.2%**
Recommended Efficient Costs						
Operation and maintenance under contract	$1.67	$1.78	$1.62	$1.72	$1.90	$8.68
SPV audit costs	$0.03	$0.03	$0.03	$0.03	$0.03	$0.16
SPV contract management costs	$0.17	$0.17	$0.17	$0.17	$0.17	$0.85
Insurance & land tax	$0.18	$0.18	$0.18	$0.19	$0.19	$0.91
SPV Overhead	$0.18	$0.24	$0.18	$0.21	$0.22	$1.03
Other operating costs	$0.13	$0.35	$0.09	$0.22	$0.26	$1.06
Total, Excluding Electricity	**$2.36**	**$2.76**	**$2.28**	**$2.53**	**$2.77**	**$12.70**
Recommended Efficient Costs, Including Continuing Efficiency Adjustment						
Operation and maintenance under contract	$1.66	$1.76	$1.59	$1.67	$1.83	$8.50
SPV audit costs	$0.03	$0.03	$0.03	$0.03	$0.03	$0.16
SPV contract management costs	$0.17	$0.17	$0.17	$0.17	$0.16	$0.83
Insurance & land tax	$0.17	$0.18	$0.18	$0.18	$0.18	$0.89
SPV Overhead	$0.18	$0.24	$0.17	$0.20	$0.21	$1.01
Other operating costs	$0.13	$0.35	$0.09	$0.21	$0.25	$1.03
Total, Excluding Electricity	**$2.34**	**$2.72**	**$2.23**	**$2.46**	**$2.67**	**$12.43**

Table 38 presents a summary of the recommended adjustments to WaterNSW's proposed total expenditure and recommended efficient costs over the 2022 Determination Period. Total recommended efficient operating costs over the 2022 Determination Period are $2.4 million (or 16.2%) lower than WaterNSW's revised costs. The application of the continuing efficiency adjustment reduces this by a further $0.3 million.

Table 38 Total Recommended Efficient Expenditure for the 2022 Determination Period ($M, $FY22)

	FY23	FY24	FY25	FY26	FY27	Total
WaterNSW Costs						
Operating Expenditure (Excl. Electricity)	$2.79	$3.19	$2.71	$2.94	$3.25	$14.87
Capital Expenditure				$0.18	$0.09	$0.27
Total	**$2.79**	**$3.19**	**$2.71**	**$3.12**	**$3.34**	**$15.14**
Attribution of Regulatory Submission Costs to Operating Expenditure						
Operating Expenditure (Excl. Electricity)				$0.18	$0.09	$0.27
Capital Expenditure				-$0.18	-$0.09	-$0.27
Revised WaterNSW Costs						
Operating Expenditure (Excl. Electricity)	$2.79	$3.19	$2.71	$3.12	$3.34	$15.14
Capital Expenditure						
Total	**$2.79**	**$3.19**	**$2.71**	**$3.12**	**$3.34**	**$15.14**
AECOM Recommended Adjustments						
Operating Expenditure (Excl. Electricity)	-$0.43	-$0.43	-$0.43	-$0.58	-$0.57	-$2.45
Capital Expenditure						
Total	**-$0.43**	**-$0.43**	**-$0.43**	**-$0.58**	**-$0.57**	**-$2.45**
Percentage Change	**-15.6%**	**-13.6%**	**-15.8%**	**-18.7%**	**-17.1%**	**-16.2%**
Recommended Efficient Costs						
Operating Expenditure (Excl. Electricity)	$2.36	$2.76	$2.28	$2.53	$2.77	$12.70
Capital Expenditure						
Total	**$2.36**	**$2.76**	**$2.28**	**$2.53**	**$2.77**	**$12.70**
Recommended Efficient Costs, Including Continuing Efficiency Adjustment						
Operating Expenditure (Excl. Electricity)	$2.34	$2.72	$2.23	$2.46	$2.67	$12.43
Capital Expenditure						
Total	**$2.34**	**$2.72**	**$2.23**	**$2.46**	**$2.67**	**$12.43**

Appendix A Assessment Form

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